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A Picture of Performance Goals in the Social Plenum: The Interpersonal Antecedents and Consequences of Performance Goals

Nicolas Sommet

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FACULTÉ DES SCIENCES SOCIALES ET POLITIQUES
INSTITUT DE PSYCHOLOGIE

A Picture of Performance Goals in the Social Plenum:
The Interpersonal Antecedents and Consequences of Performance Goals

THÈSE DE DOCTORAT

présentée le 18 décembre 2014 à la
Faculté des Sciences Sociales et Politiques
de l'Université de Lausanne

pour l'obtention du grade de
Docteur ès Psychologie Sociale

par

Nicolas Sommet

Directeur de Thèse
Professeur Fabrizio Butera

Membres du Jury
Professeur Alain Clémence
Docteure Céline Darnon
Professeure Judith Harackiewicz
Docteur Alain Quiamzade

LAUSANNE

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«A Picture of Performance Goals in the Social Plenum: The Interpersonal Antecedents and Consequences of Performance-Approach and Performance-Avoidance Goals.»

Lausanne, le 29 septembre 2014

Le Doyen de la Faculté

Professeur
Fabien Ohl

RÉSUMÉ

Bien que les activités où la compétence est un enjeu (p. ex. : problème académique) prennent souvent place dans des contextes *interpersonnels* (p. ex. : classe), *hiérarchiques* (p. ex. : enseignant-e/élèves), et spécifiques en termes de *normes* et de *valeurs* (p. ex. : culture), l'étude des buts de performance—le désir de se montrer compétent-e relativement à autrui—a le plus souvent été conduite au seul niveau *intrapersonnel*. S'appuyant sur le modèle transactionnel du stress et du coping, le modèle circumplexe des comportements interpersonnels, ainsi que sur la théorie de l'élaboration du conflit, la première partie de cette thèse révèle les *conséquences interpersonnelles* des buts de performance sur la régulation d'un comportement spécifique, à savoir le conflit sociocognitif (c.-à-d., une situation de confrontation avec un interactant en désaccord) : les buts de performance-approche—le désir d'être meilleur-e qu'autrui—prédisent une régulation du conflit fortement agentique (dominante), soit la validation de son point de vue au détriment de celui de l'interactant (que nous désignons régulation *compétitive*) ; alors que les buts de performance-évitement—le désir de ne pas être moins bon-ne qu'autrui—prédisent une régulation du conflit faiblement agentique (soumise), soit l'invalidation de son point de vue au bénéfice de celui de l'interactant (que nous désignons régulation *protective*). De plus, les effets susmentionnés augmentent à mesure que l'interactant est présenté comme supérieurement (vs. similairement) compétent. S'appuyant sur la littérature sur les structures de buts de groupe, et celle sur la socialisation des valeurs, la seconde partie de cette thèse révèle les *antécédents interpersonnels* des buts de performance, et plus spécifiquement le rôle du superviseur dans la socialisation des buts de performance : les buts de performance-approche d'un superviseur sont positivement associés avec l'émergence au cours du temps des buts de performance-approche de ses subordonnés (particulièrement lorsqu'ils se perçoivent comme *compétents*) et celle de leurs buts de performance-évitement (particulièrement lorsqu'ils se perçoivent comme *incompétents*). En outre, ce phénomène consistant en un processus de socialisation, les effets susmentionnés augmentent lorsque l'identification à l'endogroupe des subordonnées augmente, et lorsque l'adhésion aux valeurs culturelles occidentales dominantes (c.-à-d., rehaussement de soi) du superviseur augmente. Dans leur ensemble, ces résultats soulignent la nécessité d'étudier les buts dans leur *plenum* social, autrement dit, en adoptant une perspective interpersonnelle (c.-à-d., étudier les effets des buts entre les individus), positionnelle (c.-à-d., entre des individus de différentes positions sociales), et idéologique (c.-à-d., entre des individus se conformant à des normes spécifiques et adhérant à des valeurs spécifiques).

ABSTRACT

Although competence-relevant activities (e.g., solving an academic problem) are often embedded in *interpersonal* (e.g., classroom), *hierarchical* (e.g., teacher/pupils), and *norm-/value-specific* (e.g., culture) settings, the study of performance goals—the desire to demonstrate competence relative to others—has mostly been conducted at the *intrapersonal* level alone. Drawing on the transactional model of stress and coping, the circumplex model of interpersonal behaviors, as well as on the conflict elaboration theory, the first part of this thesis reveals the *interpersonal consequences* of performance goals on the regulation of a specific behavior, namely socio-cognitive conflict (i.e., a situation of confrontation with a disagreeing interactant): Performance-approach goals—the desire to outperform others—predicted a highly agentic (dominant) conflict regulation, that is, the validation of one’s point of view at the expense of that of the interactant (which we labeled *competitive* regulation); whereas performance-avoidance goals—the desire not to be outperformed by others—predicted a poorly agentic (submissive) conflict regulation, that is, the invalidation of one’s point of view to the benefit of that of the interactant (which we labeled *protective* regulation). Furthermore, both the aforementioned effects were found to increase when the interactant was presented as being superiorly (vs. equally) in competence. Drawing on the literature on group goal structure, as well as on research on socialization of supervisors-based values, the second part of this thesis reveals the *interpersonal antecedents* of performance-based goals endorsement, focusing—more specifically—on the role of group-supervisors in performance goals socialization: Supervisor’s performance-approach goals were positively associated with the emergence over time of subordinates’ performance-approach (especially when perceiving themselves as *competent*) and -avoidance goals (especially when perceiving themselves as *incompetent*). Furthermore, providing evidence that this phenomenon essentially reflects a socialization process, both the aforementioned effects were found to increase as subordinates’ in-group identification increased, and as supervisors’ adherence to dominant Western values (i.e., self-enhancement values) increased. Taken together, these results advocate the need to study performance goals in their *social plenum*, that is, adopting an interpersonal (i.e., studying the effects of goals between individuals), positional (i.e., between individuals from different social positions), and ideological (i.e., between individuals following specific norms and endorsing specific values) perspective.

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THEORETICAL PART

Theoretical Part

A man looks at his neighbor, who is rich: then he too wants to works [...]. So the neighbor envies the neighbor who presses on toward wealth. Such Strife is a good friend to mortals. Then potter is potter's enemy, and craftsman is craftsman's rival; tramp is jealous of tramps, and singer of singer.

Hesiod (Greek poet, 8th century BC),
Work and Days (verses 22-28), translated by Lattimore, 1991, p. 21.

[The] process [of development] in each social organ, as in each individual organ, results from the tendency of the units to absorb all they can from the common stock [...]; the resulting competition, not between units simply, but between organs, causes in a society, as in a living body, high nutrition and growth.

Herbert Spencer (English philosopher, 19th century AD),
The Principles of Sociology, 1898, p. 516.

[I am] unable to see that there is not always enough for the man who does his work; time spent in fighting competition is wasted; it had better be spent in doing the work.

Henry Ford (American industrialist, 20th century AD),
My life and work, 1922, reedited in 2007, p. 45.

We live in a competitive culture. This state of affairs is the result of a long cultural, philosophical, and political process (for a critical review, see Kohn, 1992). In Ancient Greece, Hesiod (1991)—considered by various scholars as the first “economist” (Rothbard, 1995; Sedlacek, 2011; Varbanov, 2010)—already praised the virtues of economic competition in several activities (Tandy & Neale, 1996). In Modern Europe, Spencer (1898)—considered by Leube (1999) as the first social Darwinist (i.e., transfer of the principles of Darwin’s evolution theory to the social world)—assimilated society to a living organism, where competition between individuals, in addition to being beneficial, was described as natural and inevitable. In contemporary era, Ford (1922)—considered by Lewandowski (2014) as the first revolutionist in manufacturing (since he initiated a new method of continuous-flow mass production)—contributed to the rise of capitalism, and to the promotion of competition as a model of society for most developed countries.

The competitive nature of the culture in which most Western industrialized countries are embedded has psychological consequences. Through a set of socialization instances, be they media (i.e., in promoting conspicuous consumerism), economical (i.e., in applying free-market policies), or educational (in adopting highly selective admission processes), Western societies promote *competitive values* (e.g., of self-interest, of dominance over others, of control over resources) as well as *competitive goals* (Kasser, Cohn, Kanner, & R. M. Ryan, 2007; Pulfrey & Butera, 2013; Schwartz, 2007). As regards the latter, cultures and contexts where competition is praised and promoted have been found to encourage the endorsement of *performance goals*, that is, the will to demonstrate one’s competence relative to others (Dekker & Fisher, 2008; Dragoni, 2005; Murayama & Elliot, 2012a). Given the fact that these performance goals are “socio-cultural products”—and maybe even “political products” (Dompnier, Darnon, Delmas, & Butera, 2008)—they have attracted scholars’ interest over the past forty years (for an historical review, see Elliot, 2005), and have been at the heart of recurring and heated debates concerning their nature (i.e., as focusing on competence demonstration vs. normative competence, see Hulleman, Schrager, Bodmann, Harackiewicz, 2010), their prevalence (low, Brophy, 2005, vs. high, Senko, Hulleman, & Harackiewicz, 2011), or their outcomes (i.e., as being uniformly maladaptive, Midgley, Kaplan & Middleton, 2001; vs. adaptive in some circumstances, Harackiewicz, K. E. Barron, Pintrich, Elliot, & Thrash, 2002).

However, in studying performance-based goals, most motivational psychologists adopted an *intrapersonal* perspective (i.e., studying the effects of one’s performance goals on his/her intra-individual responses, e.g., on achievement emotions, Huang, 2011). Yet, in order

to fully understanding a theoretical construct—its nature, prevalence and outcomes—Doise (1986) argued that social scientists must articulate different levels of analysis: the *intrapersonal* level (i.e., focus on the forces within the individual), along with the *interpersonal* (i.e., focus on the forces between individuals), *positional* (i.e., focus on the forces driven by status differences), and *ideological* levels (i.e., focus on the forces driven by culture, norms, and values).

In the present research work, echoing Shah's (2003) argument that "rarely are goals pursued in a social vacuum and [that] other individuals influence whether and how we pursue [them]" (p. 679), we propose to examine performance goals in the *social plenum*, and consider them in social and societal settings. In the first part of our work, we will analyze performance goals from Doise's (1986) second (i.e., interpersonal) and third (i.e., positional) levels of analysis; specifically, we will examine the *interpersonal consequences* of performance goals, as driving interpersonal behaviors, and as depending on individual's relative position. In the second part of our work, we will analyze performance goals from Doise's (1986) third (i.e., positional) and fourth (i.e., ideological) levels of analysis; specifically, we will examine the *interpersonal antecedents* of performance goals, as being driven by one's supervisor's goals, and as depending on specific norms and cultural values.

1. The Interpersonal Consequences of Performance Goals:

The Case of Socio-Cognitive Conflict

The epistemological foundation of contemporary Social Psychology is (neo)positivism (or logical empiricism) in the sense that—through the hypothetico-deductive method—scholars aim at confronting their predictions with empirical data and, subsequently, at formulating new fine-tuned predictions (Allport, 1943). Accordingly, the ultimate objective of social psychologists is to *predict social behavior* in a given situation (e.g., Manski, 1990; Monson, Hesley, & Chernick, 1982; Sorrentino, & Short, 1977).

Hence, it comes as no surprise that social psychologists treated motivation—defined as the psychological process causing the initiation, direction, intensity, and persistence of (social) behaviors (Campbell & Pritchard, 1976)—as a privileged object of study. As a matter of fact, throughout the history of Social Psychology, influential theories of motivation have been regularly proposed (e.g., drive reduction theory, Hull, 1943; theory of achievement motivation, Atkinson, 1964; attribution theory, Weiner, 1985; self-determination theory, R. M. Ryan & Deci, 2000; for an exhaustive review, see Graham & Weiner, 1996).

More to the point, over the last three decades, the achievement goals framework (Dweck & Legett, 1988; Elliot & Harackiewicz 1996; Senko et al., 2011) has emerged as the dominant model in studying *competence-relevant behaviors*. In this first section, we will therefore begin by describing the achievement goals framework(s), and we will attempt to argue that *performance goals* (i.e., the will (not) to demonstrate superior (/inferior) competence relative to others) should be particularly relevant in predicting *interpersonal behaviors* (i.e., subsection 1.1.). Subsequently, we will introduce a taxonomic classification of these behaviors, namely *the circumplex model for interpersonal behaviors* (Wiggins, 1979), and we will attempt to connect it to performance goals (i.e., subsection 1.2.). Then, we will direct our attention to a specific interpersonal behavior, namely *socio-cognitive conflict regulation* (Doise & Mugny, 1984), and we will formulate a first set of hypotheses proposing performance goals as its predictors (i.e., subsection 1.3.). Finally, we will focus on the specific case of *interactions with more-competent others*, and we will formulate a second set of hypotheses proposing relative competence as a moderator of the aforementioned relationships (i.e., subsection 1.4.).

1.1. Achievement Goals As Predictors of Interpersonal Competence-Relevant Behaviors

In the mid-1930s, Cecil Alec Mace—a British industrial psychologist—was the first to publish empirical studies on the effect of goals, that he termed “*will-to-work*” (Carson, Carson, & Heady, 1994). Decades before Locke’s (1968) works, Mace (1935) notably showed that specific goal assignments led to higher performance than do-your-best goals. Notwithstanding his revolutionary approach, Mace’s (1935) work was mostly overlooked (n.b., on the 17th of August 2014, it was only cited 85 times on <http://scholar.google.com/>), probably because at his time the field was dominated by behaviorism that viewed goals as inaccessible and unreadable mentalistic constructs (Locke & Latham, 2002). It was not until the cognitive revolution that Locke and his colleagues (for a review, see Locke, Shaw, Saari, & Latham, 1981) rediscovered goals. And it took another several years for Dweck and her colleagues (for a review see Dweck, 1992) to propose a typological framework of goals used to predict competence-relevant behaviors at the *intrapersonal* level. In this subsection, we will argue that it could also be applied to predict these behaviors at the *interpersonal* level.

1.1.1. The Dichotomous Achievement Goals Framework

In the late 1970s and early 1980s, Carole Ames, Carol Dweck, Martin Maehr, and John Nicholls (C. Ames, 1984; Dweck, 1975; Nicholls, 1984; Maehr, 1984), contributed to

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crafting the “*dichotomous* achievement goals framework” (for a historical review, see Elliot, 2005). Each of these theorists distinguished two *qualitatively* different goals for engaging in competence-relevant behaviors: mastery goals and performance goals. The former goals correspond to the desire to *develop* competence and the latter to the desire to *demonstrate* competence.

This distinction—as clarified by Elliot (1999)—can be understood in terms of one’s *definition* of standard for evaluating competence. For instance, a guitar player pursuing mastery goals would evaluate his/her self-competence based on a task-referenced (e.g., “Am I playing the “Stairway to Heaven” solo correctly?”) or self-referenced standard (e.g., “Am I playing the “Stairway to Heaven” solo better than I used to do?”), whereas a guitar player pursuing performance goals would evaluate his/her self-competence based on an other-referenced standard (e.g., “How am I playing the “Stairway to Heaven” solo as compared to other guitarists?”). The dichotomous achievement goals framework soon became a major heuristic theoretical apparatus in predicting individual’s competence-related outcomes. It was first extended from Educational Psychology (Dweck & Elliott, 1983) to Sport Psychology (Duda, 1983), and then to Organizational Psychology (Button, Mathieu, & Zajac, 1996). Scholars from these various domains began to systematically examine the *intrapersonal* consequences of mastery vs. performance goals.

On the one hand—to provide concrete examples—mastery goals were found to be positively associated with learners’ task-persistence after failing (Elliott & Dweck, 1988), athletes’ investment in training (Duda, 1988), or employees’ attributions of success (failure) to (a lack of) efforts (G. Porter & Tansky, 1996). These results led Midgley and collaborators (2000; for earlier similar assumptions, see Dweck, 1986) to liken mastery goals to *an adaptive pattern of achievement-related behaviors*. On the other hand—to again provide concrete examples—performance goals were found to be positively associated with learners’ effort-minimizing strategies (Meece, Blumenfeld, & Hoyle, 1988), sport students’ dropout out of their physical activity (Duda, 1989), or salespeople’s attributions of success (failure) to (a lack of) abilities (Sujan, Weitz, & Kumar, 1994). These results led Midgley and collators (2000; for earlier similar assumptions, see Dweck, 1986) to liken performance goals to *a maladaptive pattern of achievement-related behaviors*.

Yet, as far as performance goals are concerned, subsequent empirical studies revealed some inconsistencies. For instance, the effects of performance goals on intrinsic motivation were sometimes reported as being positive (e.g., Senko & Harackiewicz, 2002), other times as being negative (e.g., K. E. Barron & Harackiewicz, 2000), or even null (e.g., Harackiewicz,

K. E. Barron, Carter, Lehto, & Elliot, 1997). Similar discrepancies in the effects of performance goals on academic achievement, self-efficacy, or anxiety then became recurrent issues in the literature (see Senko et al., 2011). Hence, in order to increase its predictive value, the achievement goals framework had to be refined.

1.1.2. The Trichotomous Achievement Goals Framework

In the late 1990s, Andrew Elliot and Judith Harackiewicz extended the dichotomous model by proposing a “*trichotomous* achievement goals framework” (Elliot, 1994; Elliot & Harackiewicz, 1996). Drawing on the hedonic principle (individuals’ behaviors are energized so as to approach pleasure and to avoid pain; see Higgins, 2006), they distinguished two different performance goals: performance-*approach* goals and performance-*avoidance* goals. The former goals correspond to the desire to demonstrate superior competence relatively to others (i.e., to outperform significant others) and the latter correspond to the desire *not to* demonstrate inferior competence relatively to others (i.e., not to be outperformed by others).

Importantly, Elliot and Church (1997; see also Law, Elliot, & Murayama, 2012) showed how self-competence expectancies were an antecedent of the approach and avoidance component of performance-based goals: Elevated competence expectancies were found to facilitate *appetitive* striving—that is, the endorsement of performance-approach goals—whereas reduced competence expectancies were found to facilitate *aversive* striving—that is, the endorsement of performance-avoidance goals. Subsequent studies (e.g., Cury, Elliot, Da Fonseca, & Moller, 2006; Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007, Study 2; Van Yperen & Renkema, 2008) repeatedly confirmed perceived self-competence as both a positive predictor of performance-approach goals, and a negative predictor of performance-avoidance goals.

This distinction—as clarified in Elliot and Thrash (2001)—can be understood in terms of the *valence* of one’s other-referenced standard for evaluating competence. For instance, a guitar player pursuing performance-based goals *and* having high confidence in his/her abilities would typically develop performance-approach goals and, in doing so, would evaluate his/her self-competence with a focus on attaining normative competence (e.g., “Am I playing the “Stairway to Heaven” solo *better* than most other guitarists?”). However, a guitar player pursuing performance-based goals *and* having low confidence in his abilities would typically develop performance-avoidance goals and, in doing so, would evaluate his/her self-competence with a focus on avoiding normative incompetence (e.g., “Am I playing “Stairway to Heaven” solo *not worse* than the average guitarist?”). The dichotomous achievement goals

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framework was quickly superseded by its improved version in predicting individual's competence-related outcomes. Just as the oldest framework, the newest one rapidly extended from Educational Psychology (Elliot, 1994) to Sport Psychology (Halvari & Kjørmo, 1999) and then to Organizational Psychology (Van Yperen, 2003). Thereupon, a new generation of scholars from these various domains began to examine the *intrapersonal* consequences of performance-approach vs. performance-avoidance goals.

On the one hand—to provide concrete examples—performance-approach goals were found to be positively associated with students' surface (*vs.* deep) processing strategies (Elliot, McGregor, & Gable, 1999), negatively associated with athletes' incremental (*vs.* entity) beliefs about sport ability (Cury, Elliot, Sarrazin, Da Fonseca, & Rufo, 2002), although positively associated with salespersons' work performance (Silver, Dwyer, & Alford, 2006). These results led Kaplan and Flum (2010; for earlier similar assumptions, see Elliot, 1999) to liken performance-approach goals to *a mixed pattern of achievement-related behaviors*. On the other hand—to again provide concrete examples—performance-avoidance were found to be positively associated with study disorganization (Elliot et al., 1999), negatively associated with athletes' incremental beliefs about sport ability (Cury et al., 2002), and negatively associated with salespersons' work performance (Silver et al., 2006). These results led Kaplan and Flum (2010; for earlier similar assumptions, see Elliot, 1999) to liken performance-avoidance goals to *a negative pattern of achievement-related behaviors*.

As compared to its predecessor, the trichotomous framework allowed researchers to formulate more clear-cut predictions about the consequences of achievement goals (e.g., as compared to performance-approach goals, performance-avoidance goals negatively predict intrinsic motivation; Rawsthorne & Elliot, 1999). It is worth noting that, following the same aim, other model refinements, differentiating mastery-approach goals (i.e., the will to progress on a task) from mastery-avoidance goals (i.e., the will *not to* decline at a task; i.e., the 2 x 2 achievement goals framework; Elliot & McGregor, 2001; see Figure 1.1.), or differentiating performance-based goals (approach and -avoidance) emphasizing normative comparison (e.g., being better than others; labeled “normative goals”) from the ones emphasizing competence demonstration (i.e., making positive impression; labeled “appearance goals”; Hulleman et al., 2010), were later proposed. However, as our work will focus on the effect of *performance*-based goals on the regulation of interpersonal behaviors, and as Senko and collaborators (2010) suspect that appearance and normative goals produce similar effects on interpersonal outcomes, these distinctions will not be further considered.

		Definition	
		Other-referenced standard	Task- / Self-referenced standard
Valence	Positive (approaching success)	Performance -approach goals	Mastery -approach goals
	Negative (avoiding failure)	Performance -avoidance goals	Mastery -avoidance goals

Figure 1.1. The 2 x 2 achievement goals framework (adapted from Elliot & McGregor, 2001). Definition and valence represent the two dimensions of competence: task- / self-referenced vs. other-referenced standard represent the two ways that competence can be defined; positive vs. negative represent the two ways that competence can be valenced.

As it was briefly outlined, considerable efforts have been made to appraise the *intrapersonal* effects of achievement goals; however, as we are about to see, their *interpersonal* effects have remained largely understudied.

1.1.3. Achievement Goals and Interpersonal Behaviors

In a pioneering article that became extremely influential in the achievement goals literature, Dweck and Legget (1988) already emphasized the need for research aiming at determining “the specific ways in which goals may affect social behaviors” (p. 265). One must acknowledge today that, despite this seminal call, most achievement goals research has been conducted at an *individual* level—with an emphasis on individual differences, i.e., Doise’s (1986) *first* level of analysis—and very few at the *interpersonal* one—with an emphasis on social interactions with peers, i.e., Doise’s (1986) *second* level of analysis. This state of affairs requires an increase in research on social interactions, for at least three reasons.

First, most achievement situations are embedded in social contexts (Urduan & Maehr, 1995). Indeed, most of the competence-relevant consequences of achievement goals that were discussed above occur in group settings (e.g., classrooms, sport teams, or organizations). Relying on this pragmatic argument, Poortvliet and Darnon (2010) argued that, given the

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social interdependence between classmates, teammates, or coworkers, scholars should attach more importance to the interpersonal effects of achievement goals.

Second, goals are rarely pursued in a social vacuum (Shah, 2003). Indeed, most of the competence-relevant consequences of achievement goals that were discussed above cannot be characterized as adaptive or maladaptive *per se*, without being placed in their social context (e.g., performance-approach goals might predict achievement—which is considered adaptive from an individual perspective—through cheating—which is considered maladaptive from a societal perspective; see Murdock & E. M. Anderman, 2006). Relying on this ecological argument, Darnon, Dompnier and Poortvliet (2012) argued that, given the context-dependent value of achievement goals, scholars should “de-focus” from the traditional individual approach and articulate both the intra- and interpersonal perspectives in studying the effects of achievement goals.

Third, and last, knowledge- and skill-acquisition are often underlain by social interactions with peers (Wentzel, 2005). Indeed, most of the competence-relevant consequences of achievement goals that were discussed above are closely intertwined with interaction processes (e.g., the use of deep (*vs.* surface) processing strategies is contingent upon children’s ability to work collaboratively; see Whitebread et al., 2007). Relying on this socio-constructivist argument, Kaplan (2004), Liem, Lau and Nie (2008), as well as Conroy, Elliot and Trash (2009) argued that, given the social nature of learning mechanisms, scholars should shed more light on the influence of achievement goals on learners’ peer relationships.

Given the above arguments, in addition to being associated with specific patterns of *intrapersonal* achievement-related behaviors, achievement goals should be studied in association with specific pattern of *interpersonal* achievement-related behaviors. As stated earlier, however—notwithstanding the multiple calls that we have just mentioned (Conroy et al., 2009; Darnon et al., 2012; Kaplan, 2004; Liem et al., 2008; Poortvliet & Darnon, 2010)—there exists a dearth of empirical study devoted to the impact of achievement goals on interpersonal behaviors. This paucity of research is even more surprising in the case of performance goals. In their very definition, performance (*vs.* mastery) goals are grounded in an interpersonal (*vs.* absolute or intrapersonal) standard, involving social (*vs.* a lack of or temporal) competence comparisons (Elliot & McGregor, 2001); in this respect, performance (*vs.* mastery) should particularly affect interpersonal behaviors.

1.1.4. Performance Goals and Interpersonal Behaviors

Most competence-relevant contexts are structured in such a way that they steadily provide public and normative feedback (e.g., ranking, Sommet, Pulfrey, & Butera, 2013). Hence, classrooms (Dumas, Huguet, Monteil, Rastoul, & Nezlek, 2005), organizations (Greenberg, Ashton-James, & Ashkanasy, 2007) or sport settings (Bardel, Fontayne, Colombel, & Schiphof, 2010), provide regular occasions for learners to compare one's competence with that of others. In such context, learners oriented toward performance goals—regardless of their valence—because they are focused on others' level of competence (Elliot, 1999), should “seize” these social comparison opportunities, which might, *in fine*, have a critical impact on their interpersonal behaviors. The achievement goals literature provides a series of experimental and qualitative evidence of these phenomena.

First, in a now classic experiment, Butler (1992; see also, 1993, 1995, 2000) invited sixth-graders to read a text inducing performance (vs. mastery) goals before conducting a 15-minute divergent thinking task. It is worth noting that, in the instructions, the valence of performance goals was not manipulated: “Studies have shown that students who do well on this test are more creative than ones who do poorly [...]; success on the test depends on [your performance]” (p. 936). Following the task, participants could freely consult feedback documents; one of these documents provided normative information, namely a method of calculation of one's task performance score relatively to other pupils. Results showed that time spent examining normative information was significantly longer in the performance (vs. mastery) goals condition.

Second, in a more recent study, Darnon, Dompnier, Gilliéron and Butera (2010, Study 2; see also, Bounoua et al., 2012; Régner, Escribe, & Dupeyrat, 2007) invited undergraduates to read a text either inducing mastery, performance-approach, performance-avoidance goals, or assigned them to a control condition (i.e., with no induction), before carrying out a task with another participant. It is worth noting that, this time, the manipulation of performance goals took their valence into consideration. Following the task, participant's interest in social comparison orientation was assessed (i.e., tendency to search for social comparison information; Gibbons & Buunk, 1999). Results showed that *both* performance-approach and performance-avoidance goals (as compared to the other conditions) led to greater interest in social comparison.

Using a qualitative methodology, Levy, Kaplan and Patrick (2004; see also, Duda, 1989) determined fifth-graders' achievement goals profile through semi-structured interviews. It is worth noting that, among the students recognized as having a dominant achievement

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goal, 33% pursued performance-approach goals, 48% performance-avoidance goals, and 19% mastery goals. Following the protocol of goal identification, participants were given cards with the names of all their classmates, and were asked to point to the ones with whom they would be (un)willing to cooperate, and explain why. Results showed that *both* performance-approach- and performance-avoidance-oriented pupils (contrary to mastery-oriented ones) exhibited considerable concerns about their relative social status and used it as a criterion when verbalizing their intention to interact or not with a given peer.

In sum, performance-approach and -avoidance goals (in contrast to mastery goals) were found to be associated with an appetite for normative information. Moreover, we have seen that this enhanced focus on social comparison of competences could affect certain interpersonal behaviors (e.g., cooperation intentions). Hence, we argue that, in addition to triggering *self*-regulation behaviors (Elliot & Moller, 2003), performance goals might elicit *self/other*-regulation behaviors. In the following sections, after defining a typology of interpersonal behaviors, we will therefore focus our attention on performance goals and attempt to determine more accurately how their valence might drive different interpersonal behaviors.

1.2. Performance Goals and the Circumplex Model for Interpersonal Behaviors

In the mid 1950s, Timothy Francis Leary—an American Psychologist—was the first to publish a comprehensive taxonomy of interpersonal behaviors, namely the *Leary circle* (Wiggins, 1996). Leary's (1957) classification was developed through the observation and characterization of interactions within psychotherapy groups. Despite its forward-thinking nature, Leary's (1957) work was originally largely ignored (n.b., during the thirty years following its publication, it was only cited 72 times on <http://scholar.google.com/>), most probably because of his subsequent experiments on psychedelic drugs involving graduate participants (known as the “Harvard Psilocybin Project”), as well as his public advocacy for the use of hallucinogens, that led his university to dismiss him, and then took him to jail (Devonis, 2012). Leary's academic influence declined as he became a controversial figure of counterculture, to such a point that Richard Nixon dubbed him “the most dangerous man in America” (Colker, 1996). Rediscovered decades later by Wiggins (1979), the *Leary circle* was renamed the *circumplex model for interpersonal behaviors*. In this subsection, we will argue that it could be bridged with the achievement goals framework.

1.2.1. The Circumplex Model for Interpersonal Behaviors

Circumplex models are parsimonious and heuristic tools that help conceptualizing, classifying, and assessing psychological constructs and behaviors (Wiggins, 1996). Irrespective of their conceptual focus, all circumplex models meet the following geometric assumptions: i. Differences between constructs/behaviors are reducible to differences in two orthogonal dimensions (the two-dimensionality property); ii. All the constructs/behaviors are equidistant from the center (the constant radius property); iii. The repertoire of constructs/behaviors is uniformly spread over the circles' circumference (the continuous distribution property, Gurtman & Balakrishnan, 1998). Circumplex models have been used to describe a broad range of constructs, such as affects (i.e., a two-dimensional organization along a pleasure–displeasure axis and an arousal–placidity one; Russel, 1980), family systems (i.e., along an enmeshed–disengaged axis and a chaotic–rigid one; Olson, 2000), or offender and victim behaviors during robberies (i.e., along a cooperative–hostile axis and a submissive–dominant one; Olson, 2000). However, circumplex models have been most widely used in the domain of interpersonal traits or behaviors (Conte & Plutchik, 1981; Horowitz et al., 2006; McCrae & Costa, 1989; Ojanen, Grönroos, & Salmivalli, 2005).

As noted above, the circumplex model for interpersonal behaviors stems from Leary's (1957) work, extended by Wiggins (1979; 1991; 2003) from Psychopathology (since it was designed for personality disorder diagnosis) to Personality Psychology (since Wiggins applied it to personality trait description; see Pincus, Gurtman, & Ruiz, 1998). As it can be seen in Figure 1.2., the model consists of a taxonomy of interpersonal behaviors along two primary dimensions: communion and agency. Communal behaviors involve variability along a friendliness-to-hostility horizontal axis, whereas agentic behaviors involve variability along a dominance-to-submission vertical axis. Accordingly, interpersonal behaviors are located along the perimeter of the circle, and identified with octants so as to include both their pure (e.g., dominant) and hybrid (e.g., friendly-dominant) forms.

Conroy and collaborators (2009) have proposed that one's achievement goals could predict the location of his/her interpersonal behaviors on the circumplex model. Specifically, they have associated the definition of the goals (i.e., mastery vs. performance) with the level of communion in interpersonal behaviors (i.e., friendly to hostile). However, as the literature on performance-avoidance goals and interpersonal behaviors was scarce, they refrained from drawing conclusions concerning the (potential) association between the valence of performance goals (i.e., approach vs. avoidance) and the level of agency (i.e., dominant to submissive). Let us take a closer look at these associations one after the other.

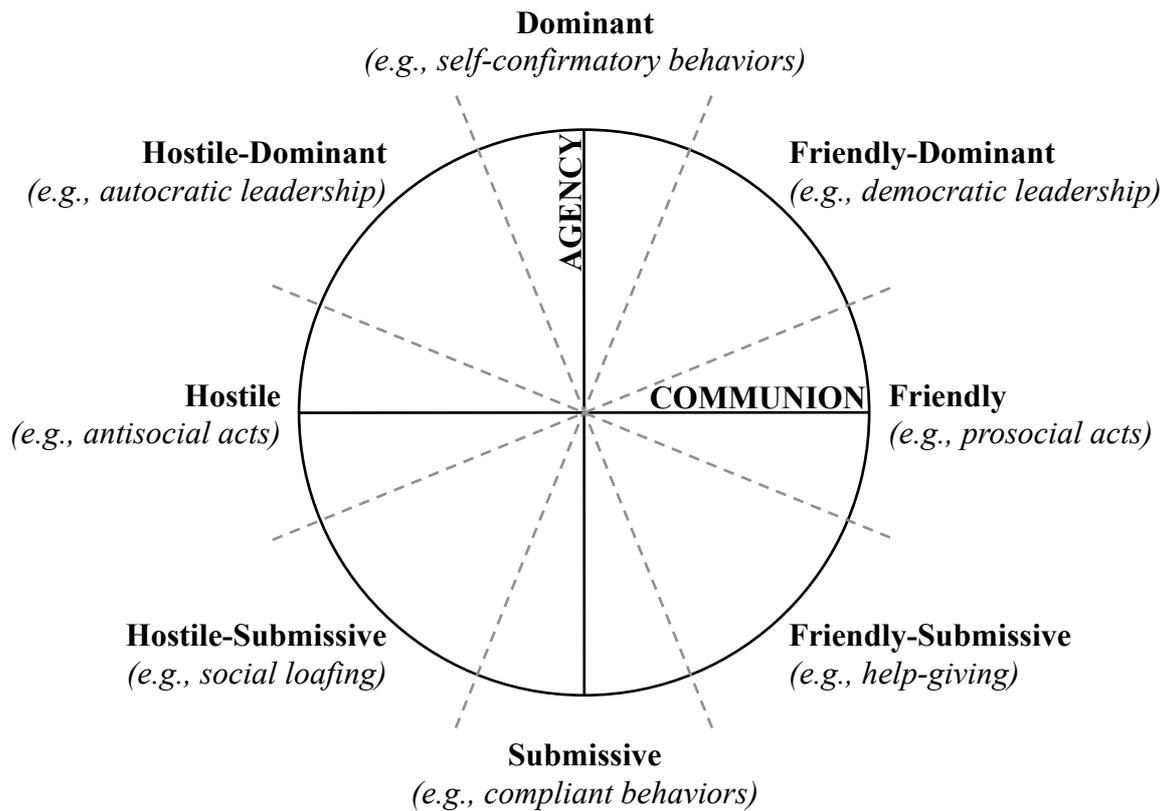


Figure 1.2. The circumplex model for interpersonal behaviors (adapted from Conroy et al., 2009). Illustrative examples of interpersonal behaviors have been provided.

1.2.2. Definition of Goals and Level of Communion of Behaviors

As far as the *definition* of goals is concerned (i.e., mastery vs. performance), Conroy and collaborators (2009) argued that mastery-based goals were associated with a high level of communion in interpersonal behaviors (i.e., located at the right side of the x axis of the circumplex model, that is, friendly behaviors), whereas performance-based goals were associated with a low level of communion (i.e., located at the left side of the x axis of the circumplex model, that is hostile behaviors). This hypothesis might relate to the fact that, when pursuing mastery goals, individuals do not cognitively appraise social interactions in a similar way as when pursuing performance goals.

Mastery Goals as Predictors of Highly Communal Behaviors

In their transactional model of stress and coping, Lazarus and Folkman (1984) defined the process of evaluating the degree of risk associated with a particular encounter (in our case,

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an interpersonal encounter) as the *primary cognitive appraisal*. Here, we argue that, during this phase, mastery-oriented individuals *do not* perceive interpersonal encounters as stressors.

As previously stated, individuals pursuing mastery goals evaluate their or another's competence in an absolute and/or intrapersonal way (e.g., “did an individual progress (or did not decline) at a task?”; Elliot, Murayama, & Pekrun, 2011). Thus, mastery goals tend to be associated with a representation of one's and others' competences as being independent (i.e., uncorrelated) or—in group-based learning activities (where each team-member must recognize that he/she could only achieve his/her learning goals to the extent that other members do the same)—as being positively interdependent (i.e., positively correlated; Johnson & Johnson, 2005).

Although mastery-oriented individuals may tend to seek social comparison information (e.g., Régner et al., 2007), for such individuals, this information neither leads to the devaluation of self-competence, nor to the increase of negative affects (Jagacinski & Nicholls, 1987). Specifically, for mastery-oriented individuals, social comparison processes are underlain by self-improvement motives (Helgeson & Mickelson, 1995); these processes serve to acquire epistemic information from others and to improve one's competence and—therefore—they *do not* constitute a threat for self-competence evaluation, and could even be beneficial for learning (Bounoua et al., 2012).

Hence, during primary appraisal, when evaluating the potential threat that an interpersonal encounter represents, mastery-oriented individuals tend to perceive others as potential *collaborators* (i.e., informational support; A. M. Ryan & Pintrich, 1997) rather than *stressors* (as one's and others' competence are not negatively correlated, and as social comparison processes are triggered by self-improvement motives). Thus, when interacting with others, mastery-oriented individuals do not need to develop coping strategies, and are more likely to behave cooperatively (being focused on the potential gain in terms of learning when interacting with others), that is, in a more communal way (for a review, see Poortvliet & Darnon, 2010).

A great deal of evidence from the achievement goals literature supports this idea. For instance, Ommundsen, Roberts, Lemyre, and Treasure (2003; see also Boardley & Jackson, 2012; Dunn J. G. H. & Dunn J. C., 1999) showed that soccer players perceiving their environment as being favorable to the endorsement of mastery-oriented reported higher level of social-moral functioning, sportpersonship behaviors, and team norm perceptions. Moreover, Poortvliet and Darnon (2014, Study 3; see also, Karabenick, & Newman, 2013; C. O. L. H. Porter, 2005), showed that undergraduates pursuing mastery goals held more positive

attitudes toward helping fellow students, and that this relationship was mediated by an increase in self-efficacy. More specifically, Poortvliet, Janssen, Van Yperen and Van de Vliert (2007; see also Poortvliet & Giebels, 2012) reported that, when engaged in an information exchange with a partner, individuals endorsing mastery goals adopted a reciprocity orientation and therefore acted with increased openness in information sharing.

In sum, because they perceive interactants as being potential collaborators, mastery-oriented individuals tend to engage in interpersonal behaviors having a high level of communion (within the right half of the interpersonal circumplex), that is, pro-social, sociable, and cooperative behaviors. But what about performance-oriented individuals?

Performance Goals as Predictors of Poorly Communal Behaviors

Readers are reminded that, in Lazarus and Folkman's (1984) transactional model of stress and coping, *primary cognitive appraisal* designates the moment when individuals evaluate the degree of risk associated with a given situation. Here, we argue that, during this phase, performance-oriented individuals *do* perceive interpersonal encounters as stressors.

As previously stated, individuals pursuing performance goals evaluate their or another's competence in an interpersonal way (e.g., "is an individual better (or not worse) as compared to others?"; Elliot et al, 2011). Thus, performance goals tend to be associated with a representation of one's and others' competences as being negatively interdependent (i.e., negatively correlated; the perception of self-competence comes into conflict with that of others; Johnson & Johnson, 2005).

We have seen that performance-oriented individuals tended to seek social comparison information (Butler, 1992; Darnon et al., 2010; Levy et al., 2004). Yet, for such individuals, this information leads to the devaluation of self-competence, and to the increase of negative affects (Jagacinski & Nicholls, 1987). Specifically, for performance-oriented individuals, social comparison processes are underlain by self-evaluation motives (Helgeson & Mickelson, 1995); these processes serve to infer competence information from others and to assess one's level of self-worth relative to them and—therefore—they *do* constitute a threat for self-competence evaluation, and could even be detrimental for learning (Bounoua et al., 2011).

Hence, during primary appraisal, when evaluating the potential threat that an interpersonal encounter represents, performance-oriented individuals tend to perceive others as *stressors* (i.e., threat to self-competence) rather than *informational supports* (as one's and others' competence are negatively correlated, and as social comparison processes are

triggered by self-evaluation motives). Thus, when interacting with others, performance-oriented individuals need to develop coping strategies, and are more likely to behave competitively (being focused on the potential risks in terms of self-evaluation when interacting with others), that is, in a less communal way (for a review, see Poortvliet & Darnon, 2010).

A great deal of evidence from the achievement goals literature supports this idea. For instance, Duda, Olson and Templin (1991; see also Mouratidou, Barkoukis, & Rizos, 2012; Stornes, & Ommundsen, 2004) showed that basketball players having performance goals were more likely to endorse unsportspersonlike play, and to perceive intentional antisocial acts as more legitimate. Moreover, Cheung, Ma and Shek (1998; see also, Kaplan, 2004; Levy et al., 2004) showed that adolescents pursuing performance goals were less inclined to help their classmates, to maintain a warm relationship with them, or to respect the rules of community life. More specifically, Poortvliet and collaborators (2007; see also Poortvliet & Darnon, 2014) reported that, when engaged in an information exchange with a partner, individuals endorsing performance goals adopted an exploitation orientation and therefore acted with reduced openness in information sharing.

In sum, because they perceive interactants as being stressors, performance-goals oriented individuals tend to engage in interpersonal behaviors having a low level of communion (within the left half of the interpersonal circumplex), that is, antisocial, standoffish, and non-cooperative behaviors.

As performance (vs. mastery) goals—in addition to triggering a particular appetite for normative comparison—implies social comparison processes that are threatening to self-evaluation, and that can lead to maladaptive achievement-related interpersonal behavioral outcomes, we reassert the need to concentrate on their case. Going further, we will discuss the question of whether the nature of the coping strategies associated with performance goals depends on their valence.

1.2.3. Valence of Performance Goals and Level of Agency of Behaviors

As far as the *valence* of performance goals is concerned (i.e., performance-approach vs. performance-avoidance), in their comprehensive review of the literature, Conroy and collaborators (2009) remained relatively prudent stating that “few studies have examined the social impact of avoidance goals [and that it would] be important to determine how this characteristic of achievement goals influence social behaviors” (p. 396). We argue that performance-approach goals could be associated with high levels of agency in interpersonal

behaviors (i.e., located at the top side of the *y* axis of the circumplex model, that is dominant behaviors), whereas performance goals could be associated with low levels of agency (i.e., located at the bottom side of the *y* axis of the circumplex model, that is submissive behaviors).

This hypothesis is based on the fact that, in pursuing performance-approach vs. avoidance goals, individuals do not cognitively appraise their ability to cope with social threat in a similar way. For encounters (in our case, interpersonal encounters) perceived as being stressors (during the primary appraisal), Lazarus and Folkman (1984) defined the process of evaluating the extent of one's ability to cope with the situation as the *secondary cognitive appraisal*. During this phase, individuals evaluate the demands of the situation as compared to the resources they (think they) have. More specifically, these authors (see also Tomaka, Blascovich, Kelsey, & Leitten, 1993) isolated two types of stress-related appraisals: *challenge-appraisals* and *threat appraisals*. Challenge appraisals are those in which the threat is perceived as *inferior* to one's ability to cope with the stressor, whereas threat appraisals are those in which the threat is perceived as *superior* to one's ability to cope with the stressor. In the former case, individuals are focused on the possibility of gain (i.e., approach positive incentives) whereas, in the latter case, individuals are focused on the risk of loss (i.e., to avoid exacerbating the situation). A model, adapted from Lazarus and Folkman's (1984) description of primary and secondary appraisal (see also, Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986) is presented in Figure 1.3.; it is worth noting that it does not include the personal (e.g., value, identity, commitments) and the contextual (e.g., demands, constraints, opportunities) moderating factors later identified by the authors (for a review, see Lazarus, 2006).

Yet, as mentioned earlier, individuals oriented toward performance-approach goals place high confidence in their abilities, whereas the ones oriented toward performance-avoidance goals place low confidence in their abilities (Cury et al., 2006; Elliot & Church, 1997; Law et al., 2012). Hence, during this secondary appraisal—in coping with the threat to self-competence elicited by others (Muller & Butera, 2007)—performance-approach goals are likely to lead to challenge-appraisal, whereas performance-avoidance goals are likely to lead to threat-appraisal. As a result, on the one hand, performance-approach goals should relate to active coping strategies, predicting highly agentic (and poorly communal) responses (i.e., dominant behaviors). On the other hand, performance-avoidance goals should relate to passive coping strategies, predicting poorly agentic (and poorly communal) responses (i.e., submissive behaviors).

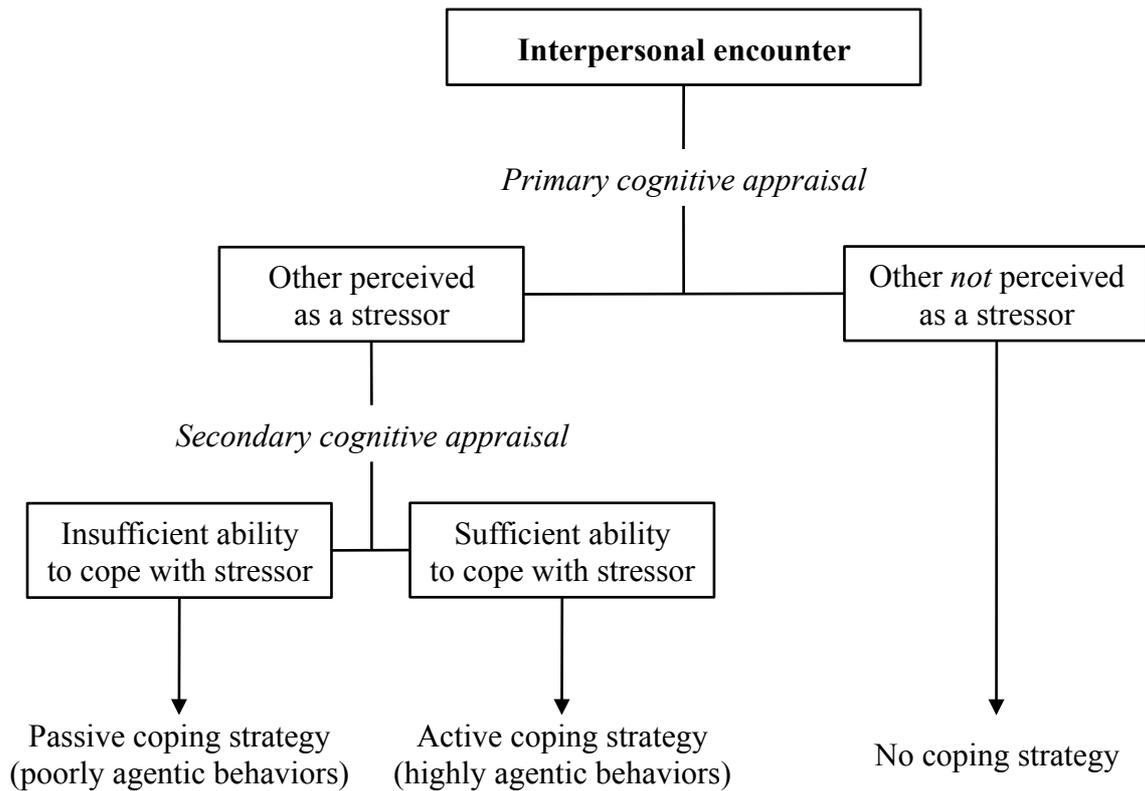


Figure 1.3. Transactional model of stress and coping (drawn from Lazarus & Folkman, 1984).

As a matter of fact, in line with these ideas, the literature on achievement goals reveals that performance-approach goals are robustly associated with dominant interpersonal behaviors, whereas performance-avoidance goals are robustly associated with submissive ones. Let us describe these two relationships one after the other.

Performance-Approach Goals as Predictors of Highly Agentic Behaviors

We have seen that performance-based goals—because they are associated with the perception of interactants as stressors—were predictive of poorly communal interpersonal behaviors; going further, we argue that, in their *approach* form—because they are associated with the perception of *sufficient* competence to cope with stressors—they should be predictive of the use of *active* coping strategies, namely *highly* agentic responses; a series of studies attest to the link between performance-approach goals and unfriendly plus dominant responses.

In a study on small-group processes, Yamaguchi (2001; see also Yamaguchi & Maehr, 2004) formed triads of elementary and middle school students. The participants took part in a 30-minute videotaped math activity, where they had to plan and budget a hypothetical trip.

Theoretical Part

The task was both intellectual (as it involved figuring out the details of the journey based on the available funds) and social (as it involved reaching a consensus). Using a qualitative methodology, the author reported that, when given performance-approach goal instructions—i.e., when the study is presented as purporting to determine “who is the best in math” (p. 676)—group members tended to struggle for taking over the group process. Eventually, within each of those groups, one member, by bullying his/her counterparts, dominated his/her way to the top position, and emerged as an autocratic leader (not taking others’ opinion into consideration).

In a correlational study, Boardley and Kavussanu (2010; see also Sage, Kavussanu, & Duda, 2006; Sage & Kavussanu, 2007, 2008) asked amateur and professional soccer players to fill in a questionnaire. Participants answered items on their performance-approach goals (e.g., “When playing soccer, I feel most successful when I am clearly superior”), the frequency of antisocial acts toward opponents (e.g., “This seasons, how often did I physically intimidate an opponent”) *and* teammates (e.g., “This seasons, how often did I verbally abuse a teammate”), as well as moral disengagement (e.g., “Insults among players do not really hurt anyone”) items. Using path analyses, the authors reported that players oriented toward performance-approach goals were more likely to engage in antisocial behaviors toward opponents (insults, coercions, rule infringements). Even more interestingly, performance-approach goals were also found to predict—indirectly through moral disengagement—antisocial behaviors toward teammates. This suggests that, even in the case of collaborators, performance-approach goals are associated with the perception of interactants as stressors, which results here in aggressive responses toward other in-group members.

In an experiment, Poortvliet, Anseel, Janssen, Van Yperen and Van de Vliert (2012, Study 1; see also Poortvliet et al., 2007, 2009) greeted groups of students at the laboratory. Each group member was led to a separate cubicle, and assigned a computer that was allegedly connected to those of the others. Participants were then presented with the winter survival exercise (D. W. Johnson & R. T. Johnson, 2009), that consists of reading the scenario of a plane crashing in a desolate and cold area, and ranking twelve items (e.g., a compass, a lighter, a knife) in order of their importance for survival of the remaining passengers. Once their ranking finished, participants were asked to send their answer to the other members by mean of the computer network. They were told that another participant would read it and—the study purporting to measure the effect of noise pressure on information processing—they had to set the level of the noise their counterpart would purportedly hear (ranged for 1, “very quiet”, to 16, “very loud”) while reviewing the information. The authors reported that, when

Theoretical Part

given performance-approach goals instructions, participants set a louder noise for the other participant. They interpreted this behavior as an interpersonally harmful/thwarting behavior, a willing to sabotage the performance of the other.

Other research shows that performance-approach goals are associated with manifestations of interpersonal behaviors having both a low level of communion and a high level of agency. McCabe, Van Yperen, Elliot and Verbraak (2013, Study 2) showed that the more middle-age workers endorsed performance-approach goals, the less they reported having communion-related personality traits (e.g., low trust) and the more they endorsed agency-related traits (e.g., high impulsiveness; for an exhaustive definition of the big-five personality traits, see McCrae, & Costa, 1987). Shim, Cho and Wang (2013) showed that the more middle school students endorsed performance-approach goals, the more they exhibited disruptive classroom behaviors (i.e., actively disturbing their classmate, publically breaking the classroom rules; example of item: “I sometimes annoy my teacher during class”). E. M. Anderman and Midgley (2004) showed that, the more a scholastic environment promoted performance goals (e.g., teacher pointing out students who get good grades as an example to the classroom), the more students reported cheating by exploiting others’ knowledge (e.g., copying items from other pupils during tests).

More broadly, performance-approach goals are positively linked to the *behavioral activation system* (BAS). According to Gray (1970), the BAS is a facilitative motivational system—presumably related to a set of neuroanatomical structures and neurophysiological mechanisms—responsible for generating positive affects and impulsive behaviors. Gray (1970) theorized the BAS as sensitive to rewards rather than punishments and, in this respect, as activating behavioral responses to stimuli. Due to their corresponding valence, performance-approach goals were found to be positively associated with Carver and White’s (1994) BAS scale (e.g., “When I see an opportunity for something I like, I get excited right away”; see Bjørnebekk, 2007; Bjørnebekk & Diseth, 2010; Elliot & Trash, 2002, 2010).

Hence, given the relationship between performance-approach goals and the BAS, and given the aforementioned empirical evidence linking performance-approach goals to (unfriendly and) dominant behaviors, it is reasonable to think that performance-approach goals could work as an assertive self-other regulation tool, triggering poorly communal and highly agentic responses to interpersonal stimuli.

Performance-Avoidance Goals as Predictors of Poorly Agentic Behaviors

We have seen that performance-based goals were predictive of poorly communal interpersonal behaviors. Going further, we argue that, in their avoidance form—because they are associated with the perception of *insufficient* competence to cope with stressors—they should be predictive of the use of *passive* coping strategies, namely *poorly* agentic responses; a series of studies attest to the link between performance-avoidance goals and unfriendly plus submissive responses.

Conducting a study on the goals underlying participation in a mathematics classroom, A. Jansen (2006) interviewed middle school students. The authors asked them the following open-ended questions “(a) Are you more likely to participate during class or listen? Why? (b) What if you contributed an answer during class discussion and it was incorrect?” (p. 414). Using a qualitative methodology in analyzing interviews transcript, the author reported that students expressing what she interpreted as being performance-avoidance goals held beliefs constraining their participation, such as not wanting “to waste the time of [one’s] classmates” (p. 421), “to be embarrassed by having a wrong answer” (p. 421) or “to be incorrect in front of the class” (p. 421). Generally speaking, it indicates that students oriented toward performance-avoidance goals, because they fear they would be incorrect in front of others, rather remain silent in classrooms.

In a correlational study, Tanaka, Murakami, Okuno and Yamauchi (2001; see also Roussel, Elliot, & Feltman, 2011) asked eight- and ninth-grade students to fill in a questionnaire. Participants answered items on their performance-avoidance goals (e.g., “I worry about the possibility of getting a bad grade relative to others”), the adoption of *adaptive* help-seeking behaviors (i.e., requesting a suggestion while conducting a task so as to solve it independently, Karabenick & Knapp, 1991; e.g., “If I need help in learning, I ask someone to give me hints or clues rather than the answer”), and the perception of threats to self-worth engendered by help seeking (e.g., “I worry about what other students might think when I ask a question in learning”). Using path analyses, the authors reported that performance-avoidance goals—indirectly through perceived threats from others—were less likely to engage in adaptive help-seeking conducts. This suggests that, the pursuit of performance-avoidance goals being threat-based, it is associated with a representation of help seeking as an evidence of low ability, and as incurring negative judgments from others (e.g., peers, parents, teachers). Students endorsing these goals, because they are more sensitive to concerns about others’ reaction, therefore tend to remain passive when needing assistance.

Theoretical Part

In another correlational study, Akin (2010) invited undergraduates to complete a questionnaire. Participants answered items on their performance-avoidance goals (e.g., “I worry about the possibility of getting bad grades”), self-deception scale (i.e., assessing the propensity to describe oneself in a positively biased manner; e.g., “I am very confident of my judgments”), and the submissive acts scale (i.e., assessing submissive social behaviors, Gilbert & Allan, 1994; e.g., “I allow other people to criticize and let me down and do not defend myself”). Using structural equation modeling, the author reported that performance-avoidance goals were negatively associated with self-deception and positively associated with self-reported submissive interpersonal behaviors. We interpret these results as an illustration of how self-deception goes hand in hand with the endorsement of performance-avoidance goals, and how these goals lead to a submissive state (e.g., feeling inferior, perceiving others as looking down on the self, behaving submissively).

Other research shows that performance-avoidance goals are associated with manifestations of interpersonal behaviors having both a low level of communion and a low level of agency. McCabe and collaborators (2013, Study 2) showed that the more middle-age workers endorsed performance-avoidance goals, the less they reported having communion-related personality traits (e.g., low trust) and the less they endorsed agency-related traits (e.g., low extraversion). Chi and Huang (2014; see also Mehta, Feild, Armenakis, & Mehta, 2009; C. O. L. H. Porter, 2005) showed that the more the members of a team were oriented toward performance-avoidance goals, the more they were likely to feel negative emotions; moreover, the authors suggested that this relationship might explain why performance-avoidance predict self-protective behaviors, such as social disengagement from the team. Valentiner, Mounts, Durik and Gier-Lonsway (2011) showed that the more incoming college freshmen pursued performance-avoidance goals, the more they reported experiencing anxiety when interacting with others, and having a “shyness mindset” (i.e., perception of one’s social dysfunction as being a fixed idiosyncrasy) and—by extension—a tendency to avoid trying new social behaviors.

More broadly, performance-avoidance goals are positively linked to the *behavioral inhibition system* (BIS). According to Gray (1970), the BIS is an inhibitory motivational system, responsible for generating negative affects and withdrawal behaviors. Gray (1970) theorized the BIS as sensitive to punishments rather than rewards and, in this respect, as inhibiting behavioral responses to stimuli. Due to their corresponding valence, performance-avoidance goals were found to be positively associated with Carver and White’s (1994) BIS

scale (e.g., “If I think something unpleasant is going to happen, I usually get pretty worked up”; see Bjørnebekk, 2007; Bjørnebekk & Diseth, 2010; Elliot & Trash, 2002, 2010)¹.

Hence, given the relationship between performance-avoidance goals and the BIS, and given the aforementioned empirical evidence linking performance-avoidance goals to (unfriendly and) submissive behaviors, it is reasonable to think that performance-avoidance goals could work as an aversive self-other regulation tool, triggering poorly communal and poorly agentic responses to interpersonal stimuli.

In the present work, we aim at formally testing the hypotheses that performance-approach and performance-avoidance goals will respectively predict highly and poorly agentic behaviors. In this endeavor, socio-cognitive conflict regulation appears as an ideal interpersonal behavior to study, because—as we are just about to see—it allows to disentangle dominant from submissive postures.

1.3. Performance Goals and Socio-Cognitive Conflict Regulation

At the beginning of the last century, Gabriel Charles Revault d'Allonnes—a French psychiatrist and philosopher—was among the first to theorize the construct of *schemata*, that is, organized patterns of thoughts and/or behaviors used in interpreting one's experience (Vergnaut & Récopé, 2000). Years before Piaget (1936, 1952, 1985), Revault d'Allonnes (1907, 1920) conceived those schemata as both *assimilative* (that is, as constantly integrating new knowledge) and *accommodative* (that is, as adapting and becoming more complex when the integration of such knowledge fails) entities. Revault d'Allonnes' (1920) work is virtually unknown (n.b., on the 17th of August 2014, it was only cited nine times on <http://scholar.google.com/>); M. Récopé (personal communication, July 7, 2014), who took particular interest in his work and met his descendants, suspects that it could be due to a personal fault (e.g., a crime), that took him off the academic world. Thus, it was not until Piaget (1936) that an influential theory on the development of human intelligence taking into account the processes of assimilation and accommodation arose. In this subsection, after having briefly presented it—and notably after having presented Piaget's concept of *cognitive conflict*—we will introduce Doise and Mugny's (1984) concept of *socio-cognitive conflict*,

¹ It must be noted that performance-avoidance goals were also found—to a much lesser degree than performance-approach goals—as being positively associated with the BAS scale (Bjørnebekk, 2007; Bjørnebekk & Diseth, 2010; Elliot & Trash, 2002). In specific situations, individuals pursuing performance-avoidance goals might indeed try to override their natural avoidance tendency (i.e., approach-to-avoid responses, Elliot & Trash, 2002).

that is, a situation of interpersonal disagreement on an intellectual task, as well as the determinants of its regulation.

1.3.1. The Constructivist Approach: The Cognitive Conflict

In Piaget's (1936, 1952, 1985) constructivist view, in the process of acquiring knowledge, individuals try to integrate new information in their existent cognitive structure or *schemata* (i.e., the core mechanism of his theory of *cognitive* development). As an example, let's imagine that, for the first time of his/her life, a child sees an Appaloosa (i.e., an American horse breed). Because this animal shares common features with the other horse breeds that he/she knows (e.g., being a domesticated mammals, having a mane), it is perceived as consistent with prior schemata, and it could be entered in the category "horse". Such a process is called *assimilation*.

To continue the example, let's imagine now that for the first time of his/her life, the child sees a Zebra. Because this animal shows crucial differences with the other horse breeds that he/she knows (e.g., being a non-domesticated mammals, having black and white stripes), it is perceived as inconsistent with prior cognitive schemata, and it could not be entered in the category "horse". In other words, the process of assimilation fails. Such a phenomenon is called *cognitive conflict*. In order to settle the discrepancy, the child needs to revise his/her cognitive schemata, and create a new category that he/she will probably first call "horse with stripes" and then—once the word is known—"zebra". Such a process is called *accommodation*.

These disequilibrium and internal adjustments serve as foundations for (nearly) all learning. Indeed, in acquiring new knowledge, individuals need to put into question the facts that they thought established. For instance, as exemplified by Sommet, Darnon and Butera (2011), in learning decimals, children need to put into question the fact that odd numbers cannot be divided by two. In understanding the theory of evolution, teenagers need to put into question their naïve preconceptions concerning transmutation of species. In understanding epigenetics, students need to put into question their beliefs that phenotypic changes in responses to environmental factors could not be transmitted to the subsequent generation.

Although Piaget (1932) stressed the role of social interaction in his early work, he never provided an empirical illustration so as to define its precise role. Yet, as mentioned earlier, most achievement contexts are social contexts. Specifically, knowledge building is often underlain by interaction processes (Liem et al., 2008) and, in most cases, learning activities are interpersonal activities (e.g., within classroom; Wentzel, 2005). Hence, cognitive

conflicts are commonly embedded in social settings: to follow up on our example, most children have probably discovered the existence of zebras through an adult or a peer, rather than by direct experience. Yet, it was not until the work of Doise and Mugny (1984) that the issue of cognitive conflict was formally extended from the *subject-object* binary scheme (e.g., a child discovering a zebra) to the *subject-object-other* ternary scheme (e.g., a child being told about zebras *by a peer*).

1.3.2. The Socio-Constructivist Approach: The Socio-Cognitive Conflict

In Mugny and Doise's (1978; for an overview, see Doise & Mugny, 1984) socio-constructivist view, in the process of acquiring competence, individuals often find themselves in disagreement with a peer. Such a confrontation with a disagreeing other on a learning task is designated as *socio-cognitive conflict* (i.e., the core mechanism of their theory of *social* development of the intellect).

Numerous studies stemming from this line of research (also called the School of Geneva, see Anthropos, 1991) emphasized the centrality of the disagreement with peers in the construction of knowledge (G. C. Ames & Murray, 1982; Mugny, De Paolis & Carugati, 1984; Mugny, Doise, & Perret-Clermont, 1975-1976; Mugny, Giroud, & Doise, 1978-1979). For instance, in Doise and Mugny's (1979) research, following a pre-test assessing their ability to coordinate spatial perspectives, low- and intermediate-level children had to solve the three-mountains problems. In this task, a child faces a display of three mountains of different size and with different characteristics and is asked to draw it from a different perspective (Piaget, 1951). In the experimental condition (i.e., *the socio-cognitive conflict condition*), two children of the same cognitive level were placed in positions opposing each other across a table. Each participant was asked to reconstruct the display from the other's perspective. Because of their age and initial level, children could hardly distinguish between their own view and that of the other; in such situation, each child in the dyads therefore provided erroneous and disagreeing answers (each of them willing to place the objects using a reference to his/her own right/left). In the control condition (i.e., *the cognitive conflict condition*), children conducted the same task alone, by successively changing their point of view. Results showed that, in a post-test, as compared to children in the cognitive conflict condition, children in the socio-cognitive conflict condition were much more likely to progress in the task. This study suggests that, as compared to intrapersonal conflict, interpersonal conflict predicts more cognitive progress. Such a result reflects the fact that socio-cognitive conflicts, by involving a decentering process (i.e., a child has to put

him/herself in the shoes of the disagreeing interactant, take into consideration the way of thinking of the other, and try to make him/her understand his/her own way of thinking), are vectors for cognitive progress (Quiamzade & Mugny, 2001).

Yet, following these seminal works, scholars soon realized that socio-cognitive conflict could sometimes lose its benefit for learning (e.g., Tudge, 1989; for a discussion of this issue, see Darnon, Buchs, & Butera, 2002). Indeed, according to conflict elaboration theory (Pérez & Mugny, 1993, 1996), in tasks where competence is at stake, facing a disagreeing others could be detrimental for the perception of self-worth. Let us take an example to illustrate the dynamics of socio-cognitive conflict regulations specified by this theory.

1.3.3. Epistemic and Relational Conflict Regulations

Imagine that two bachelor students in Medicine are discussing about the etiology of bipolar disorder. One student emphasizes the nurture-based causes (e.g., stressful social environment as the determinants of the disorder), while his/her partner emphasizes nature-based causes (e.g., genes inherited from parents as the determinants of the disorder). Such a socio-cognitive conflict can be characterized by a double uncertainty. On the one hand, it calls into question individuals' mastery of the task (i.e., *the relevance of error*; e.g., "Is my answer correct?"). On the other hand, it calls into question individuals' relative competence (i.e., *the social anchoring*; e.g., "Am I competent, as compared to the other student?"). The former question corresponds to the *cognitive* component of the conflict, whereas the latter corresponds to the *social* component of the conflict. Hence, these two questions allow two possible situations.

First, when the other is perceived as an *informational support* (e.g., if students' relational climate is positively interdependent, i.e., cooperation; Buchs & Butera, 2004), the relevance of error is more likely to prevail. In such a scenario, individuals tend to consider each answer's validity and work deeply through the problem. Conflict regulation will therefore be task-focused, and will then foster cognitive progress (Buchs, Butera, Mugny, & Darnon, 2004). This mode of conflict regulation has been called *epistemic regulation*. It is worth noting that in Organizational Psychology, in quite a similar way, Jehn (1995) has described how disagreements within members of an organization—when occurring in cooperative working environments—tended to be focused on the substance of the task (i.e., "task-related conflict"). If the students of our example regulate conflict in an epistemic way, they might understand the biopsychosocial model, and realize that bipolar disorder is caused

by anxiety-provoking contexts associated with a genetic vulnerability (Lichtenstein et al., 2009).

Second, when the other is perceived as a *threat to self-competence* (e.g., if students' relational climate is negatively interdependent, i.e., competition; Buchs & Butera, 2004), social anchoring is more likely to prevail. In such a scenario, individuals tend to defend their competence independently of the problem to solve. Conflict regulation will therefore be focused on the social comparison of competences, and will hinder cognitive progress (Buchs et al., 2004). This mode of conflict regulation has been called *relational regulation*. It is worth noting that in Organizational Psychology, in quite a similar way, Jehn (1995) has defined how disagreements within members of an organization—when occurring in competitive working environments—tended to be focused on interpersonal issues (i.e., “relationship-related conflict”). If one of the students of our example regulates conflict in a relational way, he/she will have two possibilities: maintaining his/her position (e.g., nurture-based) while invalidating that of the other (e.g., nature-based; i.e., a *competitive* regulation), or validating the others' position while refuting his/her own (i.e., a *protective* regulation; for a graphical representation of the typology of socio-cognitive conflict, see Figure 1.4.).

Although we find this intuitive distinction in the literature, it was never strictly formalized. Yet, a more precise specification of the nature(s) of relational regulation might notably contribute to the understanding of why sometimes individuals fail to benefit from learning interactions (B. Barron, 2003).

1.3.4. Toward the Distinction of Two Modes of Relational Regulation

To date, the aforementioned distinction between the modes of relational regulation, namely competitive (“a self-confirmatory response”) and protective (“a compliant response”), have been indiscriminately labeled relational conflict regulation (for a review, see Butera, Darnon, & Mugny, 2010). We intend here to formalize the separation between them (for the empirical illustrations of such distinction, see Sommet, Darnon, Mugny et al., 2014).

Competitive Regulation of Socio-Cognitive Conflict

A series of studies show that, when disagreeing with a threatening peer, individuals might try to impose their point of view with scant regard for that of the others (i.e., dominating another).

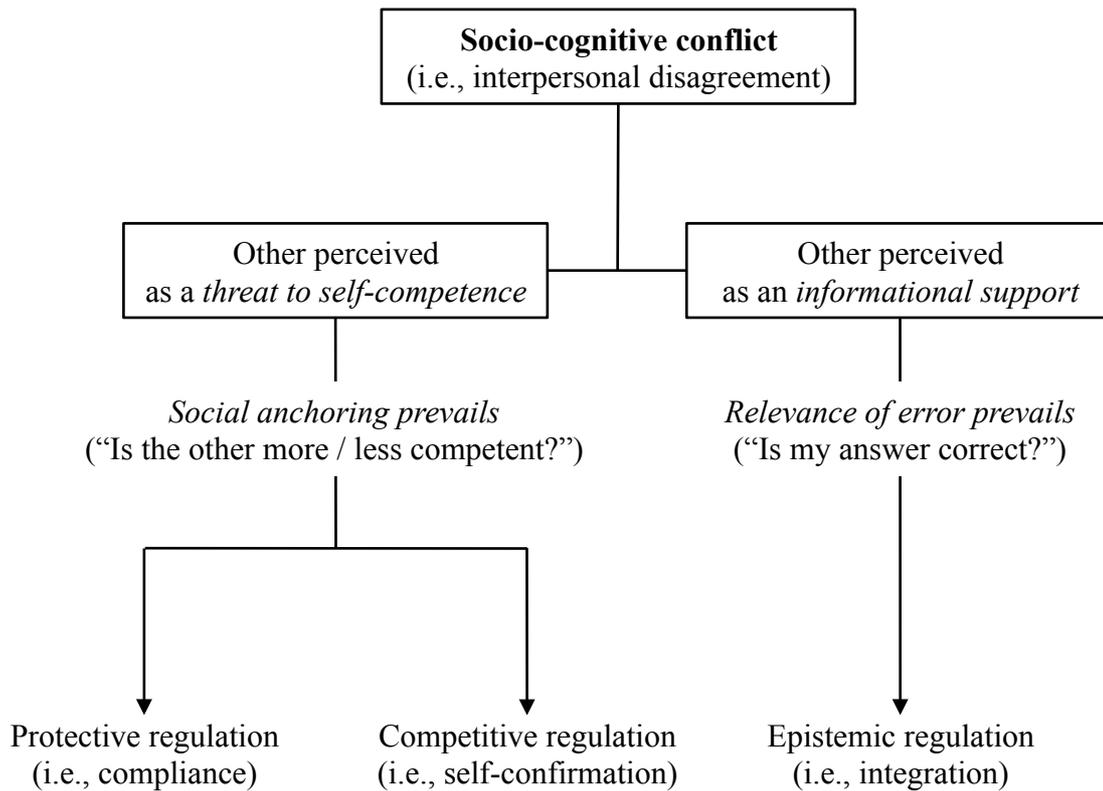


Figure 1.4. Typology of socio-cognitive conflict regulations as a function of the perception of the disagreeing interactant.

On the one hand, qualitative research brings evidence of the existence of such competitive regulation (Asterhan & B. B. Schwarz, 2009; Keefer, Zeitz, & Resnick, 2000; Mercer, 1996). Asterhan (2013) reviewed her and her colleagues' works (Asterhan, Butler, & Schwarz, 2010; Asterhan & B. B. Schwarz, 2007), in which undergraduates having no formal background in Biology were shown an introductory movie on Darwin's theory of evolution, before being paired in dyads and asked to collaboratively solve a set of problems associated with natural selection and mutation of species. In the textual data, the authors reported an elevated frequency of critical arguments having no collaborative dimension (i.e., will to "win" at the expense of one's opponent without being open to alternative viewpoints). Asterhan (2013) commented that in those dialogues "students seemed to perceive the activity as an interpersonal competition and their dialogue partner as their adversary" (p. 258). She labeled this kind of exchanges *adversarial argumentation*, and provided illustrative examples of the *ego-enhancing moves* that are typically associated with it: "That is what I have been saying all along!" (emphasizing one's contribution relatively to others), "Your assumptions are all wrong" (i.e., devaluation of others' competence), and "[Y]ou really believe that brains can

evolve...!” (i.e., sarcasms; p. 265). Given the fact that these dialogues involve *confirming* one’s viewpoint as well as imperviousness to others’ arguments, we argue that adversarial argumentation coincides with what we termed competitive conflict regulation.

On the other hand, quantitative research has long brought evidence of the existence of such competitive regulation (Butera, Gardair, Maggi, & Mugny, 1998; Butera & Mugny, 1992; Butera, Mugny, Legrenzi, & Pérez, 1996; Butera, Mugny, & Tomei, 2000; Legrenzi, Butera, Mugny, & Perez, 1991; Psaltis & Duveen, 2006; Tjosvold, D. W. Johnson, & Fabrey, 1980; Tjosvold, D. W. Johnson, & Lerner, 1981). For instance, Butera and Mugny (1995) conducted an experiment in which eight- and ninth-grade students filled in a questionnaire concerning the organization of a two-city trip by a travel agency. Participant had to write a text defending the choice of two *lakeside* cities, a criterion that was presented as attractive for customers. Then, they were informed that a bogus peer proposed *expensive* cities as the criterion that customers used for selection. This induced a situation of socio-cognitive conflict². Subsequently, participants were asked to compare their competence to that of the other, under two conditions: in the negative interdependence condition (i.e., a *competitive* context), participants had to share a total of 100 competence-points between themselves and the other (what is given to one is denied to the other), whereas in the independence condition (i.e., a *control* condition), participants had to attribute 100 competence-points to themselves and another 100 competence-points to the other (what is given to one is *not* denied to the other). Following the manipulation, participants tested the hypothesis “lakeside” (corresponding to their initial position), by proposing to the customers two cities amongst a set of eight, which were lakeside or not, expensive or cheap. The authors reported that, as compared to the control condition, in the negative interdependence condition, participants used a disconfirmatory strategy (i.e., choosing at least one city that is not compatible with their initial position) to a lower extent, and a confirmatory strategy (i.e., choosing two cities that are compatible with their initial position) to a higher extent. This study suggests that, when a disagreeing peer is perceived as threatening for self-competence (here, due to a competitive context), one tends to be less engaged in divergent thinking and to display self-confirmatory behaviors (i.e., a “competitive” self-validation).

Furthermore, it is worth noting that in Organization Psychology, competitive regulation corresponds to the use of “contending tactics” (i.e., commitments to a particular

² As this conflict involved two peers of an equally low competence, this specific situation corresponds to what Quiamzade, Mugny and Butera (2013; see also Butera, Legrenzi, & Mugny, 1993) have labeled *conflict of incompetences* (when not threatening) and *fear of incompetence* (when threatening).

position; De Dreu & Van Vianen, 2001), i.e., a “dominating” form of conflict management (Gelfand, Leslie, Keller, & De Dreu, 2012). According to De Dreu and Beersma (2005), contending responses—oriented toward the imposition of one’s will onto the other side—is related to “threats and bluffs, persuasive arguments, and positional commitments” (p. 107). Lastly, echoing the previous section, in the Interpersonal Circumplex Model, competitive regulation would correspond to highly agentic interpersonal behaviors (i.e., a dominant behavior).

Protective Regulation of Socio-Cognitive Conflict

A series of studies shows that, when disagreeing with a threatening peer, individuals might try to adopt the other’s point of view while diverting their attention from their own (i.e., submitting to the other’s power).

On the one hand, qualitative research brings evidence of the existence of such protective regulation (Asterhan & Schwarz, 2009; Keefer et al., 2000; Mercer, 1996). In the aforementioned review by Asterhan (2013), the author also reported an elevated frequency of excessive consensus seeking having no critical dimension (i.e., will to accept the first solution proposed without any further exploration). In those dialogues, quoting Mercer (1996), the author stated that “speakers build positively but uncritically on what the other has said” (p. 258). She labeled this type of exchanges *quick consensus seeking*, and provided illustrative examples of the *ego-reducing moves* that are typically associated with it: “I am not sure, but it might be a matter of selection” (i.e., hedging one’s proposition), “Your answer is better” (i.e., valuation of others’ competence), and “Don’t give up on me yet, I’ll get there” (i.e., self-humoring; p. 265). Given the fact that these dialogues involve *conforming* to the other’s viewpoint as well as brittleness of one’s arguments, we argue that quick consensus seeking coincides with what we termed protective conflict regulation.

On the other hand, quantitative research also brought evidence of the existence of such protective regulation (Carugati, De Paolis & Mugny, 1980-1981; Chaiken, 1987; Mugny, De Paolis, & Carugati, 1984; Mugny, Giroud, & Doise, 1978-1979; Quiamzade, Mugny, & Darnon, 2009; Psaltis & Duveen, 2006). For instance, Quiamzade (2007) conducted an experiment in which participants had to solve Wason’s (1966) selection task. Four cards were presented with “E”, “K”, “4” and “7” written on them. Participants were told that, for each card, there were a letter on one side, and a number on the other side. The purpose of the task was to determine which cards needed to be turned over so as to test the rule that “if there is a vowel on one side, there is an even number on the other” (Quiamzade, 2007; p. 248).

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Although the correct answer is “E” and “7”, individuals tend to choose “E” and “4” (a matching bias, i.e., individuals choose the cards mentioned in the rule). As a matter of fact, only 6% of the participants found the correct solution. Once participants designated their cards, they were shown the cards chosen by another participant, which were systematically the two remaining cards. This induced a situation of socio-cognitive conflict³. There were two conditions: In the condition with decentering, the complementarity of points of view was emphasized (i.e., for an exhaustive depiction of the decentering procedure, see Butera, Huguet, Mugny, & Pérez, 1994), whereas in the condition without decentering there were no instructions. Following conflict, participants were given the opportunity to change their card selection (measure of manifest influence). Lastly, in a generalization task—which was, compared to the first one, both similar and more complex—participants were given four cards, with a red triangle, a yellow circle, a yellow square and a blue square, and asked to determine which two cards needed to be turned over so as to test the idea that “if there is a circle on one side, then there is a yellow figure or a square on the other side” (measure of latent influence; Quiamzade, 2007; p. 248). The author reported that, when asked to change their cards, participants of both conditions tended to abandon their answer in favor of that of the other. However, when asked to solve a new task, only participants of the decentering condition managed to find the correct answer. These results suggest that, when a disagreeing peer is perceived as threatening for self-competence (here, in the non-decentering condition), one tends to be less likely to acquire and transfer knowledge from a first task to a new one, simply displaying mere short-lived compliant behaviors without any further elaboration (i.e., a “protective” imitation).

Furthermore, it is worth noting that in Organization Psychology, protective regulation corresponds to the use of “conceding tactics” (i.e., unilateral concessions; De Dreu & Van Vianen, 2001), i.e., an “avoiding” form of conflict management (Gelfand et al., 2012). According to De Dreu & Beersma, 2005, conceding responses—oriented toward the acceptance and the incorporation of the other’s responses—is related to “unilateral concessions [and] unconditional promises” (p. 107). Lastly, in echoing the previous section, in the Interpersonal Circumplex Model, protective regulation would correspond to a poorly agentic interpersonal behavior (i.e., a submissive behavior).

³ It should be specified that, at the beginning of the experiment, all participants received a (bogus) positive feedback after having conducted a task on the computer. They were then paired—via the network—with an alleged peer having obtained the same competence feedback. Thus, the conflict involving two peers of an equally high competence, this specific situation corresponds to what Quiamzade and collaborators (2013; see also, Butera et al., 1998) have labeled *conflict of competencies* (when threatening) and *informational interdependence* (when not threatening).

In the present work, in addition to formally differentiating competitive from protective regulations, we aim at determining which performance goals predict them.

1.3.5. Performance Goals as Predictors of Competitive and Protective Regulations: A First Set of Hypotheses

The definition of relational conflict regulation was rather ambiguous in past research. We have now formalized the distinction between its two forms: competitive regulations (i.e., confirming one's own point of view to the detriment of a disagreeing interactant), and protective regulations (i.e., complying with a disagreeing interactant's point of view to the detriment of one's own). Yet, it remains to be determined when relational conflict regulation will take a competitive rather than a protective form; more specifically, the motivational antecedents of relational conflict regulation have yet to be systematically studied in the existing literature. We propose here performance goals as the predictors of relational conflict regulation: performance-approach goals should be associated with competitive conflict regulation, and performance-avoidance goals with protective conflict regulation.

Darnon, Muller, Schragar, Pannuzzo and Butera (2006, Study 1) were the first to weave a link between achievement goals and socio-cognitive conflict regulation. They showed that, when asked to imagine a discussion with a disagreeing other, the more undergraduates endorsed performance goals (in this study, under the form of performance-approach goals; e.g., "It is important for me to do better than other students"), the more they reported that they would regulate such a conflict in a relational way (e.g., in this study, under the form of competitive regulation; e.g., "To what extent [would] you try to resist by maintaining your initial position?"). Moreover, performance goals, contrary to mastery goals (e.g., "I want to learn as much as possible from this class"), were not significantly associated with epistemic regulation (e.g., "To what extent [would] you try to think about the text again in order to understand better?"). The main limitation of this research, however, was that performance goals were only assessed in their approach form and that competitive and protective regulation modes were not formally differentiated.

Subsequent findings confirmed the positive relationship between performance goals (n.b., phrased as performance-approach goals) and relational regulation (n.b., akin to what we defined as competitive regulation). For instance, Darnon and Butera (2007) replicated Darnon and collaborators' (2006) findings by manipulating goals: Performance-approach goals instructions (i.e., "You are here to perform [...] to prove your ability"; p. 147)—as compared to mastery goals instructions (i.e., "You are here to acquire knowledge [...] to correctly

understand the experiments and the ideas developed in the text” (p. 147)—were found to positively predict self-reported competitive regulation when studying contradictory-but-complementary materials within dyads. Moreover, Darnon, Butera and Harackiewicz (2007) extended these findings by adding a control condition and assessing learning: Performance-approach goals and no-goal instructions—as compared to mastery goals instructions—were found to negatively predict learning (i.e., appraised through post-experimental questions measuring knowledge transfer from the experiment to a new setting), when facing a disagreeing (vs. agreeing) bogus partner. Lastly, Darnon, Buchs and Butera (2006) discussed the practical implications of Darnon and collaborators’ (2006) findings: In most educational structures, competence is assessed in a relative way (e.g., rankings), and as such, they foster the endorsement of performance goals in pupils and, by extension, relational conflict regulation and reduced cognitive progress; these authors conclude that learning systems promoting collaboration and the perception of others as informational supports should counterbalance the effects. Yet, each of these studies suffered from the same conceptualization issues as the initial one, where the authors cautioned that “The only performance goals examined in this study were performance-approach goals [...], we think that performance-avoidance goals, because they are linked to a weak competence expectancy, might favor compliance” (Darnon et al., 2006; p. 774).

Drawing on Darnon and colleagues’ (2006) intuition, we conceive performance goals as self/other-regulation tools, that is, as being associated to specific patterns of interpersonal achievement-related behaviors. To sum up, the rationale for the first set of hypotheses is as follows:

- (i) As seen in subsection 1.1., regardless of their valence, performance goals are associated with a focus on relative competence;
- (ii) As seen in subsection 1.2., performance-approach *and* performance-avoidance-oriented individuals, when evaluating the degree of risk associated with a disagreeing interactant (i.e., the *primary* cognitive appraisal), will tend to perceive the other as *a threat to self-competence*;
- (iii) Performance-approach-oriented individuals, when evaluating the ability to cope with this stressor (i.e., the *secondary* cognitive appraisal), because they typically have *high competence expectancies*, will perceive their competence as being *sufficient (challenge-appraisal)*; conversely, performance-avoidance-oriented individuals, because they typically have *low competence expectancies*, will perceive their competence as being *insufficient (threat-appraisal)*.

- (iv) Thus, performance-approach goals will be associated with *active* coping strategies, which will result in *highly agentic, dominant, assertive* interpersonal behaviors; conversely, performance-avoidance goals will be associated with *passive* coping strategies, which will result in *poorly agentic, submissive, aversive* interpersonal behaviors.
- (v) As seen in subsection 1.3., in the specific case of socio-cognitive conflict, performance-approach will thus predict *ego-enhancing moves, self-confirmation, or competitive* relational regulation (i.e., validating one's position while invalidating that of the interactant), whereas performance-avoidance goals will predict *ego-reducing moves, defensive imitation, or protective* relational regulation (i.e., invalidating one's position while validating that of the interactant).

In conclusion we formulate a first set of hypotheses: Performance-approach goals should predict competitive relational regulation (hypothesis 1.1.), whereas performance-avoidance goals should predict protective relational regulation (hypothesis 1.2.).

1.4. Performance Goals and Socio-Cognitive Regulation with More-Competent Others

In the early 1930s, Lev Semyonovich Vygotsky—a Soviet Belarusian Psychologist—was the first to conceive intellectual development as furthered by social interactions and social practices rather than as a mere product of intra-individual processes (Chaiklin, 2003). Decades before Bandura's (1971) social learning theory, or Doise and Mugny (1984) socio-cognitive conflict theory (for whom he was an important source of influence), Vygotsky (1978, originally published in 1934) notably developed the concept of *zone of proximal development* defined as the distance between (i) a child's actual level of competence when solving a given problem individually, and (ii) his/her potential level of competence when solving it “under adult guidance or in collaboration with more capable peers” (p. 86); hence, the author particularly stressed the epistemic benefits of interacting with a more-competent partner. Vygotsky's (1934) work, despite its groundbreaking nature, was *originally* largely ignored out of Soviet Union, most probably because his theories were condemned by other intellectuals for uncritical borrowing from foreign research (and thus interpreted as “bourgeois-sympathetic”), and because “pedology” (i.e., the “ancestor” of developmental psychology) was judged by his government as being anti-Marxist, which resulted in the blacklisting of some of Vygotsky's publications (Fraser & Yasnitsky, 2012). Although the very first French translations of Vygotsky's work were published in France in the 1930s,

influencing the work of the School of Geneva (Doise, Staerklé, & Clémence, 1996), it was only translated and disseminated in the English-speaking academic community by Michael Cole and his colleagues in the 1980s (see, Daniels, 1996); Vygotsky's essays, although today widely cited and used (Bronkard, Clémence, Schneuwly, & Schurmans, 1996), ironically suffered from a new form of censorship, being expunged from almost all references to Marx.

More recently, the Vygotskian idea that more-competent interactants are perceived as informational resources—and hence foster cognitive progress—has been challenged by the fact that more-competent others may also be perceived as a threat to self-competence (e.g., Muller & Butera, 2007)—and hence hinder cognitive progress; such a theoretical riddle has puzzled several scholars, and has been termed the “paradox of expertise” by Mugny, Butera and Falomir (2001). Indeed, whether we consider educational settings (i.e., competence heterogeneity within classroom; E. G. Cohen & Lotan, 1995) or organizational ones (i.e., competence heterogeneity within working teams), confrontations with more-competent interactants, in addition to being very common, appear as complex and puzzling situations for individuals. In this subsection, focusing on the specific case of socio-cognitive conflict, we will argue that performance goals can work as regulators of interpersonal behaviors with more-competent others.

1.4.1. Performance Goals and Relative Competence

In the early years of achievement goals research, Dweck and Legget (1988) called for “further research [...] establish[ing] more clearly the direction of causality between goals and *sociometric status* and determin[ing] the specific ways in which goals may affect social behaviors” (p. 265; italics added). In addition to the effects of achievement goals on interpersonal behaviors, the authors were thus already raising the issue of the interplay between achievement goals and social status. However, it should be recalled that, despite this seminal call, most achievement research has been conducted at an *individual* level and very little at the *positional* one—i.e., with an emphasis on *status* differences; Doise's (1986) *third* level of analysis. This analysis appears necessary for at least three reasons.

First, most achievement situations are embedded in hierarchical contexts. Indeed, scholastic contexts generate both *implicit* (e.g., popularity, Parkhurst, & Hopmeyer, 1998) and *explicit* (e.g., grades, Pulfrey, Darnon, & Butera, 2013) status asymmetries. Relying on this pragmatic argument, Poortvliet and Darnon (2012) noted that “very often in natural settings different persons occupy different statuses in a hierarchy [and that] so far, the question of status has been largely neglected in research on goals” (p. 327). Because the most salient

status asymmetries in competence-relevant settings are competence-related (involving social comparison in terms of achievement; Huguet, Dumas, Monteil & Genestoux, 2001), we will specifically focus on the question of *relative competence*.

Second, the effects of goals are hardly interpretable when taken out of their hierarchical context. As a matter of fact, the effects of achievement goals on interpersonal behaviors were found to depend on one's relative social status (Levy et al., 2004). As such, the effects of achievement goals on socio-cognitive conflict that we have hypothesized might not be the same depending on the interactant's relative competence. Relying on this ecological argument, Dompnier and colleagues (2012) claimed that "considering a positional level of analysis, future research should [...] examine social status as a potential moderator of goal effects" (p. 765). For our part, we will therefore specifically focus on the *moderating role* of relative competence on the effects of achievement goals on *socio-cognitive conflict regulation*.

Third and last, as seen in the opening paragraph of this subsection, in the Vygotskian view, knowledge- and skill-acquisition are often underlain by social interactions with more-competent peers (Lave & Wenger, 1991). Yet, performance goals are associated with elevated concerns toward maintaining one's relative competence-status (L. H. Anderman & E. M. Anderman, 1999) and, subsequently, they might impair the dynamic of learning when interacting with a more-competent other. Relying on this socio-constructivist argument, Liem and colleagues (2008) asserted that performance-oriented students might be "less likely to interact with classmates whom they perceive as more capable [which] may preclude them from making smooth and positive interpersonal relationships" (p. 507). This is a major concern, as "students' adaptive relationship with peers [...] positively predicts students' [...] achievement" (p. 508). Hence, we will specifically focus on the moderating role of relative competence on the effects of *performance goals* on relational conflict regulation hypothesized in the previous subsection.

1.4.2. Performance Goals and Social Interactions with More-Competent Others

In the first pages of our thesis, we have mentioned that Levy and his colleagues (2004) showed that both performance-approach *and* performance-avoidance goals were associated with extensive concerns with social comparison of competence which, in turn, could qualitatively affect interpersonal behaviors with interactants perceived as more competent. This result might refer to the fact that (among) the predictors of performance-based goals are *social status goals* (R. B. King & Watkins, 2012), namely the will to be socially accepted and

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to achieve a status within the peer group (Hick, 1997; for a discussion on social goals, i.e., perceived social purpose for achievement, and achievement goals, see Urdan & Maehr, 1995). L. H. Anderman and E. M. Anderman (1999) hypothesized that individuals pursuing social status goals, because they tend to focus on the self and to look for social evidence of their academic success within their groups, should develop performance goals over time. In a longitudinal study, they assessed fifth-graders' self-reported social status goals (e.g., "It's important to me to belong to the popular group at school"), as well as their performance-approach goals (n.b., and not performance-avoidance goals) *both* before (5th grade; Time 1) and after (6th grade; Time 2) their transition to middle school. Results show that social status goals at Time 1 were associated with an increase in the endorsement of performance goals from Time 1 to Time 2. Yet, in academic contexts, these social status goals predict the perception of other as being a threat to self-competence rather than an informational support, and the consecutive endorsement of maladaptive achievement-related interpersonal behaviors with more-competent peers (e.g., avoiding help-seeking; A.M. Ryan, Hick, & Midgley, 1997). Below, we present three studies that illustrate the detrimental effects of performance goals when interacting with more-competent others.

First, in an experiment, Newmann and Schwager (1995) invited middle school students to solve a series of arithmetic problems (i.e., additions, subtractions and multiplications) under the tutelage of an adult. Interactions were audio-recorded. There were two types of instructions: mastery goals (i.e., "[Solving these problems] helps you become more skillful [...], it is important to understand *how* to do these puzzle") and performance goals (i.e., "I'll let you know at the end of the session how you did compared with all the other kids [...], it is important to *complete* as many of the problems possible", p. 359). It is worth noting that the valence of performance goals was not manipulated. Coding the audio transcripts, the authors found that pupils in the performance (vs. mastery) goals condition displayed more maladaptive forms of help-seeking behaviors (e.g., requesting for a solution without first attempting to answer on their own). The authors interpreted these results by reasoning that performance-oriented tutees used these behaviors in order to defend themselves against the threat to self-worth elicited by the tutors.

Second, in a small group study, Gabriele and Montecinos (2001; see also Gabriele, 2007) paired fourth- and fifth-graders with a same-gender, same-grade-level partner. In all dyads, one member was a low-achieving student (i.e., having obtained a score below the 40th national percentile rank at the Iowa Test of Basic Skills (ITBS)), whereas the other was a high-achieving student (i.e., having obtained a score above the 80th national percentile rank at

the ITBS). Dyads were either given mastery or performance goal instructions. Again, it is worth noting that the valence of performance goals was not manipulated (i.e., “We are interested in how the two of you do compared with other kids at your grade level”, p. 177). Pupils had to solve three isomorphic multistep arithmetic story problems (Reed, 2001), a first one during an individual pre-test, a second one during the dyadic session (two weeks after), and a third one during an individual post-test (one day after). Learning was assessed by comparing pre-test with post-test performance. Moreover, an item measured perceptions of partner’s relative competence during the post-test (i.e., “Before working with my partner, I thought my partner understood how to do the [dyadic-session-]problem better than I did”, p. 161). The authors reported that low-achievers in the performance goals (vs. mastery goals) condition learnt less. Moreover, low-achievers within this condition perceived their higher-achieving partner as less competent. Taken together, these results suggest that performance-oriented learners perceive more-competent others as threatening for their self-competence and, as a result, benefit less from the interaction.

Third, in a correlational study, Janssen and Van Yperen (2004) invited employees of a Dutch energy supplier to fill in a questionnaire. Participants answered items on their performance-approach goals (e.g., “I feel successful on my job when I perform better than my colleagues”), on their job satisfaction (e.g., “How satisfied [...] are you with your present job in light of you career expectations”), and on perceived quality of leader-member exchange (e.g., “My supervisor recognizes my potential”). High-quality leader-member exchange relationships correspond to mutual trust and respect between subordinate and supervisor, whereas low-quality ones correspond to a formal, role-defined, and hierarchy-based interactions. It is worth noting that the performance-avoidance goals were not measured. The authors reported that the higher the performance-approach goals, the lower the job satisfaction. Even more important, this relationship was mediated by a reduction in the quality of the leader-member exchange. According to the authors, these results suggest that performance-approach-oriented employees, because they perceived their supervisors as threats, restrict their interactions to the impersonal exchange behaviors mandated by their contract; given this socio-emotional distance, performance-approach-oriented employees feel therefore less satisfied with their job.

The aforementioned studies suggest that performance goals—that were not formally and/or concomitantly distinguished in terms of valence—are associated with the perception of a more-competent other as a threat to self-competence and, in turn, have damaging effects on the efficiency or the quality of the interaction. It should be emphasized that we conceive here

threat to self-competence (and its interpersonal consequences) as stemming from performance-based goals rather than interactant's (perceived) superior competence; indeed, performance-oriented individuals—being underlain by social status goals—tend to perceive others as threats to self-competence, *but* more-competent others are *not necessarily* threatening *per se* (e.g., in the case of collaborative learning, Buchs & Butera, 2009; for a discussion of the orthogonality of partner's relative competence and threat to self-competence, see Quiamzade et al., 2013).

Going further, we aim at specifying the nature (and the consequences) of such threat when performance-oriented individuals are confronted with a more-competent interactant. On the one hand, we have seen that performance goals, in their *approach* form, were associated with the perceptions of having sufficient resources to cope with stressors; thus, we argue that performance-approach goals will trigger *active* coping strategies, *highly* agentic, dominant, interpersonal responses when interacting with more-competent interactants. On the other hand, we have seen that performance goals, in their *avoidance* form, were associated with the perceptions of having *insufficient* resources to cope with stressors; thus, we argue that performance-avoidance goals will trigger *passive* coping strategies, *poorly* agentic, submissive, interpersonal responses when interacting with more-competent interactants.

Performance-Approach Goals and Social Interactions with More-Competent Others

As far as performance-*approach* goals are concerned, we have seen that—being related to low competence expectancies—they may lead to highly agentic responses when coping with the threat to self-competence elicited by an interactant. We claim here that this dominant form of social behavior regulation will be even more pronounced when this interactant is perceived as more competent.

As mentioned earlier, Poortvliet and colleagues (2012, Study 1) showed that performance-approach goals predicted, in an information exchange context, the use of interpersonal thwarting behaviors so as to sabotage others' performance. Yet, Poortvliet and colleagues (2012, Study 3; see also Poortvliet, 2013) extended the aforementioned findings by manipulating others' competence. The first stage of the procedure was the same as in their first study—i.e., participants were asked to solve the winter survival exercise (D. W. Johnson & R. T. Johnson, 2009) and were assigned an alleged partner by the means of the computer network—except that this time all participants were given performance-approach goals instructions, and that the bogus exchange partner was either presented as low in competence (his/her answer was worth between 20 and 25 points out of 100) or as high in competence

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(his/her answer was worth between 75 and 80 points). The second stage of the procedure was also the same as in their first study—i.e., participants were asked to write their answer and send it to the other using the computer—except that this time it ended by a self-reported measure of tactical deception considerations. Tactical deception corresponds to a set of strategies aiming at subtly convincing one's interactant that the information exchanged with him/her is valuable and cunningly covering one's deceptive behaviors. Results revealed that, when the other was presented as being high (vs. low) in competence, performance-approach-oriented participants reported more tactical deception considerations. The authors interpreted these findings by pointing out that, in order to protect themselves from the particular threat elicited by more-competent others, performance-approach-oriented individuals tend to falsely present themselves as trustworthy and mask their deceptive behaviors.

In our view, this study demonstrates the fact that performance-approach goals would tend to predict behaviors having a more elevated degree of agency (in this case, tactical deception) when an interactant is perceived as high (and, hence, for individuals oriented toward performance-based goals, as more threatening for self-competence) rather than low (and, hence, less threatening for self-competence) in competence.

Performance-Avoidance Goals and Social Interactions with More-Competent Others

As far as performance-avoidance goals are concerned, we have seen that—being related to low competence expectancies—they may lead to poorly agentic responses when coping with the threat to self-competence elicited by an interactant. We claim here that this submissive form of social behavior regulation will be even more pronounced when this interactant is perceived as more competent.

As mentioned earlier, Chi and Huang (2014, see also Metha et al., 2009; C. O. L. H. Porter, 2005) suggested that performance-avoidance goals predicted, in a teamwork context, the use of withdrawal behaviors so as to protect oneself from negative judgments from others. More to the point, Schoor and Bannert (2011) extended the aforementioned findings by measuring others' competence. In the first stage of the procedure, undergraduates were greeted in the laboratory and told that the purpose of the experiment was to develop a handout on statistical significance in collaboration with another student, and their performance-avoidance goals were assessed. In the second stage of the procedure, participants were randomly assigned a partner. Interactions between them were computer-mediated. Dyads were given complementary resources (i.e., introductory texts from educational manuals) and had 90 minutes to develop the handout using a chat system. In the middle of this collaborative

phase, the perception of partners' competence was assessed with items such as "My learning partner knows exactly what this is all about" (p. 566). Chat statements were logged and two raters coded its segments (i.e., the meaningful sequences). One of the categories—fixed a priori—was "work on task", that is, content-related epistemic activities (Weinberger & Fischer, 2006). Results revealed that the higher the perceived competence of the interactant, the less performance-avoidance goals predicted the frequency of "work on task". In other words, performance-avoidance-oriented participants that perceived their partner as being highly competent—and thus, threatening for self-competence—made fewer contributions to the task; they became free riders by leaving the work to the allegedly more-competent other.

In our view, this study demonstrates that performance-avoidance goals would tend to predict behaviors having a less elevated degree of agency (in this case, social loafing) when an interactant is perceived as high (and, hence, for individuals oriented toward performance-based goals, as more threatening for self-competence) rather than low (and, hence, less threatening for self-competence) in competence.

In the present work, we argue that the self-competence threat elicited by default by a more-competent interactant for performance-oriented individuals will *increase* the agency of interpersonal behaviors when they endorse performance-approach goals, whereas it will *decrease* it when they endorse performance-avoidance goals. Specifically, we aim at formally testing this idea in the context of the specific interpersonal behavior we have selected in this thesis, namely socio-cognitive conflict. Yet, as we are about to see, the effects of relative competence on conflict regulation appear to be extremely diverse.

1.4.3. Socio-Cognitive Conflict Regulation and Relative Competence

Socio-cognitive conflict theorists devoted considerable attention to the situation of confrontation of a low-competence target facing disagreeing threatening high-competence source (i.e., a situation corresponding to what Mugny and colleagues (2001) called *informational dependence*; in our case, corresponding to a target endorsing high performance-based goals). If—as we are just about to see—in most cases, socio-cognitive conflict with a threatening more-competent other triggers *protective* regulation (i.e., mere imitation, that is, a poorly agentic behaviors); in some specific cases, however, it has been found to trigger *competitive* regulation (i.e., self-confirmation, that is, a highly agentic behavior).

Disagreeing with More-Competent Interactants and Protective Regulation

Most of the time, as shown by experiments of the School of Geneva, disagreeing with a more- (vs. equally) competent interactant led to validating the other's position while invalidating that of the self, namely a *protective* regulation of conflict. For instance, Carugati, De Paolis and Mugny (1980-1981) reported that 5-6-year-old children, when paired with a disagreeing adult (i.e., unilateral dyads), as compared when paired with a disagreeing peer (i.e., reciprocal dyads), tended to reduce the differences (i.e., modeling their views on those of the adult) without aiming at articulating the two points of view (i.e., without integration). Similar results were obtained with children facing their teacher (vs. a classmate; Almasi, 1995), one of their parents (Walper, Mülle, Noack, & Silbereisen, 1981, in Mugny & Carugati, 1989), or a highly competent peer (for a review, see Mugny, De Paolis, & Carugati, 1984). These studies indicate that a superficial, short-lived imitation is an easy and expeditious way to reduce the threat to self-competence induced by the perceived higher (vs. equal) competence of a disagreeing interactant (for a review, see Quiamzade & Mugny, 2001).

It is worth noting that Drory and Ritov (1997) have reached similar conclusions for organizational conflict. They submitted to former employees a vignette describing a case of disagreement between a worker A and a worker B concerning their company's expenditure plan. In the "power condition", employee A was described as less experienced than the other, whereas in the "control condition", nothing was specified. Then, participants had to indicate what would be their reaction if they were in employee A's position. Among the various conflict management styles that were proposed, participants in the power (vs. control) condition were more inclined to play down and to satisfy the demands of the other party. This study confirms that protective regulation—that the authors termed "obliging"—allows individuals to cope with the threat engendered by a more- (vs. similarly) experienced disagreeing interactant.

Moreover, in an experiment, Quiamzade, Tomei and Butera (2000, Study 1) deepened the understanding of such phenomenon, manipulating the threat associated with the more-competent other. They gave undergraduates a series of five strings consisting of five letters (e.g., ECARU) and asked them to write down the first three-letter word they identified. Eighty percent of the words given by the participants were written *in the direction of reading* (in our example: CAR). Following this task, respondents were provided with the answers of an alleged other that was either presented as being equally competent (i.e., a counterpart) or more competent (i.e., an expert at Scrabble, regularly involved in international competitions).

One hundred percent of the words given by the other were *in the reverse direction of reading* (in our example: ACE), which induced a situation of socio-cognitive conflict. Subsequently—as in Butera and Mugny (1995)—respondents had to either allocate 0 to 100 competence-points to themselves and 0 to 100 competence-points to the other (i.e., an independent, non-threatening, control condition), or share a total of 100 competence-points between themselves and the other (i.e., a negative interdependent, threatening, experimental condition). Finally, respondents were shown a 10-letter anagram and had to list every word they could find from it (e.g., TNUDOCSIRE). The authors reported that, compared to all the other conditions, when the other was presented as being both more competent and a threat to self-competence, participants provided more words composed by adopting the reverse strategy (in our example, COUNT, i.e., imitation of the other's strategy) and less words composed by adopting a mixed strategy (in our example, INTRODUCE, i.e., coordination between one's strategy and that of the other). In other words, these results indicate that when a more- (vs. equally) competent disagreeing other is associated with a threat to self-competence, protective regulation is likely to occur.

In sum, we have seen that, most of the time, as compared to same-competence disagreeing peers, superior-competence disagreeing others *lessen* the agency of the interpersonal responses, predicting more protective regulation. These results were observed in laboratory, educational and organizational settings. Moreover, this submissive form of conflict regulation aims at coping with the threat to self-competence produced by the more-competent interactant.

Disagreeing with More-Competent Interactants and Competitive Regulation

Sometimes, as shown by the experiments of Psaltis and his colleagues (for a review, see Psaltis & Zapiti, 2014), disagreeing with a more- (vs. equally-) competent interactant can lead to invalidating the other's position while validating that of the self, namely a *competitive* conflict regulation. For instance, Psaltis and Duveen (2006) reported that 6-7-year-old boys paired with a more-advanced disagreeing girl (i.e., a “Fm” dyad), as compared to 6-7-year-old girls paired with a more-advanced disagreeing boy (i.e., a “Mf” dyad) tended to resist more (i.e., supporting one's own position and responding with disclaimers and rebuttals). Similar results—concerning the Fm dyad—were obtained counting the number of words pronounced by boys during the conflicting interaction (Psaltis, 2011), the number of times they disrupted the conversation flow without providing information regarding the problem (Zapiti & Psaltis, 2012), and the total time to decision (Lehman & Duveen, 1999). Summing up over a decade

of findings, Psaltis (2011; see also Duveen & Psaltis, 2008) recently claimed that “in the Fm dyads the males often resist being positioned as less knowledgeable” (p. 845). In our view, these studies indicate that domination is another possible way to cope with the threat to self-competence induced by the perceived higher competence of a disagreeing interactant.

It is worth noting that Kärreman and Alvesson (2009) have reached similar conclusions for organizational conflict. They analyzed transcripts from interviews with employees working in a knowledge-intensive company (i.e., requiring the elaboration and the application of complex new knowledge), and conducted a six-day long observation of the social interactions between managers and staff. The authors reported that, on occasions, employees displayed refusals that were contingent upon an anticipated exercise of power (e.g., prescriptive of a position, or indicative of a norm). This study confirms that competitive regulation—that the authors termed “resistance” (e.g., sabotage as a response to power-as-a-restraining-force)—allows individuals to cope with the threat engendered by a disagreeing hierarchical superior.

Moreover, in an experiment, Quiamzade, Mugny, Dragulescu and Buchs (2003), deepening the understanding of such phenomenon, manipulated the threat associated with a more-competent other. They invited students in their first academic year and students in their fourth academic year to fill in a questionnaire. First, during the pre-test, on a scale ranging from 1 (necessary) to 4 (unnecessary), participants were asked to indicate whether, in an ideal group of friends, there must be a leader. More than eighty percent of the participants choose the responses 3 or 4. Second, during the influence phase, participants read the results of a bogus study published by a supposedly renowned researcher (i.e., an unambiguously more-competent other). The purported empirical findings revealed the positive effect of having a leader in a group of friends on its members’ satisfaction, which induced a situation of socio-cognitive conflict. Moreover, the authors induced two conditions. The conclusions of the study were either presented in a democratic (non-threatening) style, as follows: “Everyone needs to make up their own mind about this evidence”, or in an authoritarian (threatening) style, as follows: “No one can dispute this evidence” (p. 393). Third, during the post-test, participants answered a similar question as the one in the pre-test. Furthermore, perception of relative competence was assessed with one item, namely “how many years of study and of professional experience will you need to attain the same level of knowledge as the [author of the (bogus) study]” (p. 394). In comparing the pre- and post-test assessments, the authors reported an interaction effect between the level of study and the style of the message: the first-year students were more likely to accept the conclusions of the study (i.e., a compliant

response) when the source adopted an authoritarian rather than a democratic style, whereas the fourth-year students were more likely to maintain their opinion concerning the centrality of the absence of leadership in groups of friends (i.e., a self-confirmatory response) when the source adopted an authoritarian rather than a democratic style. Interestingly, fourth-year students perceived the epistemic divide (i.e., the number of years necessary to attain the same level of knowledge as the fictitious researcher) as shorter when the source adopted an authoritarian style. Taken together, these results indicate that, when a more-competent disagreeing other is associated with a threat to self-competence, under certain circumstances (here with fourth-year students, those for whom threat was stronger), competitive regulation is likely to occur.

In sum, we have seen that, sometimes (e.g., boys facing more-advanced girls, graduate student facing an epistemic authoritarian authority), superior-competence disagreeing others *strengthen* the agency of the interpersonal responses, predicting more competitive regulation. These results were observed in laboratory, educational, and organizational settings. Moreover, this dominant form of conflict regulation—just as the submissive one—aims at coping with the threat to self-competence produced by the more-competent interactant. However, if the submissive and dominant forms of conflict regulation with more-competent others serve—in our view—the same function (that is, reducing the threat to self-competence associated with the disagreeing interactant), they should not occur with the same individuals. In the present work, in order to account for the variations in the level of agency in relational conflict regulation (i.e., from protective to competitive) with more-competent interactants, we propose that performance-approach goals predict a competitive relational regulation (resistance) and performance-avoidance goals a protective relational regulation (obedience).

1.4.4. Performance Goals as Regulators of Conflict with More-Competent Others: A Second Set of Hypotheses

Disagreeing with a more-competent other on a learning task—although decisive for cognitive progress—might be threatening for self-competence (Muller & Butera, 2007; Quiamzade, Mugny, & Butera, 2013), and therefore both a hard-to-manage encounter for learners and a hard-to-predict situation for scholars and supervisors.

Extending our first set of hypotheses, we conceive performance goals as regulators of the specific interpersonal behaviors displayed while experiencing a socio-cognitive conflict with a more- (vs. similarly) competent interactant. To sum up, the rationale for this second set of hypotheses is as follow:

Theoretical Part

- (i) As recalled in the first part (1.4.1.) of the present subsection (1.4.), performance goals—being related to social status goals—are associated to the perception of more-competent interactant as a particular *threat to self-competence*;
- (ii) As seen in the second part of the present subsection (1.4.1.), in coping with the threat elicited by a higher- (vs. same-) competence interactant, performance-*approach* goals—being associated with *high competence expectancies*—predict interpersonal responses with *a greater degree of agency* (i.e., *dominant* behaviors), whereas performance-*avoidance* goals—being associated with *low competence expectancies*—with *a poorer degree of agency* (i.e., *submissive* behaviors);
- (iii) As seen in the third part (1.4.3.), in coping with the threat elicited by a higher- (vs. same-) competence *disagreeing* partner, in most cases, individuals regulate conflict in a *protective* way (i.e., by *complying* with others' point of view), but in some specific cases, they might regulate it in a *competitive* way (i.e., by *supporting* one's own point of view);
- (iv) Combining these elements, we posit that in the specific case of a socio-cognitive conflict with more- (vs. equally) competent disagreeing interactants, performance-*approach* goals will predict a *dominant* form of behavioral regulation (i.e., an *active* coping strategy), namely *competitive* regulation, whereas performance-*avoidance* goals will predict a *submissive* form of behavioral regulation (i.e., a *passive* coping strategy), namely *protective* regulation.

In conclusion, we formulate a second set of hypotheses: performance-approach goals should more positively predict competitive conflict regulation (self-confirmation) when facing a more-competent partner than when facing an equally competent partner (hypothesis 2.1.), whereas performance-avoidance goals should more positively predict protective conflict regulation (compliance) when facing a more-competent partner than when facing an equally competent partner (hypothesis 2.2.)⁴.

⁴ One might criticize the formulation of our set of hypotheses. Indeed, relative competence is defined in an objective way, from a quasi-omniscient perspective (the equality vs. inequality of self- and other's competence is defined as a constant, that is, as independent of individuals' (goals) characteristics) rather than in a subjective way, from the individuals' perspective (the equality vs. the inequality of self- and other's competence could be defined as a conjecture, which would be dependent of individuals' (goals) characteristics). However, contrary to mastery-oriented individuals who define competence according to an absolute standard—and who are therefore less likely to be biased in assessing self- and other's competence—performance-oriented individuals define competence according to a relative standard—and are therefore more likely to be biased in assessing self- and other's competence (e.g., Gabriele and Montecinos, 2001). Reframing our reasoning in terms of social comparison, when confronted to a disagreeing other presented as being more competent, performance-approach-

2. The Interpersonal Antecedents of Performance Goals: The Case of Supervisor-to-Subordinate Socialization

In introducing the first part of the present research, we argued that—due the (neo)positivist foundation of the discipline—social psychologists’ ultimate objective was to *predict* human social behaviors. Thus, the goal construct, in that it allows determining the direction of individual behaviors (Terborg & H. E. Miller, 1978), have been a privileged object of study for the past fifty years (Locke et al., 1981). Yet, one might wonder what determines the goals themselves; in other words, what is “predicting the predictor” (Gessner, 1992, p. 1)?

On the one hand, all through the present thesis, we have seen that under-, belatedly, or posthumously recognized scholars, such Cecil Alec Mace, Timothy Francis Leary, Gabriel Revault d’Allonnes, and Lev Semyonovich Vygotsky, had amazingly compelling and avant-garde ideas. It anecdotally shows that proposing challenging theories, and publishing high-quality and inventive works, does not go hand in hand with social approval seeking. However, empirical evidence shows that performance goal are *not* associated with innovative performance (Janssen & Van Yperen 2004) and, more broadly speaking, that they relate to a maladaptive pattern of achievement-related intrapersonal outcomes (e.g., surface learning, Elliot et al., 1999; for a review, see Grant & Dweck, 2003). Thus, the fact that performance-based goals do not necessarily trigger societal and individual progress leave us to wonder how they could spread within society.

On the other hand, all through the thesis, we have seen that performance-based goals were associated with a maladaptive pattern of achievement-related interpersonal behaviors. In the previous pages, we have discussed several examples of these behaviors, such as for instance disruptive behaviors in the classroom (Kaplan, Gheen, & Midgley, 2002), elevated

oriented individuals—because having elevated competence expectancies—should perceive the competitor as a more attainable target (i.e., implying an assimilation process) and behave with him/her in a more agentic way; however, performance-avoidance-oriented individuals—because having poor competence expectancies—should perceive the competitor as more unattainable target (i.e., implying a contrast process) and behave with him/her in a less agentic way (see Bounoua et al., 2012). Thus, an alternative and elegant way to formulate our prediction would be to frame it a more perceptual way: performance-approach goals should more positively predict the perception of a disagreeing other as being challengeable, and therefore regulate conflict in a more competitive way, when he/she is presented as superiorly (vs. equally) competent (hypothesis 2.1’.); however, performance-avoidance goals should more negatively predict the perception of a disagreeing other as being challengeable, and therefore regulate conflict in a more protective way, when he/she is presented as superiorly (vs. equally) competent (hypothesis 2.2’.). This alternative hypothesis is slightly more complex in terms of operationalization. Indeed, it corresponds to a moderated mediation hypothesis involving performance-based goals (independent variables), relative competence (moderating variable), perceived attainability of the disagreeing other (mediating variable), and relational conflict regulations (dependent variables). Thus, it will not be directly tested in the present work.

intention to behave unethically in the workplace (Van Yperen, Hamstra, & van der Klauw, 2010), and moral disengagement and unsportsmanlike behaviors in the sport field (Boardley & Kavussanu, 2010). Here also, despite the fact that they have detrimental *interpersonal* consequences, we are left to wonder how they could proliferate within some social groups.

Specifically, in the second part of the present research work, we aim at showing that group supervisors are the socialization agents of performance goals, accounting for the social reproduction of performance-based goals within some societies and social groups. In doing so, we will begin by providing theoretical and empirical elements that would allow us to anticipate a supervisor-to-subordinates social transmission of performance goals, that is, the tendency for subordinates having performance-oriented supervisors to endorse performance goals over time (i.e., subsection 2.1). Subsequently, we will conceptualize this phenomenon as corresponding to a socialization effect, that is, a complex process by which subordinates acquire the goals of their supervisor over time; and we will propose self-enhancement values as its precursor, in-group identification as its underlying mechanism, and perceived self-competence as its directional moderator (i.e., subsection 2.2).

2.1. Toward the Hypothesis of Supervisor-to-Subordinates Performance Goals Transmission

In one of the pioneering articles that laid the foundation of the study of social influence on the emergence of achievement goals, C. Ames (1992) already assumed that “[teachers’] own goals most assuredly influence beliefs about the efficacy of certain strategies and their instructional decisions” (p. 268). In this subsection, analyzing the interpersonal antecedents of performance goal from Doise’s (1986) third level of analysis, that is, a focus on *status* differences, we will argue that supervisors’ performance-approach goals, because they are associated with specific managing and instructional practices, might trigger the change in their subordinates’ performance-based goals over time.

2.1.1. Stability and Change in Performance Goals

Since the development of the achievement goal framework, the temporal (in)stability of goals have remained a thorny and equivocal issue (Payne, Youngcourt, & Beaubien, 2007). For instance, while Carol Dweck assumed performance goals as being fixed, trait-like, dispositional constructs in some of her research (i.e., depending on one’s (stable) entity theory of intelligence, e.g., Dweck, 1986), she conceived them as being malleable, state-like, situational constructs in other studies (i.e., experimentally induced, e.g., Elliott & Dweck, 1985).

Theoretical Part

On the one hand, it is acknowledged by many scholars that achievement goals are stable traits. As an example, Harackiewicz, K. E. Barron and Elliot (1998) showed that achievement orientation—that is, a one-dimensional basic need to strive for excellence, conceptualized as a personality construct—was an antecedent of performance-approach goals endorsement. Moreover, Elliot and Thrash (2004) showed that undergraduates' parents' fear of failure—that is, an avoidance-based motive disposition in achievement settings—predicted undergraduates' performance-avoidance goals. Furthermore, Elliot and Thrash (2002) showed that (approach and avoidance) temperament—that is, a heritable, present in early childhood, and stable across the life span, affective personality component—determined the valence of one's performance goals.

On the other hand, confirming Button and colleagues' (1996) description of achievement goals as “individual difference factors that may be influenced by situational characteristics” (p. 28), recent developments have shown that achievement goals were both stable traits *and* changing states. In a series of multi-method longitudinal studies, Fryer and Elliot (2007) reported that the rank-order of undergraduates' achievement goals was stable within one semester, but that all of their goals showed reliable change over time. In other words, the general configuration of one's achievement goals is rather fixed, but their levels of endorsement are more volatile. More specifically, concerning the process of performance-based goals adjustment, corroborated by other studies (Jagacinski, Kumar, Boe, Lam, & S. A. Miller, 2010; Muis & Edwards, 2009; Corker, Donnellan, & Bowles, 2013), these results illustrate the fact that *goal intensification* (i.e., individual increasing/decreasing commitment to a given performance goal without any concomitant adjustment of the other) is more likely to occur than *goal switching* (i.e., individual shifting commitment from performance-approach goals to performance-avoidance goals, or vice versa; Senko et al., 2011).

What are, then, the determinants of performance goals adjustment? A series of studies have attempted to answer this question. For instance, Kumar and Jagacinski (2011) reported that, when increasing (vs. maintaining) the difficulty levels of three weekly sessions of cognitive tasks, individuals' level of performance-approach goals declined, whereas that of performance-avoidance goals rose. Another example is E. M. Anderman and Midgley's (1996) longitudinal study showing that, from fifth to seventh grade (i.e., middle school transition), the classroom environment becoming increasingly competitive, pupils' performance-approach goals tend to increase.

However, in most of the studies exploring the determinants of change in performance goals endorsement, scholars have concentrated their efforts at the lowest level of observation

in the hierarchy (i.e., level 1, e.g., students, Senko & Harackiewicz, 2005; employees, Ng & D. C. Feldman, 2013; or athletes, William, Donovan, & Dodge, 2000), and only a few investigated the higher level(s) (i.e., level 2, e.g., teachers, managers, coaches)⁵. Yet, as we have already stated, achievement goals are rarely pursued in the social vacuum, as most achievement settings are embedded in social and hierarchical contexts (e.g., classrooms, organizations, sport-teams), and performance-oriented individuals are particularly prone to focus on social status differences (Poortvliet & Darnon, 2010). Hence, adopting a multilevel approach, we aim at defining the role of group supervisors' performance goals in predicting the emergence (or the decline) of those of their subordinates.

2.1.2. Supervisors-to-Subordinates Performance Goals Transmission

As reflected by the various studies that we have cited so far, the vast majority of the achievement goals literature is concerned with the goals of group *subordinates* (e.g., students), rather than that of group *supervisors* (e.g., teachers). However, supervisors' motivation have been at the heart of the long-lasting debate on whether monetary incentives could strengthen teachers' efforts on education; one should note that, although some merit pay program have been launched (i.e., where teachers were paid depending on their students' performance), empirical evidence suggests that these incentives are inefficient (for a critical review, see Gneezy, Meier, & Rey-Biel, 2011). Recently, Butler (2007)—relying on the idea that “the school is an achievement arena not only for students but also for teachers [...] who may differ in the ways they define success” (p. 242)—extended, in Educational Psychology, the achievement goals framework from subordinates (learners) to supervisors (instructors). It should be clarified that supervisors' performance-approach goals were defined isomorphically to those of subordinates, that is, as the desire to demonstrate superior competence relatively to others (i.e., outperforming other supervisors). It is worth noting that, given our research question, supervisors' mastery goals—defined as the desire to develop one's professional competence—will not be further discussed.

Before going any further, two points must be clarified. First, when occupying powerful roles, individuals are more sensitive to opportunities/rewards (than threats/punishments), they experience and express more positive affects (than negative ones),

⁵ Concerning the latter, notable exceptions come from group goals structure research (C. Ames, 1992). However—as we are about to see—in those studies (e.g., C. Ames & Archer, 1988), the characteristics of supervisors (e.g., teachers' instructional practices) are assessed through the measurement of subordinates' perceptions (e.g., pupils' perceptions of their teachers' practices); methodologically and statistically speaking, these studies are therefore confined to level 1.

and they are more likely to endorse approach-related (than avoidance-related) goals (Keltner, Gruenfeld, & Anderson, 2003); hence, only supervisors' performance-approach goals will be examined in the present work. Second, powerful (vs. powerless) individuals tend to devote full attention to the pursuit of prioritized focal goals and to behave in more goal-consistent manners (Guinote, 2007); hence, supervisors' performance-approach goals will be considered as rather stable constructs.

Butler's (2007, see also 2012) research inspired a broad range of subsequent studies, linking (or attempting to link) teachers' performance-approach goals to interest in teaching (Retelsdorf, Butler, Streblov, & Schiefele, 2010; n.b., the relationship was not statistically significant) or self-efficacy beliefs in student-centered teaching styles (Goroizidis, & Papaioannou, 2011; n.b., the relation was positive). Despite their proliferation, most of these studies concerned the sole population of teachers, and the potential cross-level effects of their performance-approach goals on their students remained unexplored (for a notable exception, see Butler & Shibaz, 2008). More specifically, to the best of our knowledge, none of these studies tested the appealing idea of a social transmission of performance-based goals from supervisors to subordinates.

Yet, four sets of theoretical and/or empirical evidence suggest that it would be reasonable to expect such a social transmission: (i) group goal structure (C. Ames, 1992); (ii) leader-to-unit transmission of goal orientation (Dragoni, 2005); (iii) the model of achievement goals contagion (Eren, 2009); (iv) social contagion of motivation (Radel, Sarrazin, Legrain, & Wild, 2010). Let us consider these sets one by one.

Group Goal Structure

The first evidence comes from research on group goal structure. Drawing on C. Ames and Archer's (1988) empirical findings, C. Ames (1992) proposed that the way a learning environment is organized predicts the emergence of learners' performance goals. Specifically, she argued that educators might create different *group goal structures*, that is, a context emphasizing a particular achievement goal, depending on their instructional practices. She proposed a typology—namely the TARGET system—identifying the six key dimensions of these instructional practices: Task assignments (T), Authority style (A), Recognition system (R), Grouping strategies (G), Evaluation methods (E), use of Time (T).

Specifically, an educator fostering a performance goals structure, and therefore encouraging the endorsement of performance-based goals, would typically provide monotonous and repetitive tasks (promoting perfunctoriness), enforce discipline on learners

and require them to comply with their rulings (promoting self-restraining), reward outcomes and value students outperforming others (promoting social comparison), build homogenous and negatively interdependent groups (promoting competition), make public and norm-based assessments (promoting the use of other-reference standard for evaluating competence), and give limited time to complete assignments and tight schedules (promoting need for closure; for a review see Meece, E. M. Anderman, & L. H. Anderman, 2006; see also Duchesne, Ratelle, & Roy, 2011; Kaplan, Middleton, Urdan, & Midgley 2002; Urdan & Midgley, 2003).⁶

Importantly for us, Retelsdorf and collaborators (2010) showed that educators' instructional practices directly reflect their own achievement goals for teaching. Specifically, they submitted a questionnaire to schoolteachers. They measured their performance-approach goals (e.g., "It is important to me as a teacher that I feel that my abilities are recognized and appreciated.") as well as their performance-oriented instructional practices (e.g., "I have my students repeat rules and example sentences to help increase their confidence."). They reported that the two variables were positively correlated (see also, Butler, 2012; Butler & Shibaz, 2008; Retelsdorf & Günther, 2011).

Although some rare achievement goal theorists have differentiated performance-approach from performance-avoidance goal structures (e.g., Moos & Azevedo, 2006), most of them question the empirical and theoretical relevance of such a distinction (e.g., Cho & Shim, 2013). As a matter of fact, Wolter (2004) submitted items assessing perceptions of performance-approach structure (i.e., beliefs that the classroom climate emphasizes doing better than others) and perceptions of performance-avoidance structure (i.e., beliefs that the classroom climate emphasizes not doing worse than others) to junior high school students. A lack of reliability of the performance-avoidance structure item rendered the subscale unusable. This first results casted doubt on the ability for learners to understand such a construct, and therefore on its empirical relevance (see also, Urdan, 2004b). Furthermore, Wolter (2004) measured students' performance-approach and -avoidance goals. He reported that students perceiving their classroom as performance-goal structured tended to adopt both

⁶ It is worth specifying that C. Ames' (1992) system is not restricted to the educational context. A good example is Hamstra and collaborators' (2013) correlational study, in which leaders of diverse organizations, as well as their followers, filled in a questionnaire. Supervisors' transformational leadership (i.e., a focus on providing subordinates' autonomy in exercising authority) and transactional leadership (i.e., a focus on monitoring subordinates in exercising authority), as well as subordinates' performance-approach goals were assessed. In line with C. Ames' (1992) model (as far as the authority dimension is concerned)—but in organizational contexts—results revealed that, contrary to transformational leadership (i.e., oriented toward autonomy), transactional leadership (i.e., oriented toward controlling) was positively associated with workers' performance-approach goals.

personal performance-approach *and* performance-avoidance goals. This second results casted doubt about the necessity—in predicting students’ personal performance-avoidance goals—of a specific performance-avoidance-structure construct, and therefore on its theoretical relevance (see also, Shim, Cho, & Cassady, 2013).

Connecting the dots between these empirical findings, the group goal structure literature shows that performance-approach-oriented supervisors, having performance-oriented instructional practices (Retelsdorf et al., 2011), tend to generate performance goal structures (C. Ames, 1992), which, in turn, could be associated with the emergence over time of performance-based goals within their subordinates (i.e., performance-approach *and* -avoidance goals; Wolter, 2004).

Although these results would allow us to anticipate a transmission of performance goals from supervisor to subordinates, this stream of research is limited in two important ways. On the one hand, as mentioned earlier, in empirical work using the TARGET system, most scholars rely on the (indirect) assessment of learners’ subjective perceptions of group goal structure rather than on the (direct) assessment of teachers’ practices (see, Wolters, Fan, & Daugherty, 2010). On the other hand, the multi-dimensional nature of the TARGET system prevents an accurate examination of (the potential) supervisor-to-subordinates social transmission of performance goals; indeed, performance-oriented instructional practices are assessed by merging the six dimensions of the TARGET system (e.g., norm-based evaluation practice, autocratic leadership style, etc.), which makes it difficult to infer the mere direct effect of supervisors’ performance-approach goals on those of their subordinates.

Leader-to-Unit Transmission of Goal Orientation

The second evidence comes from research on leader-to-unit transmission of goal orientation. In a theoretical article, Dragoni (2005) developed an analogous argument as C. Ames’ (1992). She claimed that, in organizational settings, just as in educational ones, group supervisors (i.e., employers, administrators, managers) are the main architects of their subordinates’ achievement goals. More specifically, leaders’ pattern orientation, that is, leaders’ interpersonal achievement-related behaviors, would play a crucial role in the shaping of employees’ achievement goals. Through behaviors signaling their achievement expectations (e.g., explicit statements), reinforcing them (e.g., positive feedbacks / rewards), or discouraging others (i.e., negative feedbacks / punishments), leaders would repeatedly give social cues to their employees about what achievement goals are deemed appropriate,

Theoretical Part

expected and valued, creating a work group climate fostering or hindering performance-based goals.

Specifically, a leader inducing a climate for performance, and therefore encouraging the endorsement of performance-approach goals, would typically push his/her employees to engage in impression management (i.e., promoting their abilities), conceive career progression as a tournament, and reward those who outperform others (Rosenbaum, 1989; Scott, & Bruce, 1994).

Importantly for us, Dragoni and Kuenzi (2012) refined this theoretical proposal, and provided an empirical illustration. They argued that leaders' pattern orientation directly depends on their personal achievement goals. In other words, while managing their unit, leaders would send signals about the achievement goals they endorse, and model their own goal orientation for their work units. Dragoni and Kuenzi (2012) tested this idea with leaders of various organizations and their employees. They assessed supervisors' performance-approach goals as well as their tenure in their units. They also assessed their subordinates' performance-approach goals and aggregated them at the team-level (i.e., so as to build a variable corresponding to work unit general goal orientation). Results revealed that the longer a leader was in charge of a team, the more positively leader's performance-approach goals were associated with unit's performance-approach goals.

Connecting the dots between the two presented studies, Dragoni's and her colleagues' (2005; Dragoni and Kuenzi, 2012) work shows that performance-approach-oriented supervisors, having performance-based pattern orientation, tend to generate performance-oriented work group climate, which, in turn, is associated with the emergence over time of performance-approach goals within their subordinates (see Figure 1.5. for a graphical representation of these relationships).

Although these results would allow us to anticipate a transmission of performance goals from supervisor to subordinates, this stream of research is limited in two important ways. On the one hand, the (potential) effects of leaders' performance-approach goals on units' performance-avoidance goals is neither theorized nor reported. On the other hand, Dragoni and Kuenzi's (2012) collective (rather than individual) manner of conceptualizing subordinates' performance-approach goals (i.e., the averaged group-members' perceptions of the performance group goals, see C. O. L. H. Porter, 2008) prevents an accurate examination of individual processes that could be at stake in supervisor-to-subordinates social transmission of performance goals.

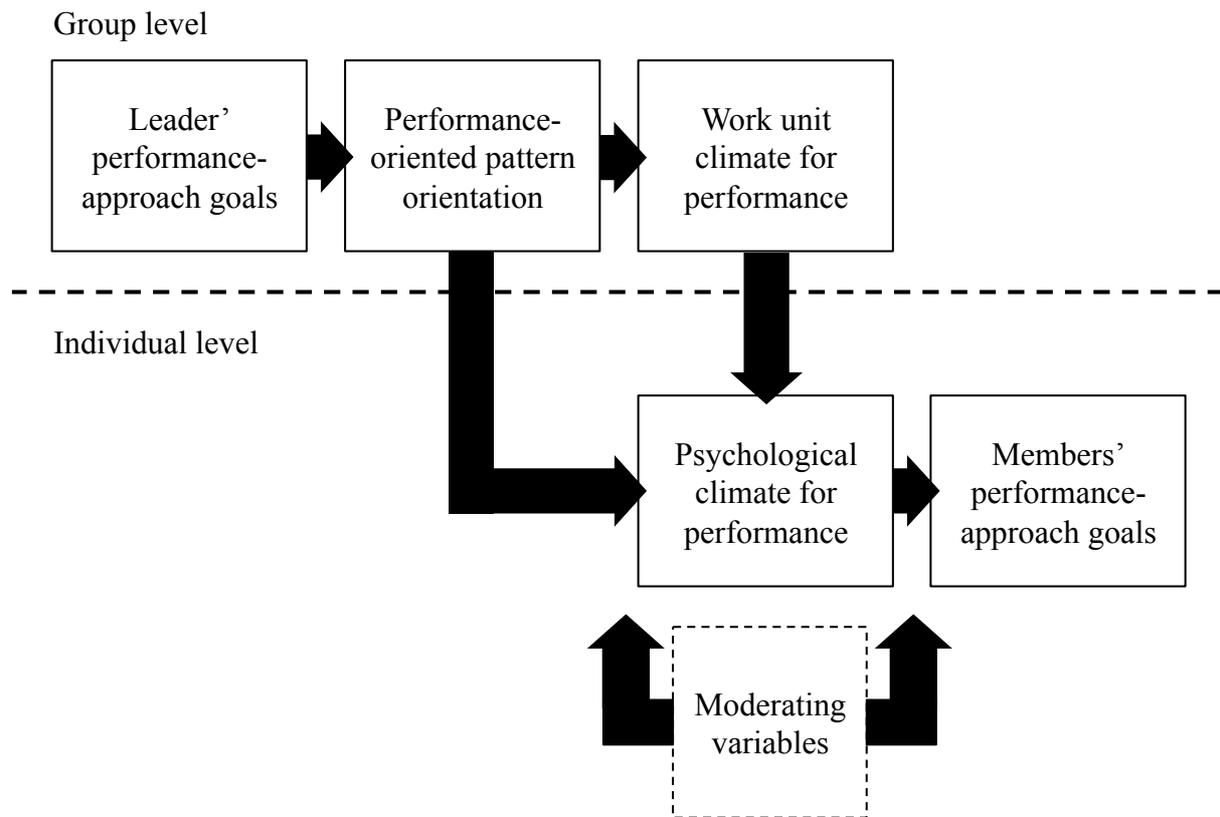


Figure 1.5. Mixed determinant cross-level model of the emergence of unit performance-approach goal orientation (Dragoni’s, 2005 model adapted to the present contention).

A Model of Achievement Goals Contagion

The third set of evidence comes from Eren’s (2009) model of achievement goal contagion. In a theoretical article, adopting a multilevel neurocognitive approach, Eren (2009) proposed a model of teacher-to-pupils achievement goal contagion.

Specifically, Eren (2009) drew from Bargh’s (1990) automotive model of nonconscious goal pursuit. In this model, the author conceives goals, and more notably performance-approach goals, as mental representations that could be activated by subtle features of the social environment, outside of one’s conscious awareness. An illustration of such a phenomenon is Bargh, Gollwitzer, Lee-Chai, Barndollar and Trötschel’s (2001, Study 1) experiment, in which undergraduates were either assigned to a performance-approach goals priming condition (completing a word-search puzzle with words such as “win”, “compete”, or “succeed”) or a neutral priming condition (completing a word-search puzzle with words such as “carpet”, “river”, or “shampoo”). Following the induction, the participants were given three new word-search puzzles, with 10 neutral words hidden within each of them. Authors

reported that, as compared to the ones in the control condition, performance-approach goal primed students found a higher number of words. They interpreted this result as indicating that performance-approach goals could be activated without deliberate choice, and regulate subsequent behaviors (in this case, the performance at a follow-up cognitive task).

Applying Bargh's (2001) model to classroom settings, Eren (2009) hypothesized that students could unconsciously detect their teachers' performance-approach goals. According to him, this inference would be made possible by students' mirroring ability and theory of mind. On the one hand, mirroring ability, which is associated with the function of mirror neurons, is the *neurological* basis for recognition of goal-related behaviors and intentions of others during interpersonal interactions (Rizzolatti & Craighero, 2004). On the other hand, theory of mind, which is associated with a social-cognitive skill, is the *psychological* basis for interpretation of human behaviors and attribution of mental states to others (Astington, Pelletier, & Homer, 2002).

More precisely, according to Eren (2009), thanks to these innate and acquired aptitudes, students could unconsciously infer the level of their teacher's performance-approach goals. They would then interpret this level as being adapted to the learning environment, and would regulate their own goal-related behaviors in line with it. In other words, teachers' performance-approach goals would automatically predict the emergence of their pupils' performance-based goals (i.e., approach or avoidance). It is worth noting that Eren (2009) specified that students' self-efficacy could be included in the model. It could notably work as moderator of the effect of teachers' performance-approach goals on the valence of pupils' performance goals.⁷

In sum, Eren's (2009) work shows that performance-approach-oriented supervisors, because their goals are unconsciously inferred, should be associated with the emergence over time of performance-based goals within their subordinates (i.e., performance-approach *and* -avoidance goals). Although this model would allow us to anticipate a transmission of performance goals from supervisor to subordinates, this stream of research is limited in two important ways. On the one hand, the model of achievement goal contagion is merely theoretical and has not received direct empirical support. On the other hand, the model is automaticist; as teacher-to-pupils contagion of performance goals is conceived as mechanical,

⁷ It should be specified that the author stated that mastery goals, because they rely on self-referenced standards in evaluating competence, "[could not] be included in the achievement goal contagion framework." (p. 240).

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it prevents an accurate examination of the social processes that could be at stake in supervisor-to-subordinates social transmission of performance goals.

Social Contagion of Motivation.

A fourth and last set of evidence comes from Radel and collaborators' (2010) work on social contagion of motivation. In this study, the experimenters explained high school students that a guest instructor would present a special teaching lesson during one of their regular physical education class. This instructor was either presented as "a voluntary worker from a nonprofit association that [...] contacted the school to introduce [them] to this activity free of charge" (i.e., the intrinsic motivation condition, where the teacher can be inferred to be engaged in the activity for the inherent satisfaction of doing so) or as "a professional worker from an institute that [...] was difficult to convince [and that] asked to receive a high amount of pay to teach [them] this lesson" (i.e., the extrinsic motivation condition, where the teacher can be inferred to be engaged in the activity for the achievement of rewards, p. 580). Following the induction, the same instructor—blinded to conditions—gave a 20-minute standardized lesson. Then, students (i.e., first-generation learners) were asked to teach the activity they had just learnt to two others students (i.e., second-generation learners) during twenty minutes. Following the instruction phase, all students were left alone for ten minutes, during which they could freely continue the activity. Sessions were videotaped. Finally, all students' intrinsic motivation for the activity was assessed.

Results revealed that, as compared to when the teacher was allegedly paid, when he was presented as a volunteer, first-generation learners reported higher level of intrinsic motivation and persisted longer in the activity during the free-choice period. Even more interestingly, second-generation learners whom were taught by these first-generation learners also reported higher level of intrinsic motivation and showed more persistence.

The authors interpreted these results as evidence that the intrinsic motivations of teachers directly influenced that of their students. Moreover, when asked to teach a second generation of learners in unconstrained peer tutoring contexts, these students are more autonomy supportive and, in turn, teachers' intrinsic motivations continue to spread. This social contagion of motivation phenomenon results in the regulation of persistence behaviors. In sum, Radel and his colleagues' (2010) work show that intrinsically motivated supervisors, when perceived as such via external cues (e.g., presented as volunteers), are associated with the emergence of similar intrinsic motivations within their subordinates, and with the subordinates of their subordinates.

Although this study would allow us to anticipate a transmission of goals from supervisor to subordinates, this stream of research is limited in one and obvious important way. Indeed, this supervisor-to-subordinates social contagion model concerns individuals' *motivational* orientation, and not *goal* orientation, and therefore prevents an accurate examination of the supervisor-to-subordinates social transmission of performance goals.

In conclusion, taken together and despite their specific limitations, the aforementioned research on group goal structure (C. Ames, 1992), leader-to-unit transmission of goal orientation (Dragoni, 2005), achievement goals contagion (Eren, 2009) and social contagion of motivation (Radel et al., 2010), enables us to posit a supervisor-to-subordinate social transmission of performance-based goals. More specifically, we expect the supervisor's performance-approach goals, as they are associated with performance-oriented achievement-related interpersonal behaviors, to be consciously or unconsciously inferred, and to predict the emergence over time of subordinates' performance-approach goals *and* performance-avoidance goals.

Going further, it should be noted that the research mentioned in this section, if it allows to anticipate a vertical social transmission of performance goals (i.e., the *outcome* of the phenomenon), it does not reveal the nature of such a transmission (i.e., the *process* of the phenomenon); in the next section we argue that this phenomenon corresponds to a *socialization* of values. Hence, we intend to test whether supervisor-to-subordinates transmission of performance goals is predicted by Western-culture-specific antecedents, namely self-enhancement values, and whether it is underlain by a socialization-specific mechanism, namely in-group identification. We will additionally explore its directional moderator.

2.2. Toward the Hypothesis of Supervisor-to-Subordinates Performance Goals *Socialization*

In another pioneering article addressing the issue of teachers' social influence on the emergence of achievement goals, C. Ames and R. Ames (1984) already conjectured that “there are certain characteristics—[e.g.,] salient social norms and the cultural value placed on winning—that tend to contribute to an ability focus [i.e., a performance goal orientation]” (p. 538). In this subsection, analyzing the interpersonal antecedents of performance goal from Doise's (1986) fourth level of analysis, that is, a focus on *cultural values* and *norms*, we will argue that supervisor-to-subordinates social transmission of performance goals corresponds to a *socialization-of-value* process. As such, it should be preceded by cultural values (i.e., an evidence that it is a values-related process), and underlain by in-group identification (i.e., an

evidence that it is indeed related to a socialization process). Another important issue that will be raised is that of the moderation of performance goals socialization by perceived self-competence.

2.2.1. The Ideological Dimension of Performance Goals

Vansteenkiste, Niemiec and Soenens (2010)—discussing on the development of goal content—claimed that goals often stem from the values that are promoted in one’s socio-cultural environment. As far as performance-approach goals are concerned, Pulfrey and Butera (2013; see also Pudelko & Boon, 2014) showed that they specifically derive from one’s *self-enhancement values* (i.e., emphasis on power and achievement; Schwartz & Boehnke, 2004). But before discussing this relationship, let us see how self-enhancement values derive themselves from one’s culture.

Self-Enhancement Values and Capitalist Economies

Adopting a cultural outlook, Kasser and collaborators (2007) suggested that individuals from capitalist societies, that is, coordinated by free-market competition, tended to pursue self-enhancement values. Self-enhancement values are concerned with social status, dominance over others and resources (i.e., the “power” value) as well as with personal success and demonstration of one’s competence (i.e., the “achievement” value; Schwartz, Melech, Lehmann, Burgess, Harris, & Owens, 2001). In other words, individuals embracing self-enhancement values emphasize the pursuit of self-interest through controlling others, and the attainment of normative competence (Sagiv & Schwartz 2007).

Capitalism, which is the dominant economic system in Western countries (driven by the Group of Seven, i.e., Canada, France, Germany, Italy, Japan, the United Kingdom and the United States; Gill, 1998), promotes self-enhancement values in two ways. On the one hand, capitalist systems—given their very nature—promote the attainment of a dominant position (i.e., power) and demonstration of one’s relative success (i.e., achievement) through competition. Whether we consider capitalists in their aim to maximize profit, laborer in their aim to earning high wages, or consumers in acquiring desired goods at the lowest possible price (A. Smith, 1976; originally published in 1776), each actor within society is encouraged to pursue his/her own self-interest.

On the other hand, these systems—given the way they are organized—promote similar values through their socializing institutions (e.g., competitive markets, business organizations, education, media); a paramount example comes from individuals who enter in the disciplines

that are tightly intertwined with institutions such as politics, business, economy, law, and who become progressively exceedingly focused with personal success and reluctant to help others (Frank, Gilovich, & Regan, 2000; Sheldon & Krieger, 2004; Vansteenkiste, Duriez, Simons, & Soenens, 2006).

More generally speaking, it appears that self-enhancement values are promoted in Western Europe and North America—as a function of their capitalist culture—which Schwartz (2006) have labeled *hierarchy* (i.e., because these societies are organized in such a way that power roles and resources are unequally distributed, and that this distribution is perceived as being legitimate) and *mastery*⁸ (i.e., because these societies encourage active self-assertion in striving for group or personal goals, and in changing the natural and social environment). Indeed, in a cross-cultural study, Schwartz (2007) showed that, compared with individuals from societies characterized by strategic collaboration between the government, labor unions and sources of finance (i.e., the least extreme form of capitalism, e.g., Austria, Germany, Norway), individuals from market-driven, deregulated societies (i.e., the most extreme form of capitalism, e.g., United States, United Kingdom, Canada), attributed more importance to both power (e.g., “It is important for me to be the one who makes the decisions; I like to be the leader.”) and achievement (e.g., “It is important for me to be ambitious; I want to show how capable I am.”) compared to other values.

Finally, according to Kasser and his colleagues (2007), these self-enhancement values—prototypical of Western societies, and even more pronounced as the system becomes more deregulated (and therefore more hierarchically- and mastery-based)—translate into “extrinsic goals [...] focused on external rewards and other people’s praise, and include strivings for financial success, as well as for image and status” (p. 11), which, we argue, is akin to *performance-approach goals*.

Self-Enhancement Values and Performance-Approach Goals

A series of three arguments support the link between self-enhancement values (i.e., the combination of power and achievement values) and performance-approach goals.

(i) On the one hand, performance-approach goals and *power value* are interlaced with each other. Three studies illustrate this relationship.

⁸ It should be noted that the term “mastery”, in the literature on cultural values, refers to a dimension of a societal culture related to social ambition, and should not be confused with the term “mastery”, in the literature on achievement goals, which refers to a personal goal related to cognitive improvement.

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First, as previously mentioned, Levy and his colleagues (2004) showed that performance-approach goals predict an orientation toward social status in the classroom. Specifically, the authors observed that performance-approach-oriented pupils evaluated cooperation along goals of gaining, maintaining or protecting their social status, as well as making a positive impression on the others.

Second, Darnon, Dompnier, Delmas, Pulfrey and Butera (2009) argued that, in higher-education settings, performance-approach goals were associated with a dominant meritocratic ideology. Specifically, the authors showed that performance-approach goals are perceived as being socially useful in making it through the “filter” of university (i.e., in being selected and reaching the highest ranks), which will determine one’s personal status and value in society (i.e., kind of job, salary, etc.).

Third, as far as group supervisors are concerned, Gordon, Dembo and Hocevar (2007) reported that teachers’ performance-approach goals were associated with a more custodial control ideology (i.e., viewing children as irresponsible and needing firm discipline). Specifically, the authors showed that performance-approach goals are associated with values of order, rigor, and respect for authority, where subordinates are expected to accept the decisions of the supervisor without question.

(ii) On the other hand, performance-approach goals and *achievement value* are interlaced with each other. Three studies illustrate this relationship.

First, as previously mentioned, Elliot and Church (1997) showed that performance-approach goals, in their very definition, relate to the desire to attain normative competence. Specifically, the authors reported that performance-approach goals endorsement were underlain by an orientation toward achievement, that is, a generalized desire for success (Atkinson, 1964).

Second, Luzadis and Gerhardt (2012) showed that performance-approach goals are associated with a relativist ethical ideology (i.e., rejecting the idea of universal moral principles). Specifically, the authors showed that performance-approach-oriented individuals, because they do not believe in absolute ethical rules, focus more on the *outcome* they achieve than the *process* of achievement, tending not to have moral issues when behaving unethically (see also, Boardley & Kavussanu, 2010).

Third, as far as group supervisors are concerned, Retelsdorf and his colleagues (2010) showed that teachers’ performance-approach goals were associated with certain pedagogical values. Specifically, the authors reported that performance-approach goals were associated with a poor emphasis on students’ efforts and progress (e.g. “In my class, above all, the

individual development of my students is important to me”) and with an elevated emphasis on students’ achievement and relative performance (e.g. “In my class, I give special privileges to students who do the best work”).

(iii) Finally, summarizing the issue of the relationship between values and goals, Pulfrey and Butera (2013) argued that power and achievement values are the glue between macro-ideologies of Western societies and performance goals endorsement. As a matter of fact, the authors reported in three studies a positive correlation between self-reported measures of self-enhancement values (e.g., “It is important to me to be the one who makes decisions/leads”; “It is important to me to be successful”) and endorsement of performance-approach goals (e.g., “My goal is to perform better than the other students”).

To the extent that one’s (culturally construed) self-enhancement values predict his/her performance-approach goals, we argue that these values may drive the expected effects of supervisor’s performance-approach goals on his/her subordinates’ performance-based goals. However, before elaborating the idea that supervisor-to-subordinates social transmission of performance goals correspond to an ideological socialization, let us present the literature on socialization of supervisor-based values

2.2.2. Socialization of Supervisor-Based Values

An abundant literature demonstrates that significant group supervisors (e.g., parents, teachers, managers, coaches) are the agents of socialization of values. It has long been substantiated that *parents* could transmit their political values (e.g., political orientation, party identification) to their offspring (Jennings & Niemi 1981; Jennings, Stoker, & Bowers 2009; Mattei & Niemi 1991; R. B. Miller & Glass 1989). In a recent study, Murray and Mulvaney (2012) submitted to undergraduates in political science, as well as their mothers, Mehrabian’s (1996) conservatism-liberalism scale (e.g., “I am politically more liberal than conservative”), as well as a party affiliation measure (i.e., Republican, vs. Democrat, vs. Independent). These authors reported that the level of conservatism of mothers was positively associated to that of her children. At the same time, mothers were more likely to identify as Republican than their children. The first results suggest that there exist an intergenerational transfer of political values. The second one suggests, however, that there is substantial variation in the transmission process. And indeed, as we are about to see, parents are not the only agents of political socialization.

Newcomb’s (1943) classic longitudinal study of Bennington College women illustrate that *professors* could also shape the political values of their students. The author interviewed

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and assessed women's political attitudes at the beginning of their curriculum in 1935 and, then, each year until 1939. It is worth noting that, while these women mostly came from conservative families, Bennington College's social climate was much more liberal (e.g., having members involved in social activism, being politically, socially, and economically critical). Results revealed that, throughout the four years, political attitudes of most of the women changed from conservative (i.e., reflecting parental socialization) to liberal (i.e., reflecting academic socialization). Newcomb (1943) observed that this attitude change stemmed from two sources, namely teachers and older students. Interestingly, in follow-up studies, Newcomb and his colleagues were able to measure these women's political attitudes once again in 1960-1961 (Newcomb, Koenig, Flacks, Warwick, 1967), and a last time in 1984 (Alwin, D. R. Cohen, & Newcomb, 1991). Results showed striking consistency over time, attesting the strength and the durability of the socialization.

Moreover, in Organizational Psychology, a series of studies reported that *managers* could also be socialization agents for newcomers, to the extent that they are perceived as sources of information (V. D. Miller & Jablin, 1991), role models (Holton & Russell, 1997), or mentors (Green & Bauer, 1995). In a comprehensive review, Grojean, Resick, Dickson and D. B. Smith (2004) discussed the role of organizational leaders in establishing specific ethical climates (i.e., the perception of organizational social norms, procedures and ideology), and in transmitting specific values to their subordinates. As an example, the authors argued that a leader encouraging interpersonal competition would reduce embeddedness in his/her unit (i.e., sense of attachment within the work team) which would result in his/her followers internalizing individualistic values and focusing on their personal goals rather than on the collective ones. In fine, because they would not want to build efforts toward the collective good, followers would be more likely to act antisocially and unethically.

Lastly, in Sport Psychology, another series of studies reported that *coaches* could also be socialization agents for athletes, in that they are perceived as highly influential figures (Gould, Collins, Lauer, & Chung, 2007), motivators (Martin, Rocca, Cayanus, & Weber, 2009), or mentors (Bloom, Durand-Bush, Schinke, & Salmela, 1998). In a qualitative study, Steinfeldt and collaborators (2011) interviewed college football assistant coaches. A part of the interview concerned coaches' beliefs in teaching their players the meaning of being a man. Analyses of the transcripts revealed that most coaches listed, among the masculinity values they intended to convey to their players, "work ethic" (i.e., working hard on and off the field), "integrity" (i.e., being accountable for one's action), and "relationships" (i.e., camaraderie among teammates). The authors interpreted their results as showing that the

social structure of football consist in a socialization instance where success, asceticism, competitiveness and compliance with authority are defined as central values for men, consistent with Coles' (2009) views on the social structure of the military system.

The aforementioned studies revealed that group supervisors play a central role in the socialization of subordinates' values. However, we have seen that group supervisors' performance-approach goals were closely tied to specific cultural values, namely self-enhancement values. Combining these lines of research, we expect supervisor-to-subordinates social transmission of performance-based goals to be tantamount to socialization of supervisor-based values; and as such, we expect it to be underlain by the same mechanism.

2.2.3. Group-Identification Underlying Performance Goals Socialization

In the Newcomb's (1943, see also Kowalski, 2007) study that we have described above, it is worth noting that, over the years, some women did *not* change their attitudes in the liberal direction. Newcomb realized that a possible explanation for this resistance to change lay in the fact that these "resisting" women felt more *interdependent* with their (conservative) family group, as compared with their (liberal) academic group. As an illustration, during the interviews, one of them stated: "I've abandoned my originally hopes of success on a community-wide basis, and [...] overtly resist pressures toward conformity. The important areas of my life are elsewhere." (p. 154). By contrast, the women that changed the most felt more *independent* from their family group, as compared with their academic group. As an illustration, also during the interviews, one of the "changing" women stated: "I had been allowed so much independence by my parents that I needed desperately to *identify* myself with an institution of such a kind that I could conscientiously conform." (p. 137, *italic added*).

J. C. Turner, Hogg, Oakes, Reicher and Wetherell's self-categorization theory (1987, for an historical review, see Hornsey, 2008) helps us understand these resistance/conformity dynamics. The theory describes three main steps involved in socialization of group-based values: (i) individuals come to define themselves as members of a particular social group (in Newcomb's (1943) study, women progressively categorize themselves as part of the "Bennington College" group); (ii) individuals come to recognize the stereotypical norms and values that are typical of this group (in Newcomb's study, women become progressively aware of the liberal values of their college); (iii) individuals come to assign these norms and values to themselves (in Newcomb's study, women end up espousing the liberal values of their college). Therefore, *social identification*—that is, the extent to which one defines his/her self in terms of a social category or, in other words, the perception of belonging to a group—

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is the first and foremost condition for the acquisition and the internalization of group-based values. It is worth noting that, in Pérez and Mugny's (1996) conflict elaboration theory, identification with a source of influence (e.g., as representing one's ingroup) also facilitates its approval.

Guimond (2000) provided an excellent illustration of the importance of social identification processes in explaining the socialization of group values. In the first phase of his longitudinal study, the author submitted a questionnaire to Anglophones entering as first-year students in a Canadian military college. This population was chosen because military groups, that are a dominant social force, tend to promote hierarchy-legitimizing myths, that is, dominant beliefs that legitimize the inequality between social groups (Guimond, 1998). Questionnaire items concerned the endorsement of those beliefs; specifically, participants had to evaluate the extent to which they perceived Francophones (i.e., a lower-status outgroup) as responsible for their economic inferiority in Canada (i.e., because of a "lack of effort", a "lack of initiative" and a "lack of ability", p. 340). In the second phase of the study, that was launched four years after, the author submitted a new questionnaire to the same (now fourth-year) students. The same items measured hierarchy-legitimizing beliefs; additionally, participants had to indicate the extent to which they identified to (or felt close to) their group (i.e., "Canadian Forces Officers"). Results revealed that the more military students identified to their group, the more their perceptions of the Francophones as being responsible of their economic inferiority increased from their first to their fourth year (see Figure 1.6. for a graphical representation of Guimond's results). The author interpreted these results as a group socialization process: Over time, military students embraced the group-based dominant beliefs that serve to justify the intergroup differences (here, between Anglophones and Francophones). Importantly for us, the author added that this socialization process is not automatic, as it is only effective to the extent that students strongly identify themselves as military officers.

Other studies confirmed the moderating role of social identification on group-to-individual transmission of values. For instance Jetten, Postmes and McAuliffe (2002, see also McAuliffe, Jetten, Hornsey, & Hogg, 2003) showed that North Americans (i.e., an individualist culture) who identify strongly (vs. weakly) with their national values tended to be more individualistic (e.g., prioritizing personal goals over collective ones). It is worth noting that social identification as the underlying mechanism of socialization was also documented in Organizational Psychology (e.g., L. G. Smith, Amiot, Callan, Terry, & J. R.

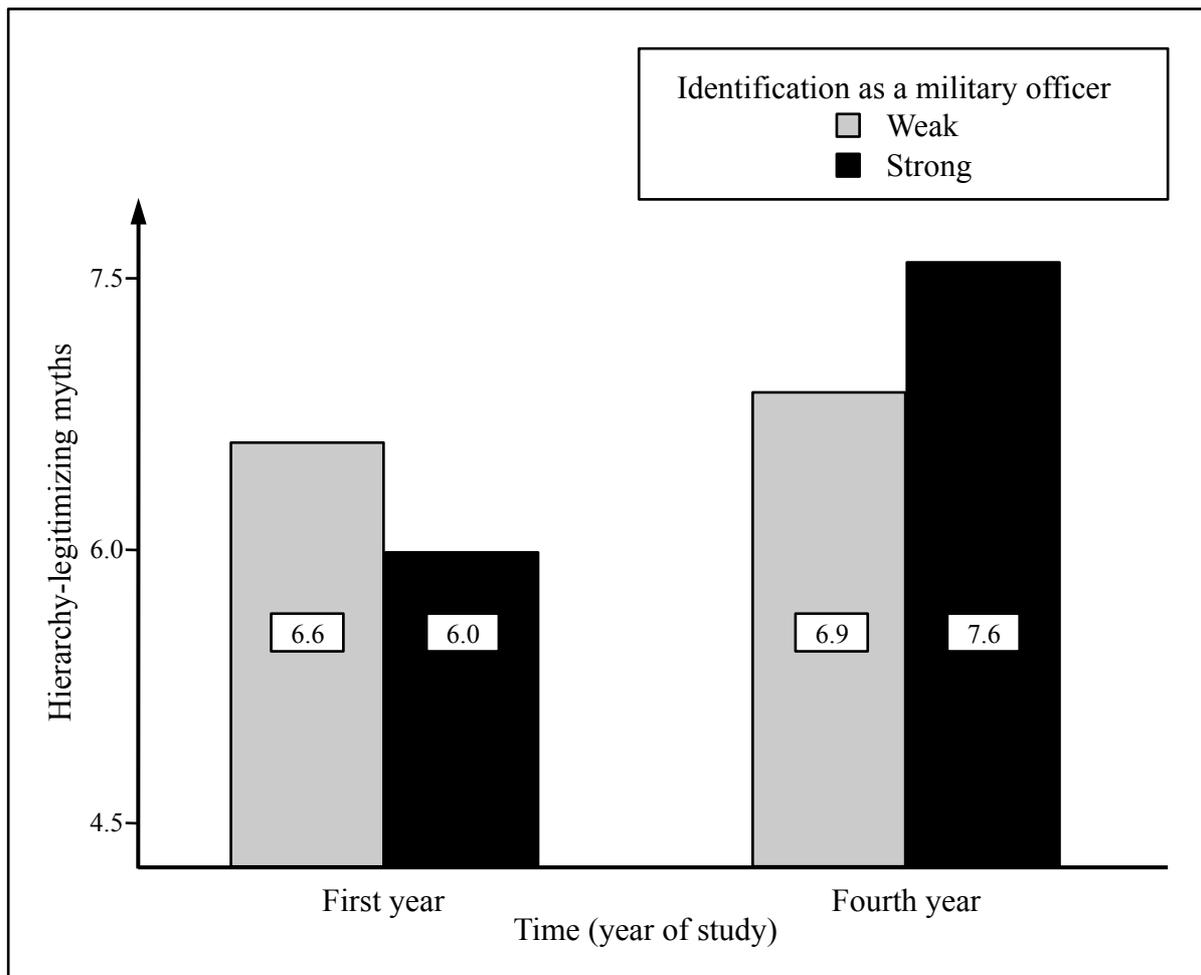


Figure 1.6. Hierarchy-legitimizing myths (i.e., blaming Francophones for their economic inferiority; scale ranging from 1 to 15) as a function of time (i.e., first vs. fourth year of study) and level of identification of students in a Canadian military college (adapted from Guimond, 2000).

Smith, 2012; Livingstone, Haslam, Postmes, & Jetten, 2011) as well as in Sport Psychology (Lantz, & Schroeder, 1999).

As argued above, we expect supervisor-to-subordinates social transmission of performance goals to consist of a socialization of supervisor-based value. Accordingly, we expect socialization of performance goals to be underlain by the same mechanism as that of *any* socialization of values, that is, in-group identification. More specifically, we expect the effects of supervisors' performance-approach goals on the emergence of his/her subordinates' performance-based goals over time to be moderated by subordinates' social identification to the group.

Lastly, we have hypothesized supervisor's performance-approach goals to predict the emergence over time of both performance-approach *and* performance-avoidance within his/her subordinates; yet, one might legitimately wonder under which circumstances performance goals socialization results in the endorsement of performance-approach goals, and under which ones it results in that of performance-avoidance goals. Specifically, we intend to propose subordinates' perceived self-competence as the directional moderator of performance goals socialization.

2.2.4. Self-Competence Defines the Valence of Performance Goals Socialization

As mentioned at the beginning of the present introduction, in the early version of the hierarchical model of approach and avoidance achievement motivation, Elliot and Church (1997) already showed that performance-approach goals were grounded in high competence expectancies, whereas performance-avoidance goals were grounded in low competence expectancies. Subsequently, the role of perceived competence in predicting the valence of performance goals was confirmed in a vast plurality of other studies (e.g., Cury et al., 2006; Pajares, Britner, & Valiante, 2000; Tanaka, Takehara, & Yamauchi, 2006).

Although informative, these studies might be criticized for treating perceived self-competence in quite an intra-individual way (i.e., assessing the main effect of one's perceived competence on the valence of his/her performance goals), without putting it in its social context (i.e., assessing the moderating effect of one's perceived competence on the relationship between performance-orientation-inducing environments on the valence of his/her performance goals). Three arguments lead us to conceive perceived self-competence as the moderators of the effects of being in a competitive environment on the valence of performance-based goals.

The first argument stems from the literature on group goal structure. We have already described Wolter's (2004) correlational study, in which junior high school teachers' performance-oriented instructional practices predicted pupils' performance-based goals (-approach *and* -avoidance), because they create a performance goal structure (i.e., an environment stressing the importance of being better than others). It is worth noting that Wolter (2004) did not propose a directional moderator in explaining when performance goal structure would predict students' performance-approach goals rather than performance-avoidance goals, and vice versa. However, in a theoretical article, Urdan and Schoenfelder (2006) argued that, in classrooms characterized by performance goal structures, students with high confidence in their ability should focus on demonstrating their competence and reaping

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the rewards, whereas students with low confidence in their ability should focus on *not* demonstrating their incompetence and avoiding punishments. In other words, the former students should develop “ego augmentation” goals, that is, performance-approach goals, and the latter ones will develop “ego protection” goals, that is, performance-avoidance goals.

The second argument stems from the literature on competition. Murayama and Elliot (2012a) showed that (a) trait competitiveness—a dispositional preference for competing with others in every competence-relevant settings (example of item: “I feel that winning is important in both work and games”; Study 1, p. 1036)—, (b) perceived classroom competitiveness—a cognitive construal of the competitive nature of a given competence-relevant setting (example of item: “In this class, it seems that students are competing with each other”; Study 2, p. 1047)—and (c) structural competition—a situation of negative interdependence in a given competence-relevant setting (extract of the instructions: “try [your] best in competing against [an]other person [on an anagram task]” vs. “try [your] best in solving the anagrams”; Study 3, p. 1048)—were positively associated with both undergraduates’ performance-approach goals *and* performance-avoidance goals. Commenting these findings, D. W. Johnson, R. T. Johnson and Roseth (2012) regretted that the perceived likelihood of being successful was not taken into account. They claimed that competitive situations, to the extent that they depend on individuals’ expectations about winning or failing, should not trigger the same goals. In replying to their comments, Murayama and Elliot (2012b) reaffirmed the (positive and negative) value of perceived competence in predicting the (respectively positive and negative) valence of performance goals following competition. Although they did not provide empirical data, they called for future research to investigate the role of perceived competence in moderating the effect of competition on performance-approach and performance-avoidance goals.

The third argument comes from the literature on feedback and goal regulation. In a semester-long longitudinal study that took place in a *selective* university, Senko and Harackiewicz (2005) collected measures of undergraduates’ performance-approach and -avoidance goals two weeks before the first exam of an introductory psychology course (Time 1), as well as two weeks before the final exam (Time 2). They reported that, when controlling for Time 1 performance goals, the averaged grade obtained during the semester was positively associated with Time 2 performance-approach goals, and negatively associated with Time 2 performance-avoidance goals. These results suggest that the valence of performance goals is regulated in response to competence feedbacks: positive feedbacks predict an adjustment toward performance-approach goals whereas negative ones predict an adjustment toward

performance-avoidance goals. In a similar study, Winne, Muis and Jamieson-Noel (2003, in Muis & Edward, 2009) also tested the effects of task feedback on the malleability of performance goals. In line with the aforementioned results, they found that positive (vs. negative) feedback resulted in an increase (vs. a decrease) of performance-approach and a decrease (vs. an increase) of performance-avoidance goals.

In sum, Urdan and Schoenfelder's (2006) and Murayama and Elliot's (2012b) theoretical proposals, as well as Senko and Harackiewicz's (2005, Study 1) empirical findings, lead us to hypothesize that supervisors' performance-approach goals, in that they create a social environment conducive to competition, will trigger the emergence over time of their subordinates' performance-approach goals when they perceive themselves as being *competent*, and that of their subordinates' performance-avoidance goals when they perceive themselves as being *incompetent*.

2.2.5. Performance Goals Socialization's Mechanism, Moderator, and Antecedents: A Third Set of Hypotheses

In the first part of the present introduction, considering the case of socio-cognitive conflict regulation, we have formulated a set of hypotheses on the *interpersonal consequences* of performance goals.

In the second part of the introduction, considering the case of performance goals socialization, we aimed at formulating a set of hypotheses on the *interpersonal antecedents* of performance-approach and performance-avoidance goals. To sum up, the rationale for this third set of hypotheses is as follow:

(i) As seen in the first part (2.1.1.) of subsection 2.1, subordinates (e.g., students, workers, athletes) continuously monitor their performance-approach and -avoidance goals, and *adjust* them over time;

(ii) As seen in the second part (2.1.2.) of subsection 2.1, a series of theoretical and empirical arguments suggest that supervisors' (e.g., teachers, managers, coaches) performance-approach goals might trigger subordinates' performance-based goals adjustments over time;

Specifically, we formulate here a first general prediction and its corollary: The higher a supervisor's performance-approach goals, the more the time spent under his/her supervision should predict his/her subordinates' performance-approach goals (hypothesis 3.1.1) and, by extension, performance-avoidance goals (hypothesis 3.1.2).

Theoretical Part

(iii) As seen in the first part (2.2.1.) of subsection 2.2, supervisors' performance-approach goals derive from (culturally inherited) *self-enhancement values* (i.e., the combination of *power* and *achievement* values);

(iv) As seen in the second part (2.2.2.) of subsection 2.2, group supervisors play a central role in the acquisition and internalization of values (e.g., political values, individualist values, ethical values, masculinity values) of their subordinates;

(v) As seen in the third (2.2.3.) part of subsection 2.2, *in-group identification*, that is, the extent to which one define himself/herself as member of a group (self-categorization), is the core underlying mechanism of socialization of values.

Drawing on these observations, we therefore expect supervisor-to-subordinates social transmission of performance-based goals to consist of a socialization of supervisor-based values; as such, it should be preceded by supervisors' self-enhancement values, and underlain by social identification processes; specifically, on the one hand, we formulate here a second prediction and its corollary: The higher a supervisor's self-enhancement values, the more time spent under his/her supervision should predict—through his/her performance-approach goals—his/her subordinates' performance-approach goals (hypothesis 3.2.2) and, by extension, their performance-avoidance goals (hypothesis 3.2.2). On the other hand, we formulate a third prediction and its corollary: Over time, the higher the subordinates' group identification, the more their supervisor's performance-approach goals should predict their own performance-approach goals (hypothesis 3.3.1) and, by extension, their performance-avoidance goals (hypothesis 3.3.2).

(v) As seen in the fourth (2.2.4.) part of subsection 2.2, a series of theoretical and empirical arguments suggest that competitive environments—just as the one induced by performance-approach-oriented supervisors—might trigger performance-approach goals in individuals perceiving themselves as being *competent*, and performance-avoidance goals in individuals perceiving themselves as being *incompetent*.

Drawing on these arguments, we therefore expect perceived self-competence to be the directional moderator of performance goals socialization; specifically, we formulate here a fourth prediction and its corollary: As subordinates' perception of self-competence increases, their supervisor's performance-approach goals should positively predict their performance-approach goals over time (hypothesis 3.4.1) and, by extension, as subordinates' perception of self-competence decreases, their supervisor's performance-approach goals should positively predict their performance-avoidance goals over time (hypothesis 3.4.2).

EMPIRICAL PART I:

First Line of Research

**Performance goals in conflictual social interactions:
Towards the distinction between two modes of relational conflict regulation^{9,10}**

Abstract

Socio-cognitive conflict has been defined as a situation of confrontation with a disagreeing other. Previous research suggests that individuals can regulate conflict in a relational way, namely by focusing on social comparison between relative levels of competences. Relational conflict regulation has been described as yielding particularly negative effects on social interactions and learning, but has been understudied. The present research addresses the question of the origin of relational conflict regulation by introducing a fundamental distinction between two types of regulation, one based on the affirmation of one's own point of view and the invalidation of the other's (i.e., "competitive" regulation), the other corresponding to the protection of self-competence via compliance (i.e., "protective" regulation). Three studies show that these modes of relational conflict regulation result from the endorsement of distinct performance goals, respectively performance-approach goals (trying to outperform others) and performance-avoidance goals (avoiding performing more poorly than others). Theoretical implications for the literature on both conflict regulation and achievement goals are discussed.

Keywords: performance-approach goals, performance-avoidance goals, relational conflict regulation, competition.

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¹⁰ Additional analyses for Studies 1 and 2 are provided as supplementary material

Performance goals in conflictual social interactions:

Towards the distinction between two modes of relational conflict regulation

When working on a problem, be it at school, at University, in organisations or in scientific research, people often find themselves in disagreement with others. Indeed, given the diversity in training, education and points of view, it is highly likely that people working together come up with different solutions to the same problem or different explanations of the same phenomenon. In these situations, when do people try to “win”, to demonstrate that their point of view is better than the other’s, and when do people rather comply with the other’s point of view? The present article addresses this dilemma by studying the motivational determinants of the above two options, competition versus compliance.

Relational Conflict Regulation

The literature on conflict regulation (Buchs, Butera, Mugny, & Darnon, 2004; Doise & Mugny, 1984) has argued that being confronted with a coactor’s diverging point of view elicits a “socio-cognitive conflict”, a conflict that is both social (i.e., a disagreement between two persons) and cognitive (i.e., doubts arise about the most adequate answer). Socio-cognitive conflict can be regulated in two ways: Focusing on the task and the answers (“epistemic conflict regulation”), or focusing on relative levels of competence and demonstrating one’s own superiority (or at least avoiding showing one’s own inferiority), namely “relational conflict regulation” (Buchs et al., 2004; Butera, Darnon, & Mugny, 2010; Mugny, De Paolis & Carugati, 1984; see also Jehn, 1995, for a similar distinction).

Authors in this area (cf. Butera & Mugny, 2001) maintain that relational regulation occurs in situations where social comparison is threatening for self-evaluation (Muller & Butera, 2007), as for example in the case of competitive situations (see Butera & Mugny, 1995; Johnson, Johnson, & Tjosvold, 2000; Quiamzade & Mugny, 2009; Quiamzade, Mugny, & Darnon, 2009). The question of competition and relational conflict regulation requires particular attention as most educational, organizational and research settings are steeped in social comparison and competitiveness (Toma & Butera, 2009; Toma, Gilles, & Butera, 2011), with various systems of grading, streaming, ranking and selection (see, Ames, 1992; Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Urdan, 2004). In such contexts, it is therefore particularly likely that conflict will be regulated in a relational way. When regulating conflict in a relational way, individuals try to “defend” their competence. However, as our opening example showed, in so doing they have two possibilities: sticking to one’s

position (self-confirmation) or espousing that of the other (compliance). The present research aims at distinguishing these two forms of relational conflict regulation.

In stressful situations, individuals often aim to reduce the tension created by the situation rather than resolving problem. Thus, they develop coping strategies—unconsciously and/or consciously—so as to adjust themselves to the stressor (Cohen & Lazarus, 1979). When individuals perceive that they have enough ability to cope with the stressor, *challenge-appraisal* is likely to occur. They may then display active coping strategies, such as confrontation or argumentation. However, when individuals consider the situation as dangerous and perceive that they have limited abilities or resources to cope with the stressor, *threat-appraisal* is more likely to occur. They may then display passive coping strategies, such as stoic acceptance or avoidance (for a review, see Lazarus & Folkman, 1984).

In the specific case of a disagreeing partner, a situation that is potentially threatening for self-evaluation because it may question one's own competence, individuals can therefore react in two different ways. On the one hand, they can perceive the situation as a challenge, and focus on possible success and social reward (e.g., praise). Thus, they may try to uphold their own point of view and invalidate that of the other person, which can be termed "*competitive*" *relational regulation*. On the other hand, individuals can experience anxiety, anticipating failure in the situation of disagreement and negative evaluations. Thus, they may try to adopt the partner's answer in order to avoid losing in a situation of direct confrontation. This can be termed "*protective*" *relational regulation*.

In the conflict regulation literature, both these types of regulation are termed "relational" conflict regulation (Doise & Mugny, 1984) or "relationship" conflict (Jehn, 1995) because they rely on a focus on social comparison of competence. However, we argue that such a unity in conceptualization does not accurately account for existing data. Indeed, conflict regulation research has produced results that point to two distinct forms of relational regulation. On the one hand, several studies have shown that in some cases of disagreement children try to impose their own point of view on the partner, with little consideration of the partner's opinion, displaying a self-confirmation strategy (Mugny & Doise, 1978; Psaltis & Duveen, 2006). On the other hand, it has been also shown that in cases of disagreement individuals sometimes imitate the opposing point of view without any further elaboration, displaying a compliance strategy (Mugny & Doise, 1978; Quiamzade, 2007; Schwarz, Neuman, & Biezuner, 2000). Likewise, in organizations, De Dreu (1997) found relationship conflict to be positively correlated with both contending responses, namely trying to impose one's perspective upon others, and avoiding responses, namely avoiding the conflict issue and

ignoring the problem. The first aim of the present article is therefore to differentiate the two modes of relational conflict regulation, namely competitive regulation (confirmation of one's own point of view to the detriment of the other's) and protective regulation (complying with other's point of view to the detriment of one's own).

Achievement Goals and Conflict Regulation

If relational conflict regulation can appear in social interactions under two distinct modes, what are the factors that predict the appearance of one mode versus the other? Darnon, Muller, Schragar, Pannuzzo and Butera (2006; Darnon & Butera, 2007) have already established that performance goals predicted relational regulation. However, basing our argument on the description of two modes of relational conflict regulation, namely competitive and protective, it seems reasonable to propose that they are not linked to the same goals. Thus, the second aim of the present article is to consider the distinction between the approach and avoidance forms of performance goals and how these different goals predict the two modes of relational conflict regulation.

Studies on achievement goals, both in the educational (Ames, 1992; Dweck, 1986; Nicholls, 1984) and the organizational fields (Janssen & Van Yperen, 2004) have described a specific set of goals that focus on the demonstration of competence relative to others: performance goals. In more recent research, Elliot and his colleagues (Elliot, 1999; Elliot & Harackiewicz, 1996) have distinguished two forms of performance goals on the basis of Atkinson's theory of achievement motivation (1957). According to this theory, two trends exist in human behaviour related to achievement situations: The search for success and the avoidance of failure. Behaviours can, as a consequence, be oriented either towards *approach* (search for positive or desirable events) or towards *avoidance* (avoidance of challenges, escape, helplessness). Performance goals were thus divided between performance-approach and performance-avoidance goals. The former have been defined as the desire to be more competent than others (focused on attaining normative competence), whereas the latter correspond to the desire to avoid being less competent than others (focused on avoiding normative incompetence).

Performance-approach goals have been found to predict dominant social outcomes, such as anti-social behaviours (Boardley & Kavussanu, 2010), legitimization of aggression (Dunn & Causgrove-Dunn, 1999) or authoritarian leadership style (Yamaguchi, 2001). Conversely, performance-avoidance goals have been found to predict submissive social outcomes, such as avoidance of help seeking (Tanaka, Murakami, Okuno, & Yamauchi,

2001) or behavioural inhibition (Elliot & Thrash, 2002). Thus, in interpersonal contexts (for a review, see Poortvliet & Darnon, 2010), performance-approach oriented individuals seem to display an active social pattern, centred on dominance and self-serving behaviours, whereas performance-avoidance oriented individuals seem to display a passive social pattern, centred on subordination and subdued behaviours (Conroy, Elliot & Thrash, 2009).

Articulating the two lines of research, that on achievement goals and that on conflict regulation, the present research will test the general hypothesis that the two types of relational conflict regulation described above (competitive *vs.* protective) are predicted by, respectively, performance-approach *vs.* performance-avoidance goals. Performance-approach goals are characterized by the desire to perform better than others. When faced with a conflict, it is probable that these goals predict a competitive conflict regulation, calling for the affirmation of one's own point of view and the invalidation of the other's. On the contrary, performance-avoidance goals lead individuals to focus on avoiding being less competent than the other person. In this situation, compliance, that is, protective regulation, may be sufficient to ensure the individual that he or she will not, in fact, be less competent than the partner (Quiamzade, 2007).

Hypothesis and Overview

The present set of studies aims to test the hypothesis that the two modes of relational conflict regulation correspond to different performance goal profiles. Performance-approach goals should predict competitive relational regulation, whereas performance-avoidance goals should predict protective relational regulation. Performance-approach and performance-avoidance goal endorsement were measured (Studies 1 and 2) and manipulated (Study 3). In Study 1, conflict regulation was measured using preference for models that illustrated either the participant's position (competitive regulation) or a partner's contradictory position (protective regulation). In Study 2, conflict regulation was measured using differential allocation of competence to oneself and the partner with whom one interacted: attribution of a superior relative self-competence score corresponded to competitive regulation, whereas attribution of an inferior relative self-competence score corresponded to protective regulation. Finally, in Study 3, conflict regulation was measured by asking participants to report to what extent they regulated conflict in a competitive (e.g., "tried to show the partner was wrong") and a protective way (e.g., "did you comply with his (her) proposition").

Study 1

Method

Participants and design. Thirty-six Swiss educational sciences students volunteered in Study 1, 28 women and eight men (mean age = 25.30; $SD = 9.30$). A situation of conflict (i.e., disagreement) was instigated in interactive dyads. Prior to this conflict, performance goals were assessed (approach and avoidance). Following the conflict, conflict regulation was measured by examining preferences for one's own answer (indicating competitive regulation) versus preferences for the partner's answer (indicating protective regulation).

Procedure. At the beginning of an introductory methods course in Social and Educational Psychology, participants were assigned to dyads. They were given a text that presented a phenomenon in learning. In each dyad, one participant read a text that described the primacy effect ($N = 17$) whereas the other one read a text that described the recency effect ($N = 19$). Both of them had to individually answer, with paper-and-pencil materials, a question on the direction of the effect, to commit them to one or the other direction (i.e., after having learnt a series of words, to what extent would you be able to recall the first/last ones?). Subsequently, they had to confront their answers to the ones of their partner and “try to justify them in accordance with what [they] understood from the text”. After 5 min, respondents had to evaluate individually the probability of four graphs being correct. The graphs represented four possible relationships between “the position of a word” and “the probability of recall”: (1) A decreasing curve (corresponding to the primacy effect); (2) An increasing curve (corresponding to the recency effect); (3) A U-shaped curve (corresponding to the serial position effect); and (4) An inverse U-shaped curve (corresponding to an incorrect alternative answer).

Measures.

Initial ability. As the topic of the course was similar to that of our material (a text describing an experiment in Psychology), we used the average grade the participants obtained at the class semester as a measure of initial ability. This grade could range from 0 to 100 ($M = 76.58$, $SD = 9.67$).

Achievement goal questionnaire. Prior to the interaction, we assessed participants' performance-approach and performance-avoidance goals using items extracted from the French version of Elliot and McGregor's scale (2001), translated and validated by Darnon and Butera (2005). There were three performance-approach goal items (e.g., “It is important for me to do better than other students”; $\alpha = .87$, $M = 3.27$, $SD = 1.41$) and three performance-

avoidance goal items (e.g., “I just want to avoid doing poorly in this experiment”; $\alpha = .73$, $M = 3.75$, $SD = 1.32$). The correlation between the two goals was $r = .40$, $p < .02$.¹

Model rating. Participants had to evaluate (from 1, *not at all* to 7, *completely*), the four graphs described above, as being correct, defensible and convincing. One model illustrated the participant’s answer (the “confirmation model” (Cf), $\alpha = .91$, $M = 3.83$, $SD = 1.60$), another the partner’s answer (the “compliance model” (Cp), $\alpha = .92$, $M = 3.13$, $SD = 1.51$), another combined the participant’s and partner’s answers (the “elaboration model” (El), $\alpha = .91$, $M = 4.78$, $SD = 1.68$) and a last model proposed an incorrect alternative (the “error model” (Er), $\alpha = .92$, $M = 2.08$, $SD = 1.34$). From these scores, two new variables were again computed: the proportional rating for the confirmation model over the four ratings ($= Cf / (Cf + Cp + El + Er)$, $M = 0.27$, $SD = 0.11$), corresponding to competitive regulation (confirming one’s own answer), and the proportional rating for the compliance model ($= Cp / (Cf + Cp + El + Er)$, $M = 0.22$, $SD = 0.09$) corresponding to protective regulation (agreeing with the partner).

Results

Including the text participants read (either primacy or recency), gender or age in preliminary analyses did not change the results; thus, these variables were not included in the final model. Moreover, preliminary analyses indicated that the covariate (initial ability) was not significantly linked to the independent variables, and thus none of the interactions were retained in the model (Yzerbyt, Muller & Judd, 2004).²

Confirmation model. Regression analyses were conducted with the two goals and their interaction as predictors of preference for the confirmation model. The measure of initial ability was entered as a control variable. As expected, results revealed that performance-approach goals had a positive effect on the preference for the confirmation model, $\beta = .43$, $F(1, 31) = 5.32$, $p < .03$, $\eta^2 = .15$. No other effect reached significance.

Compliance model. Regression analyses were also conducted with the two goals, their interaction and initial ability, as predictors of preference for the compliance model. As expected, performance-avoidance goals had a positive effect on the preference for the compliance model, $\beta = .48$, $F(1, 31) = 4.19$, $p < .05$, $\eta^2 = .12$, whereas performance-approach goals had a negative effect, $\beta = -.53$, $F(1, 31) = 8.94$, $p < .01$, $\eta^2 = .22$. In addition, initial ability was found to positively predict the preference for the compliance model, $\beta = .36$, $F(1, 31) = 5.56$, $p < .03$, $\eta^2 = .15$. No other effect reached significance. A summary of the results is presented in Table 1.

Table 1

Study 1: Link between performance goals and measures of conflict regulation.

	Proportional rating of confirmation model	Proportional rating of compliance model
Performance-approach goals	$\beta = .43$ $F = 5.32^*$	$\beta = -.53$ $F = 8.94^{**}$
Performance-avoidance goals	$\beta = -.07$ $F = .08$	$\beta = .48$ $F = 4.19^*$

Note. * $p < .05$; ** $p < .01$

Discussion

The present results indicate that performance-approach goals elicited preferential rating of the self-confirmatory model, which corresponds theoretically to competitive regulation (i.e., confirming one's own answer while invalidating that of the other). Conversely, performance-avoidance goals elicited preferential rating of the compliance model, which corresponds theoretically to protective regulation (i.e., complying with the partner's answer while invalidating one's own). Thus, the present study supports the idea that these modes of relational conflict regulation, competitive and protective, are predicted by specific performance goals.

It is worth noting that there was a negative association between performance-approach goals and preferences for the compliance model. Self-confirmation and compliance being theoretically orthogonal (i.e., one cannot simultaneously confirming his/her own answer while complying with that of the other), this is not a surprise. Bipp, Steinmayr, and Spinath (2008) similarly showed that performance-approach goals were negatively correlated with the Big Five personality facet "compliance", defined as the tendency to submit to others during interpersonal conflicts (Costa & McCrae, 1992). One might also wonder why participants overall favoured compliance over confirmation models. In face-to-face interactions, norms of politeness become more salient and, politeness being negatively associated with dominant behaviour (Dillard, Wilson, Tusing, & Kinney, 1997), this phenomenon might be due to self-presentation concerns (as also suggested by Darnon et al., 2009).

In Study 1, the conflict induced was a constant, which prevents from claiming that the observed dynamics are necessarily due to the attempt to regulate conflict. In Study 2, we therefore manipulated conflict. However, in this design model ratings as a measure of conflict regulation are no longer appropriate. Indeed, in a no-conflict condition, where participants

and their partner would read the same text, confirmation or compliance models lose their meaning. Thus, Study 2 introduces an alternative measure of conflict regulation through perceived competence. As relational regulation is concerned with social comparison, the most relevant measure to use is the way self-competence is defined *relative* to that of others; in other words, in Study 2 we measured the perceived difference between the participant's and the partner's competence (self-superiority). As argued earlier, competitive regulation corresponds to the enhancement of one's competence and the devaluation of other's, whereas protective regulation corresponds to the reversed pattern. The hypothesis is that performance-approach goals would be positively linked to the self-superiority score, whereas performance-avoidance goals would be negatively linked to that score, and that this would occur under conditions of conflict more than in a no-conflict condition.

Study 2

Method

Participants and design. Seventy-four Swiss Psychology students volunteered in the experiment, 67 women and seven men (mean age = 21.78; $SD = 3.44$). They either interacted with a disagreeing (i.e., conflict condition) or an agreeing (i.e., no conflict condition) bogus partner. Following the interaction, performance goals (approach and avoidance) and perception of self- and other-competence at the task were assessed. Positive difference between the scores—in favour of self-competence—corresponded to competitive regulation. Negative difference—in favour of other-competence—corresponded to protective regulation.

Procedure. The procedure was similar to that used by Darnon, Harackiewicz, Butera, Mugny, and Quiamzade (2007). Participants were welcomed in groups of four in the lab. They were separated in different cubicles and were told they would interact with the other participants via computers. The task consisted of reading four extracts of a Social Psychology text, and answering a question for each extract. For instance, one extract concerned information processing, and the related question was “which one of the two types of information processing (deep vs. surface) favours a global representation of the person?” Questions were easy enough for all participants to give the correct answer (in our example, i.e., “deep processing”). Participants had to enter their answer on the screen. They were always first to send it to their “partner”, and after a short time lapse, they received a bogus “partner's answer”. Conflict was then manipulated (see Darnon, Butera and Harackiewicz, 2007 or Darnon, Harackiewicz et al., 2007, for the same procedure): The fictitious partner either disagreed three times out of four (conflict condition) or never disagreed (no-conflict

condition). Disagreeing answers were wrong but plausible (as in Mugny & Doise, 1978). As far as the above example is concerned, in the disagreement condition the partner's pre-recorded answer was: "I rather thought that the surface processing was the one which led to a global representation [...] whereas the deep processing took into account more information and, thus, favoured a detailed vision"; in the agreement condition it was: "Yes, that's also what I would have answered". After this interaction phase, participants were asked to estimate their competence and their partner's competence (see the next section).

Measures.

Initial ability. Before the experiment, participants took a comprehension test in which they had to answer 10 questions about a short social Psychology text. This test provided us with a measure of initial ability. It could range from 0 to 10 ($M = 7.79$, $SD = 1.63$).

Achievement goal questionnaire and self-superiority score. The achievement goal questionnaire consisted of the same performance-approach ($\alpha = .88$, $M = 3.12$, $SD = 1.40$) and performance-avoidance ($\alpha = .77$, $M = 3.14$, $SD = 1.31$) goal items as in Study 1. Goals were correlated at $r = .38$, $p < .005$. As far as the self-superiority score is concerned, participants were first asked to answer whether or not they thought they "understood the text well", "managed to answer the questions well", "were competent on this type of task", on a scale ranging from 1, *not at all*, to 7, *very much* ($\alpha = .90$). Participants then answered the same questions about their "partner" ($\alpha = .91$). The self-superiority score was calculated by subtracting the mean competence attributed to the partner ($M = 4.86$, $SD = 1.08$) from the mean competence attributed to self ($M = 4.96$, $SD = 1.04$). A value of 0 on this score means that no difference was made between oneself and the partner. A positive value indicates that more competence was attributed to the self than to the partner, whereas a negative value indicates that more competence was attributed to the partner ($M = 0.10$, $SD = 1.34$).

Results

Overview of the regression analyses. The regression model included the two achievement goals, conflict (coded -1 for no conflict, +1 for conflict) as well as their interactions. Although the measure of achievement goals followed the manipulation of conflict, they were not affected by conflict and they could be used as independent variables (both $F_s < 1$). As in Study 1, the measure of initial ability was entered as a covariate. Analyses controlling for age and sex led to the same results; these variables were therefore

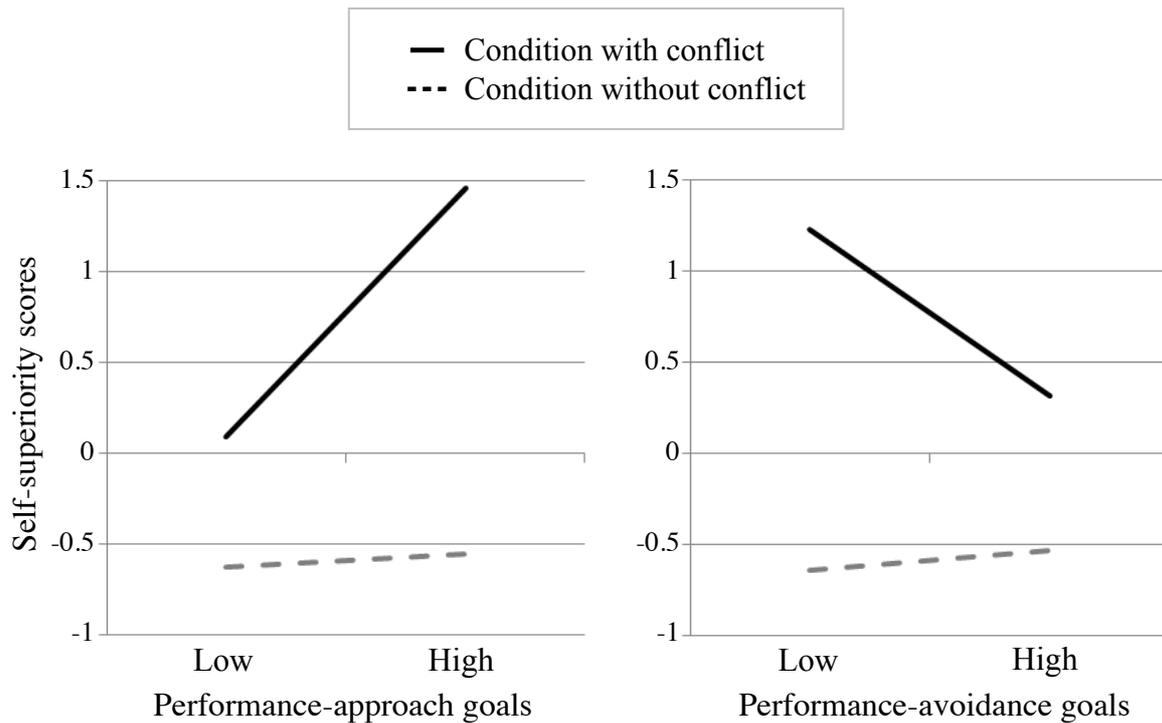


Figure 1. Self superiority as a function of performance-approach goals and conflict (on the left) and performance-avoidance goals and conflict (on the right), Study 2.

not included in further analyses. Preliminary analyses revealed a main effect of conflict on the covariate and thus, the interactions between the score of initial abilities and the two goals were included in the model. However, because the inclusion of these terms in the analysis did not change the significance of the results, these terms were not retained in the final model (Yzerbyt et al., 2004). The final model contained eight predictors: performance-approach goals, performance-avoidance goals, conflict, the three 2-way interactions between these terms, the 3-way interaction, and initial ability.

Achievement goals as predictors of the self-superiority score. The self-superiority score was regressed on the model. The analysis revealed a strong main effect of conflict, $\beta = .51$, $F(1, 65) = 20.79$, $p < .001$, $\eta^2 = .26$. The self-superiority score was higher in the conflict condition ($M = 0.76$, $SD = 0.24$) than that in the no-conflict condition ($M = -0.55$, $SD = 0.13$). A main effect of performance-approach goals, $\beta = .27$, $F(1, 65) = 6.2$, $p < .02$, $\eta^2 = .09$, also indicated that the more participants endorsed performance-approach goals, the more self-superiority was accentuated. More importantly, the interaction between performance-approach goals and conflict, $\beta = .24$, $F(1, 65) = 5.01$, $p < .03$, $\eta^2 = .07$ indicated that performance-approach goals predicted self-superiority more positively when there was a

conflict, $\beta = .50$, $F(1, 65) = 11.76$, $p < .002$, $\eta^2 = .15$, than when there was not, $\beta = .006$, $F < 1$, *n.s.*. The interaction between performance-avoidance and conflict was marginally significant, $\beta = -.21$, $F(1, 65) = 3.77$, $p < .06$, $\eta^2 = .05$, but in the opposite direction. In the conflict condition, the higher the performance-avoidance goals, the lower the self-superiority score, $\beta = -.38$, $F(1, 65) = 5.9$, $p < .02$, $\eta^2 = .08$, which was not the case without conflict, $\beta = .01$, $F < 1$, *n.s.*. The two interactions are presented in Figure 1.³

Discussion

In line with our hypothesis, the more participants in the conflict condition endorsed performance-approach goals, the more they perceived themselves as more competent than the partner. In addition, the more participants in the conflict condition endorsed performance-avoidance goals, the smaller this differentiation tended to be. When no conflict was induced, performance goals did not significantly predict the self-superiority score.

In the first two studies goals were measured as self-set goals. This prevents us from establishing a causal link between goals and conflict regulation. The aim of Study 3 was to address this issue in a face-to-face interaction by manipulating goals. In this study, conflict was measured. Hence, Study 3 tests the hypotheses that conflict should (i) positively predict competitive regulation in the performance-approach goal condition more than in the performance-avoidance condition; (ii) predict protective regulation in the performance-avoidance goal condition more than in the performance-approach condition.

Study 3

Method

Participants. Forty-six French Psychology students volunteered for the experiment. One participant had uncommon studentized deleted residual on relevant measures and was dropped from the analyses (Judd & McClelland, 1989). Another one was removed because of missing data. The final sample consisted of 41 women and three men (mean age = 19.40; $SD = 1.54$). Two students were invited to the lab at the same time. Each dyad was randomly assigned to one of the two goal conditions ($N = 23$ in the performance-avoidance goal condition; $N = 21$ in the performance-approach goal condition).

Procedure. The procedure was similar to that used by Darnon and Butera (2007). Two participants who did not know each other were instructed to study cooperatively two texts that dealt with Social Psychology theories. Then, depending on the condition, participants were given either performance-approach or performance-avoidance goal instructions. These

instructions were the same as in Darnon, Harackiewicz et al. (2007), who also report evidence for their effectiveness in inducing the different goals. In the performance-approach condition, participants were told that they should try to perform better than the majority of students. In the performance-avoidance condition, they were told that they should try to avoid performing less well than the majority of students. The participants of a same dyad always received the same instructions.

After the goal induction, participants were given the texts. They had to read the first part of the text and then to read a question. For one participant, this first part depicted the false-uniqueness effect whereas, for the other one, it depicted the false-consensus effect. The question concerned whether individuals tend to under- versus over-estimate one's similarity as compared to others. Subsequently, one of the participants would give his/her answer first (i.e., underestimation), followed by the other (i.e., overestimation). The order of answering was counterbalanced. Dyads had 3 min to exchange their opinion and justify their position. During this time, they could check their own text again if they needed to, but they could not directly show it to their partner. Then the experimenter asked them to read the second part of the text and the same procedure was repeated. This reading-discussing procedure was carried out for each of the four parts of the texts. After the last question, participants were given a questionnaire containing the dependent variables.

Materials. In the present experiment, disagreement—the operational proxy of conflict—was measured, and therefore we wanted to give participants materials that would be likely to induce disagreement. These materials consisted of two texts, text A for one participant and text B for the other, presenting seemingly contradictory effects. One participant was given text A, and the other was given text B. Thus, it was likely that their discussion would generate some disagreement. Each text contained four parts and each part presented an experimental effect. As mentioned above, the first part presented the false-uniqueness effect for text A, the false-consensus effect for text B. The second part was about a manipulation technique, but in this case text A and text B were identical. The third part was about persuasion, with text A presenting the primacy effect, text B the recency effect. The fourth part was about social judgment, with assimilation effect for text A, and contrast effect for text B. All the chosen effects seem contradictory but are not incompatible, as research has found an organizing principle for each of them.

Table 2

Study 3: Conflict regulation items and their factor loading using principal component extraction with oblique rotation.

When disagreements occurred, to what extent did you...	Factor 1	Factor 2
try to show you were right?	.87	.13
try to show your partner was wrong?	.90	.13
try to resist by maintaining your initial position?	.81	-.26
think your partner was certainly more correct than you?	.20	.66
comply with his(her) proposition?	.01	.76
agree with his(her) own way of viewing things?	-.14	.87
% of explained variance	37.7%	31.1%

Measures.

Initial ability. To control for initial ability, we collected the grade the participants had obtained on the previous semester for their Social Psychology exam. This grade could range from 0 to 20 ($M = 12.56$, $SD = 2.93$).

Amount of perceived disagreement. Participants had to report (on a scale ranging from 1, *very few* to 7, *very many*), the number of elements that they felt had provoked disagreement between themselves and their partner during the exchange. This measure was used as the second, continuous, independent variable ($M = 3.32$, $SD = 1.39$). The amount of disagreement did not differ across conditions, $F < 1$.

Mode of conflict regulation. After the interaction, participants were asked to indicate (on a scale ranging from 1, *not at all*, to 7, *completely*) to what extent, when disagreement occurred, they regulated it in a competitive way (three items, e.g., “tried to show the partner was wrong”, $\alpha = .82$, $M = 3.8$, $SD = 1.52$). Three further items asked them to indicate to what extent they regulated conflict in a protective way (e.g., “did you comply with his(her) proposition”, $\alpha = .66$, $M = 3.72$, $SD = 1.17$, for protective regulation). The six items are presented in Table 2.

Pilot study. In Study 3, we use self-reported measures to assess conflict regulation whereas in Studies 1 and 2 we respectively used preferential rating of models and self-superiority score. One might wonder whether these measures are related to the same conceptual construct. To check this assumption, we conducted a Pilot Study. A total of 240 Swiss undergraduates, 149 women and 91 men (mean age = 21.20; $SD = 2.95$) volunteered in

Table 3

Pilot Study: Correlations between self-reported and behavioural measures of conflict regulation.

	1	2	3	4
1. Competitive regulation	-			
2. Protective regulation	-.38***	-		
3. Self-superiority score	.50***	-.50***	-	
4. Confirmation model	.21**	-.13*	.15*	-
5. Compliance model	-.36***	.35***	-.30***	-.38***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

a pilot study aiming to test the convergence of our outcome variables. The study was conducted on the Internet. The procedure was the same as that used in Study 1. Participants were given a text that presented either the primacy ($N = 119$) or the recency effect ($N = 121$) and received a disagreeing answer from a bogus partner. After the “interaction”, participants had to evaluate the same models as those used in Study 1. From these scores, proportional rating for the “confirmation model” ($M = 0.28$; $SD = 0.14$) and the “compliance model” ($M = 0.23$; $SD = 0.10$) were computed. Secondly, similarly to Study 2, participant had had to attribute competence points (from 0 to 100) to themselves and to the other person. A self-superiority score was created by subtracting the latter from the former ($M = 3.65$; $SD = 23.83$). Thirdly, participants were asked to fill in the same conflict regulation items as those used in Study 3 ($\alpha = .74$, $M = 3.63$, $SD = 1.44$ for competitive regulation, $\alpha = .61$; $M = 3.71$, $SD = 1.24$ for protective regulation). Table 3 shows the correlations between the two modes of self-reported regulation, the self-superiority score and the rating of each predictive model. Results indicated that preference for the confirmation model was positively correlated with the self-superiority score and with self-reported competitive regulation. Conversely, preference for the compliance model was negatively correlated with self-superiority score and positively correlated with self-reported protective regulation. Finally, the higher the self-superiority score, the higher the self-reported competitive regulation, and the lower the self-reported protective regulation. This confirms the overlap among the various dependent measures that have been used across the studies reported here.

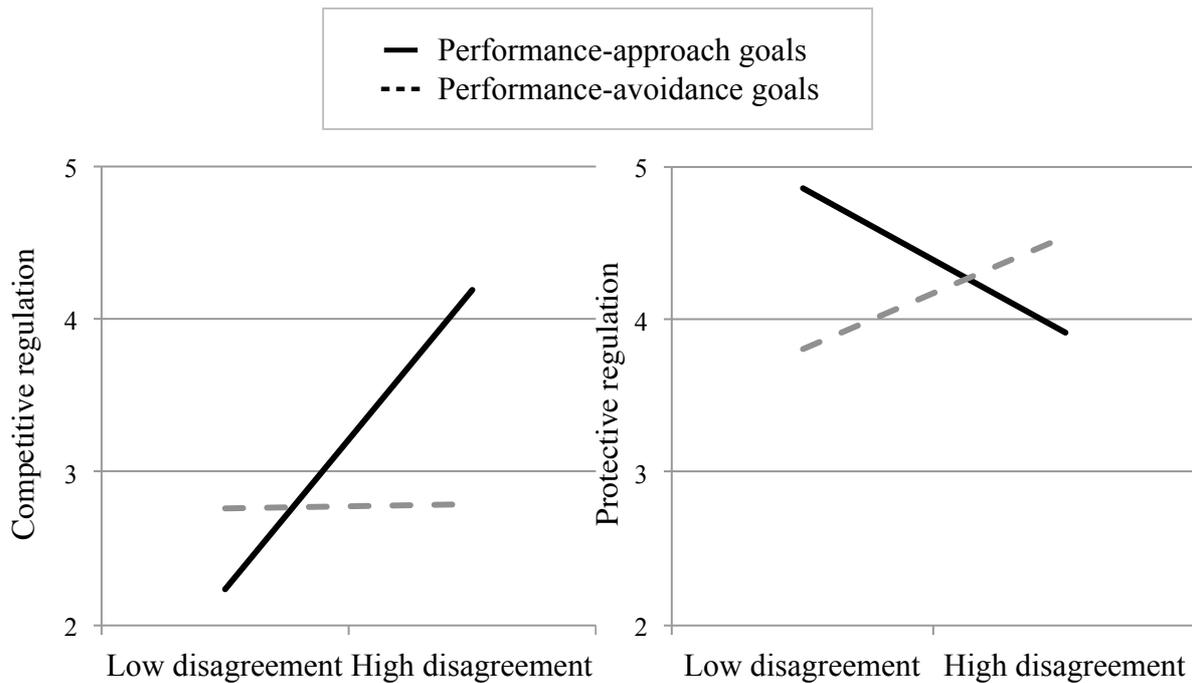


Figure 2. Competitive and protective regulation as a function of amount of perceived disagreement and type of performance goal condition (Study 3).

Results

Factorial structure of the scales. As can be seen in Table 2, factor analysis revealed a two-factor structure, with Factor 1 accounting for 37.7% of the variance and comprising the three competitive relational regulation items and Factor 2, accounting for 31.08% of the variance and consisting of the three protective relational regulation items.

Overview of the regression analyses. The goals variable was coded -1 for performance-avoidance goals and +1 for performance-approach goals. Moreover, the amount of perceived disagreement was entered in the regression analyses as well as the interaction between goals and disagreement. The grade obtained in Social Psychology in the previous semester was also entered in the regression analysis as a covariate. Controlling for age and gender led to the same results and these variables were not included in further analyses. Moreover, preliminary analyses indicated that the covariate (initial ability) was not significantly linked to the independent variables and thus none of the interactions were retained in the model. The final regression model contained four terms: goal type (performance-approach, performance-avoidance goals), amount of perceived disagreement, the interaction between goal type and amount of disagreement, and initial ability⁴.

Mode of conflict regulation.

Competitive regulation. A main effect of disagreement, $\beta = .33$, $F(1, 39) = 5.25$, $p < .03$, $\eta^2 = .12$, indicated that the higher the amount of disagreement, the more participants reported regulating it in a competitive manner. The main effect of goals was not significant, $\beta = .15$, $F(1, 39) = 1.03$, $p < .32$, $\eta^2 = .03$. More importantly, the predicted interaction between conflict and goals was significant, $\beta = .32$, $F(1, 39) = 5.13$, $p < .03$, $\eta^2 = .12$. As can be seen in Figure 2, in the performance-approach goal condition, the higher the conflict, the higher the competitive regulation, $\beta = .65$, $F(1, 39) = 9.85$, $p < .005$, $\eta^2 = .13$, whereas, in the performance-avoidance condition, such a relationship was not observed $\beta = .01$, $F < 1$, *n.s.*.

Protective regulation. Neither the main effect of goals, nor the main effect of disagreement reached significance, both $F_s < 1$. The predicted interaction between conflict and goals was significant, $\beta = -.33$, $F(1, 39) = 4.96$, $p < .04$, $\eta^2 = .11$. As can be seen in Figure 2 in the performance-avoidance condition, the higher the conflict, the higher protective regulation, $\beta = .32$, $F(1, 39) = 2.52$, $p = .13$, $\eta^2 = .06$, whereas in the performance-approach condition, the reversed pattern was observed, $\beta = -.34$, $F(1, 39) = 2.34$, $p = .12$, $\eta^2 = .06$. Although these simple slopes significantly differed from each other, neither differed significantly from zero.

Discussion

Consistent with Study 2, but in a more ecological context and with manipulated goals, an interaction between goals and conflict was observed for both measures of conflict regulation. Conflict positively predicted competitive relational regulation more in the performance-approach condition than that in the performance-avoidance condition. Conversely, conflict positively predicted protective regulation more in the performance-avoidance condition than that in the performance-approach condition. It is worth noting, as far as protective conflict regulation is concerned, that although the predicted goal by conflict interaction was significant, the simple slopes were not. However, due to sizes of these effects (i.e., medium), the non-significant slopes are probably due to lack of statistical power (Cohen, 1988). The fact that the link between performance-avoidance goals and protective regulation has been observed three times (i.e., in Studies 1, 2 and 3) also speaks of its robustness and consistency (Cohen, 1994).

General Discussion

Research on socio-cognitive conflict has long been interested in the fact that when people are studying, working and making decisions together, conflict regulation could be

“relational”, namely focused on threatening social comparison of competence. In the present article, a further distinction is made between competitive relational regulation (a regulation based upon the assertion of one’s own competence) and protective relational regulation (a regulation based upon compliance). This article provides evidence that these two modes of relational conflict regulation correspond to different performance goal profiles.

In line with our hypotheses, results of Study 1 indicated that performance-approach goals predicted competitive regulation (as evidenced by preferences for self-confirmation), and performance-avoidance goals predicted protective regulation (as evidenced by preferences for other-confirmation)⁵. The same pattern was observed in Study 2 on differential allocation of competence to self versus other and in Study 3 on ad-hoc self-reported measures of competitive versus protective conflict regulation. It is also worth noting that these dynamics were replicated from face-to-face (Studies 1 and 3) to computer-mediated (Study 2) interactions. Moreover, in Study 2 the manipulation of conflict showed that the above dynamics are typical of conflict situations and do not appear when people are in agreement, thereby supporting an interpretation in terms of conflict regulation. Such an interpretation was also supported by Study 3, in which interactions between goals and measured conflict (amount of disagreement) were again observed. Moreover, in Study 3, goals were manipulated, supporting the idea that different performance goals have causal effect on conflict regulation.

The present study contributes to the conflict regulation literature. Although sometimes evoked for theoretical reasons, the existence of two distinct relational regulations—protective and competitive—had not been directly assessed in prior research. Factor analyses in Study 3 showed that the two modes of self-reported relational conflict regulation clearly correspond to two distinct factors, competitive relational regulation and protective relational regulation. Moreover, the pilot study reported in Study 3 shows that self-reported competitive regulation is correlated with a preference for the self-confirmatory model, whereas self-reported protective regulation is correlated with a preference for the other-confirmatory model. The present research has substantiated these theoretical distinctions in two scales that can be used by researchers interested in the topic of conflict regulation. This theoretical contribution may very well have also an applied implication for conflict management. For instance, some authors have pointed out the negative effects of conflict in the workplace (e.g., De Dreu, 2008), and distinguishing competitive and protective forms of conflict regulation may help predicting different forms of potentially detrimental outcomes.

More importantly, taking into account the distinction between performance-approach and performance-avoidance goals has made it possible to pinpoint different motives that may correspond to each mode of relational conflict regulation. Socio-cognitive conflict raises uncertainty about self-competence (Butera & Mugny, 2001). As the idea of being less competent can reduce one's perception of self-worth and value (Tesser, 1988), conflict may represent a competence threat (Quiamzade & Mugny, 2009). As pointed out in the introduction, in such stressful contexts, people can react in two different ways, depending on the type of cognitive appraisal of the situation: *challenge-appraisal* and *threat-appraisal* (Lazarus & Folkman, 1984). The present article demonstrates that, depending on individuals' goals, relational conflicts lead to two different strategies of defensiveness: performance-approach orientation predicts competitive regulation whereas performance-avoidance predicts protective regulation. This contribution is important because in previous research in education (Doise, Mugny, & Perret-Clermont, 1975) and organizations (Pinkley, 1990), the regulation of relational conflict via competition versus compliance has merely been described as an emergent feature of the conflictual interaction. Thus, the present research provides two motivational factors, respectively performance-approach and performance-avoidance goals, that allow making a priori hypotheses about the form that relational conflict regulation will take.

This may have a second implication for conflict management. As our research defines the antecedents of competitive and protective conflict regulation, it could help teachers or team leaders to prevent or diminish their emergence. Competitive contexts (e.g., ranking evaluation practice, extrinsic reward focused on results rather than effort) are known to favour the endorsement of performance goals (Meece, Anderman & Anderman, 2006). According to their competence expectancies, high versus low, (Elliot & Church, 1997), or to the type of assessment, normative versus formative (Pulfrey, Buchs, & Butera, 2011), individuals will either pursue performance-approach goals or performance-avoidance goals. Thus, teachers, instructors and managers, may be made more aware of the specific consequences that the goals engendered by the climates they produce have for conflicts likely to appear in working groups.

These studies also contribute to the achievement goal literature. Darnon et al. (2006) have shown that performance (approach) goals predict (competitive) relational conflict regulation. However, in this work goals were measured and not manipulated. The results of our Study 3 provide an experimental confirmation that in a performance-approach goal context, conflict predicts competitive regulation more than in a performance-avoidance goal

context. This prior work also made no theoretical distinction between performance-approach and performance-avoidance goals, or between competitive and protective regulation. Our studies fill this gap by showing that in the conflict framework—as is the case for other variables such as, for example, interest (Elliot & Harackiewicz, 1996), or achievement (Elliot & Church, 1997)—the distinction between approach and avoidance performance goals provides a greater degree of specification in predicting the effects of performance goals. Finally, Darnon, Harackiewicz et al. (2007) have shown that socio-cognitive conflict can deplete task performance when individuals follow performance-approach goals but not when they follow performance-avoidance goals. In academic or work groups, where conflict is highly likely to arise, such contexts may therefore hinder group performance. Future research should investigate further whether competitive and protective forms of conflict regulation mediate these links between performance goals and task performance.

Some limitations should be considered in relation to this work. Although the disproportion between men and women in the sample tested here is typical of Psychology departments, gender effects have been found both on conflict resolution strategies (e.g., Holt & DeVore, 2005; Reinisch & Sanders, 1986) and on goal endorsement (e.g., Dweck, 1986). Because men have been shown to be less likely to use cooperation strategies in conflict situations than women, one could expect male participants to regulate relational conflict in a competitive way regardless of the level of goal endorsement. Research with a more gender-balanced sample is needed in the future. Furthermore, in this research, the effects of performance goals on relational regulation were only assessed at the individual level. Thus, one might wonder how both the participant's *and* his/her partner's achievement goals together influence the development of conflict. This could represent an appealing direction for future investigations. Finally, our research did not take relative status into account. Socio-cognitive conflicts occur in both classroom and organizational contexts that generate explicit status asymmetry (e.g., ranking, hierarchy). Future research needs to address the potential moderating role of status on the link between performance goals and relational regulation.

Notwithstanding these limitations, this research represents both a theoretical and a practical contribution. Indeed, with Western countries profoundly influenced by neo-liberal values in all sectors of social activities (Kasser, Cohn, Kanner, & Ryan, 2007; Schwartz, 2007), it appears that most educational and work structures promote normative comparison and make performance goals quite salient and difficult to eradicate (cf. Urdan, 2004). The risk in such situations is that individuals perceive a disagreeing other as a threat, rather than an informational resource (e.g., Ryan & Pintrich, 1997), and that socio-cognitive conflict loses

Empirical Part I: First Line of Research

its benefits and becomes detrimental for learning (Smith, Johnson, & Johnson, 1981) and for satisfaction, commitment, group cohesion and group performance (for a meta-analysis, see Wit, Greer, and Jehn, 2012). We thus agree with previous authors who have encouraged teachers or managers to create goal structures that do not imply normative evaluation, public comparison of performance, competition and other factors shown to enhance performance-approach or performance avoidance goals (for reviews, see Ames, 1992; Dragoni, 2005; Meece et al., 2006).

Footnotes

¹ It is important to note that the performance-avoidance goals measure used in Studies 1 and 2 did not include an explicit normative referent. However, recent work by Elliot and Murayama (2008) demonstrated that the same pattern of results is obtained with the implicit and explicitly normative performance-avoidance items.

² To test whether intraclass correlations ($ICC_{\text{confirmation}} = .42$, 95% CI = .01–.82; $ICC_{\text{compliance}} = .07$, *n.s.*) could have biased the results, we conducted multi-level analyses with dyads as level-2 and participants as level-1 units. The same model as that reported in the main analyses was used, with the only difference that goals were introduced as a level-2 variable. Results again showed that performance-approach goals predicted confirmation ($\gamma = .03$, $SE = .01$, $p < .02$) and performance-avoidance goals predicted compliance ($\gamma = .03$, $SE = .03$, $p < .04$).

³ A regression analysis was also conducted on mean competence attributed to self with performance-approach goals, performance-avoidance goals, conflict, all the interactions and initial ability. Neither the interaction between conflict and performance-approach goals, $\beta = .11$, $F < 1$, *n.s.*, nor the interaction between conflict and performance-avoidance goals, $\beta = -.06$, $F < 1$, *n.s.*, were significant. The same analysis was conducted on mean competence attributed to the partner. Results revealed interactions between conflict and performance-approach goals, $\beta = -.20$, $F(1, 65) = 4.13$, $p < .05$, $\eta^2 = .05$, and between conflict and performance-avoidance goals, $\beta = .19$, $F(1, 65) = 3.76$, $p < .06$, $\eta^2 = .05$. These results suggest that the differences observed on the self-superiority score are due to the devaluation of other-competence rather than the enhancement of self-competence, as in Toma, Vasiljevic, Oberlé and Butera (2012).

⁴ To test whether intraclass correlations ($ICC_{\text{competitive}} = .46$, 95% CI = .12–.80; $ICC_{\text{protective}} = .24$, *n.s.*) could have biased the results, we conducted multi-level analyses with dyads as level-2 and participants as level-1 units. The same model as that reported in the main analyses was used, with the only difference that goals were introduced as a level-2 variable. Results showed that the predicted interaction between goals and disagreement remained significant for competitive regulation ($\gamma = .31$, $SE = .15$, $p < .04$) as well as protective regulation ($\gamma = -.27$, $SE = .12$, $p < .03$).

⁵ Another correlational study, not reported in full here, replicates the findings of Study 1. Forty participants answered four questions on extracts of a Social Psychology text. Each answer was sent to a bogus “partner” via computer (cf. procedure of Study 2). Participants reported performance goals (as in Study 1) and their mode of conflict regulation (as in Study

Empirical Part I: First Line of Research

3). Regression analyses indicated that the higher performance-approach goals, the higher the competitive regulation, $\beta = .49$, $F(1, 35) = 9.90$, $p < .004$, $\eta^2 = .22$. Moreover, the higher the performance-avoidance goals, the higher the protective regulation, $\beta = .33$, $F(1, 35) = 4.21$, $p < .05$, $\eta^2 = .11$. For additional information, please contact the authors.

EMPIRICAL PART I:

Second Line of Research

To Confirm or to Conform?

Performance Goals as a Regulator of Conflict with More Competent Others^{11, 12}

Abstract

Despite the fact that most *competence*-relevant settings are *socially* relevant settings, the interpersonal effects of achievement goals have been understudied. This is all the more surprising in the case of performance goals, for which self-competence is assessed using an other-referenced standard. In the present research, performance-goals are conceived as a social tool for regulating interpersonal behaviors with more-competent others. In the confrontation with a more- (*vs.* equally) competent disagreeing partner, performance-approach goals (focus on approaching normative competence) should be associated with more dominant behavior, i.e., competitive conflict regulation, whereas performance-avoidance goals (focus on avoiding normative incompetence) should be associated with more submissive behavior, i.e., protective conflict regulation. Four studies give support to these predictions with self-reported conflict regulation measures (Studies 1 and 3), and evaluation of models associated with self-confirmation and compliance (Study 2) and conflict regulation behaviors (Study 4). Theoretical contributions to both the literature on achievement goals and that on socio-cognitive conflict, as well as practical implications for the issue of competence asymmetry in educational settings, are discussed.

Keywords: performance goals, relative competence, socio-cognitive conflict, interpersonal behavior regulation, self-evaluation threat.

¹¹ Accepted for publication as Sommet, N., Darnon, C., & Butera, F. (2014). To Confirm or to Conform? Performance Goals as a Regulator of Conflict with More Competent Others. *Journal of Educational Psychology*. In press.

¹² Additional analyses for Studies 1 and 3, as well as methodological and empirical precisions for Study 4 are provided as supplementary material.

To Confirm or to Conform?

Performance Goals as a Regulator of Conflict with More-Competent Others

Most educational psychologists advocate the use of dynamic (i.e., based on *interactions* between learners) rather than static (i.e., based on *instructions* from educator to learners) learning systems (e.g., Johnson & Johnson, 2009; Patrick, Kaplan, & Ryan, 2011; Reyes, Brackett, Rivers, White, & Salovey, 2012). Indeed, interventions designed to promote and structure social interactions between learners are regularly proposed in the literature, be they concerned with classrooms (e.g., Muis & Duffy, 2013), small groups (e.g., Ramani, Siegler, & Hitti, 2012), or dyads (e.g., Buchs, Gilles, Dutr vis, & Butera, 2011). Such dynamic learning systems may be effective in that they allow learners to interact with more-knowledgeable peers (Vygotsky, 1978) holding a different viewpoint (Mugny & Doise, 1978; see also Fawcett & Garton, 2005), thereby providing exposure to new knowledge. Yet, when facing a more-competent disagreeing other, learners often fail to engage in a coordinated and constructive interaction (Cohen & Lotan, 1995), as the higher competence of the coactor may be perceived as a threat to self-evaluation (Muller & Butera, 2007).

In such a confrontation, when do individuals ignore the other's viewpoint, sticking to their own, and when, instead, do they comply? Some attempts to provide a micro-level analysis of disagreeing processes with more-competent others have contributed to understanding why learners sometimes fail to co-regulate their conversational space (Barron, 2003), but the motivational determinants of these processes have never been investigated. This neglect is surprising, because confrontation with more-competent others is a common situation, especially in educational settings (e.g., unequal-status interactions in classrooms; Cohen & Lotan, 1995), and understanding the motivational determinants of its regulation may be of utmost importance to design facilitating interventions. The present research aims at addressing this issue. We argue that performance goals—namely, the desire to show competence in comparison with others—can function as a regulator of the specific interpersonal behavior, *confirming* one's own point of view or *conforming* to that of the more-competent other, displayed to cope with disagreement.

Achievement Goals and Interpersonal Behaviors

In competence-relevant settings, learners might adopt different achievement goals to regulate their behaviors (Elliot, 1999). Traditionally, scholars have distinguished two forms of achievement goals: mastery goals and performance goals (Dweck, 1975). The former goal is centered on the *acquisition* of competences, that is, progressing (or not declining) on a task,

whereas the latter one is centered on the *demonstration* of the competences, that is, outperforming (or not being outperformed by) significant others.

Later, Elliot and Harackiewicz (1996) proposed that performance goals could be dichotomized into performance-approach goals (focused on attaining normative competence; i.e., related to the desire to perform better than others) and performance-avoidance goals (focused on avoiding normative incompetence; i.e., related to the desire *not* to perform worse than others). For instance, a student willing to reach the top three position of his or her class would typically follow performance-approach goals while another willing not to be below the class grade average would follow performance-avoidance goals¹.

The trichotomous framework of achievement goals has fueled nearly two decades of research, mainly focused on *intrapersonal*-level outcomes. For instance, in educational settings, achievement goals have proven to be robust predictors of academic performance (for a recent meta-analysis, see Van Yperen, Blaga, & Postmes, 2014), intrinsic motivation (Dinger, Dickhäuser, Spinath, & Steinmayr, 2013), or self-regulated learning strategies (Senko, Hama, & Belmonte, 2013). However, most *competence*-relevant settings are also *socially* relevant settings (e.g., classrooms, learning groups, peer tutoring), and, as educational psychologists refined their paradigms over the years, they “bec[a]me increasingly aware that education [does] not take place in a social vacuum” (Husén, 1994, p. 5055). As a matter of fact, the quality of social interactions between learners (e.g., in social perspective taking, social cue processing, interpersonal trust) is indeed associated with academic accomplishment (for a review, see Wentzel, 2005), intrinsic motivation (Fraser & Fisher, 1982), and self-regulated learning (Whitebread, Bingham, Grau, Pino Pasternak, & Sangster, 2007).

Thus, social interactions are a core element in educational and learning processes, and it is therefore surprising that the *interpersonal*-level outcomes of achievement goals have remained largely understudied, and this in spite of the recurrent calls pinpointing the dearth of empirical research (Conroy, Elliot, & Thrash, 2009; Darnon, Dompnier, & Poortvliet, 2012; Kaplan, 2004; Liem, Lau, & Nie, 2008; Poortvliet & Darnon, 2010). Even more surprising is the lack of studies on the interpersonal effect of performance goals in particular. Indeed, performance goals involve an assessment of success and failure using an *inter*-personal standard (i.e., self-/other-performance comparison), which is not the case of mastery goals, associated with an *intra*-personal standard (i.e., past/present self-performance comparison; Elliot, 2005). Accordingly, performance-approach and performance-avoidance goals are associated with keen attention to others' level of competence (Elliot, 1999).

In line with this analysis, it has been noted that primary (Boissicat, Pansu, Bouffard, & Cottin, 2012), secondary (Trautwein, Lüdtke, Marsh, & Nagy, 2009) and post-secondary (Sommet, Pulfrey, & Butera, 2013) education is conducive to within-group social comparison, notably through the use of public and normative competence feedback (e.g., grades, Pulfrey, Darnon, Butera, 2013). In natural academic settings, both performance-approach and performance-avoidance goals were indeed found to relate to marked interest for social comparison (Darnon, Dompnier, Gilliéron, & Butera, 2010, see also Bounoua et al., 2012) and particular focus on social status differences (Levy, Kaplan, & Patrick, 2004). In this regard, performance goals should particularly affect social interactions. That is, in addition to driving self-regulation strategies (Elliot & Moller 2003), performance goals may also drive self-other regulation strategies. Next we discuss how.

Performance Goals and Agency in Interpersonal Behaviors

The interpersonal circumplex model has proven to be of substantial heuristic and integrative value for the conceptualization, categorization or assessment of interpersonal behaviors (Wiggins, 2003). This model—notably used in educational settings (e.g., Ojanen, Grönroos, & Salmivalli, 2005; Rodkin, Ryan, Jamison, & Wilson, 2013)—proposes a taxonomy of interpersonal behaviors as defined by two orthogonal dimensions: (a) communal behaviors vary along an horizontal axis from friendliness to hostility; (b) agentic behaviors vary along a vertical axis from dominance to submission (Horowitz, 2004).

Importantly for the present research, Conroy and his colleagues (2009) have associated the interpersonal circumplex model with the achievement goal framework. As far as the horizontal dimension is concerned, they argued that performance goals are related to interpersonal behaviors having a low level of communion (i.e., cold / distant behaviors). However, concerning the vertical dimension, the authors remained cautious, saying that “performance-based goals seem [...] to lead to more agentic variations in interpersonal behaviors” before adding that “it would be important to determine how [valence] of achievement goals influence social behavior” (pp. 395-396). Drawing on their theoretical proposal, we argue that performance-*approach* goals relate to highly agentic (i.e., dominant) interpersonal behaviors, whereas performance-*avoidance* goals relate to poorly agentic (i.e., submissive) interpersonal behaviors.

On the one hand, in line with this idea, performance-approach goals have been found to be associated with a certain number of dominant interpersonal behaviors in academic contexts, such as antisocial behaviors in classroom (e.g., disrupting the class, annoying the

teacher, breaking the classroom rules; Shim, Cho, & Wang, 2013), middle and high school students' reduced interest in interethnic contact (Migacheva & Tropp, 2013), and the emergence of an autocratic leadership style within small learning groups (Yamaguchi, 2001). As a matter of fact—given their symmetry in terms of valence—performance-approach goals were found to be positively associated with self-reported measures of the behavioral activation system, defined as a behavioral facilitator in responses to environmental stimuli (Bjørnebekk, 2007; Elliot & Thrash 2002; see also Bjørnebekk & Diseth, 2010).

On the other hand, performance-avoidance goals have been found to be associated with a certain number of submissive interpersonal behaviors, such as not participating in the classrooms (Jansen, 2006), college freshmen's interaction anxiety (Valentiner, Mounts, Durik, & Gier-Lonsway, 2011), or high school students' reduced intentions of instrumental help-seeking through an increase in its perceived social cost (i.e., fear of being perceived as stupid by a peer; Roussel, Elliot, & Feltman, 2011). As a matter of fact—given, again, their symmetry in terms of valence—performance-avoidance goals were found to be positively associated with self-reported measures of the behavioral inhibition system, defined as a behavioral inhibitor in responses to environmental stimuli (Bjørnebekk, 2007; Elliot & Thrash 2002; see also Bjørnebekk & Diseth, 2010)²

As mentioned in the opening paragraph, the fact that performance-approach and performance-avoidance seem to respectively predict social dominance and social submission might be due to the self-evaluation threat potentially elicited by an other's competence (Muller & Butera, 2007). In educational settings, learners continuously engage in social comparison of competences, and are spontaneously prone to compare upward (Blanton, Buunk, Gibbons, & Kuyper, 1999; Huguet, Dumas, Monteil, & Genestoux, 2001). For performance goal-oriented learners, the superior competence of a social comparison target may be perceived as a particular threat and—if not reduced—upward social comparison becomes problematic for self-identity (Mugny, Butera, & Falomir, 2001), self-esteem (Tesser, 1988), and self-competence (Quiamzade & Mugny, 2001). Thus, there are reasons to believe that, in interactions with a more-competent other, performance goals will work as a tool that regulates interpersonal behavior: Performance-approach would trigger an *appetitive* self-other regulation system, and performance-avoidance goals an *aversive* self-other regulation system.

Performance Goals as Regulators of Social Interaction with More-Competent Others

How do performance-oriented learners behave when facing a high-achieving schoolmate, a more advanced pupil, or a higher ranked student? As mentioned earlier,

performance goals tend to be associated with social status goals (Hicks, 1997) and perception of more-competent others as a threat to self-evaluation (Ryan & Pintrich, 1997). For instance, in a peer-tutoring context, namely problem-solving under the tutelage of an adult, Newman and Schwager (1995) showed that the endorsement of performance goals had a deleterious effect on interpersonal exchanges. More broadly, while working with more-competent others, elementary school students given performance goal instructions were unlikely to benefit from the interaction in terms of learning (Gabriele & Montecinos, 2001) and displayed low accuracy in comprehension monitoring (i.e., detecting their own comprehension failures; Gabriele, 2007).

The aforementioned studies suggest that performance goals qualitatively impact social interactions with more-competent others. This phenomenon might be due to two concurrent mechanisms. First, performance goals—when associated with an *approach* orientation—may lead to a dominant form of social behavior regulation. For instance, it has been shown that performance-approach goal-oriented individuals engaged in more deceptive information exchange (i.e., a highly agentic behavior) when a partner was presented as being of high (*vs.* low) competence (Poortvliet, Anseel, Janssen, Van Yperen, & Van de Vliert, 2012; see also Poortvliet, 2013). Second, performance goals—when associated with an *avoidance* orientation—may lead to a submissive form of social behavior regulation. For instance, it has been shown that performance-avoidance individuals engaged in more free-riding behaviors (i.e., a poorly agentic behavior, to the extent that the responsibility of the work is left to the partners) when a dyadic partner was perceived as being extremely (*vs.* mildly) competent (Schoor & Bannert, 2011).

In sum, the literature reviewed above suggests that another's superior competence *strengthens* the agency of interpersonal behaviors when individuals pursue performance-approach goals, and *weakens* it when individuals pursue performance-avoidance goals. In order to study these opposing processes, an ideal social behavior that disentangles dominant from submissive behaviors is socio-cognitive conflict regulation. Socio-cognitive conflict regulation corresponds to the interpersonal behavior displayed by an individual to cope with a disagreeing other (Doise & Mugny, 1984). As seen in the next section, socio-cognitive conflict regulation might lead to dominant responses (i.e., individuals staying on their own position and invalidating that of the other) or—conversely—to submissive responses (i.e., individuals espousing the other's position and invalidating their own).

Conflict Regulation

In the study of learning, educational psychologists have long discussed the crucial role of social interactions in the dynamic of competences acquisition (for a historical and theoretical review, see Johnson & Johnson, 2009). They more notably stressed the importance of inter-individual disagreement (for a review, see Butera, Darnon, & Mugny, 2010; Levine, Resnick, & Higgins, 1993; see also Kruger, 1993). Given the usual complexity and plurality of teaching and learning materials, such disagreement—or socio-cognitive conflict—on a given task in which aptitudes are at stake is very frequent. The crucial role of socio-cognitive conflict has been documented in various topical domains such as scientific knowledge building (e.g., creationism vs. theory of evolution: Foster, 2012; climate change skepticism vs. global warming: Nussbaum, Sinatra, & Owens, 2012), mathematical problem solving (Prusak, Hershkowitz, & Schwarz, 2012), and even the teaching of sport and physical activities (Lafont, 2012). From an applied point of view, several scholars showed that socio-cognitive conflict could be used in both peer-managed classroom discussions (Wu, Anderson, Nguyen-Jahiel, & Miller, 2013) and computer-assisted dyadic interactions (Roseth, Saltarelli, & Glass, 2011; Saltarelli & Roseth, in press).

Socio-cognitive conflict is characterized by a double uncertainty: On the one hand it calls individuals' mastery of the task into question (the “cognitive” part of conflict: “Is my answer correct?”; Piaget, 1952, 1985), while, on the other hand, it raises doubts about self-competence relative to that of the other (the “social” part of conflict: “Is the other more competent than I?”; Doise & Mugny, 1984). When the disagreeing other is perceived as an informational support, the “cognitive question” prevails. Hence, individuals tend to regulate conflict in an *epistemic* way, namely by considering the validity of each other's answers and working deeply through the problem. Conversely, when the disagreeing other is perceived as a threat for self-evaluation, the “social question” is more likely to prevail. Hence, individuals tend to regulate conflict in a *relational* way, namely by defending their competence (Darnon, Doll, & Butera, 2007). Thus, in order to study our general hypothesis that performance goals can function as a key determinant of the specific interpersonal behavior displayed during disagreement with more-competent others, the present research uses relational conflict regulation as the target interpersonal behavior.

More precisely, when facing a threatening disagreeing partner, individuals have two possible ways to regulate conflict in a relational manner: (a) they can *confirm* their viewpoint, while invalidating that of the other—namely a highly agentic, dominant behavior; or (b) they can *conform* to the other's viewpoint, and subordinate their own—namely a poorly agentic,

submissive behavior. The former case, which corresponds to a self-confirmatory strategy (i.e., resisting to others' influence; Butera & Mugny, 2001; Psaltis & Duveen, 2006), has been designated in recent research as *competitive* relational regulation (Sommet et al., 2014). In the study of dialogical argumentation within learning dyads, this corresponds to *adversarial argumentation* (disputational dialogue without openness to an alternative viewpoint, Asterhan, 2013). The latter case, which corresponds to a mere compliance strategy (i.e., submitting to the other's influence; Quiamzade, 2007), has been designated as *protective* relational regulation (Sommet et al., 2014). In the study of dialogical argumentation, this corresponds to *quick consensus seeking* (cumulative dialogue without any critical exploration; Asterhan, 2013).

Conflict Regulation With More-Competent Others

How do learners usually regulate conflict with a more-competent contradictor? With most educational systems being organized in such a way that higher competent sources (e.g., tutors, parents, higher-achievers) provide knowledge to lower competent targets (e.g., tutees, children, lower-achievers), socio-cognitive theorists soon became interested in this question. Early findings showed that children facing disagreeing adults (Carugati, De Paolis, & Mugny, 1980-1981), one of their parents (Mugny, & Carugati, 1989), or more advanced peers (Mugny & Doise, 1978) gave short-lived, superficially processed, copycat versions of their more-competent other's response. Subsequent findings confirmed that, in a competitive context, participants confronted with a conflicting answer emanating from a more-competent (*vs.* equally competent) partner embraced more his/her way of reasoning (Quiamzade, Tomei & Butera, 2000; for a review see Quiamzade & Mugny, 2001). The fact that individuals facing more-competent disagreeing others regulate conflict in a protective way may be seen as a submissive interpersonal response to disagreement.

However, this evidence appears to be inconsistent in the literature, and in fact imitation elicited by more-competent partners appears to vary as a function of context. For instance, boys experiencing socio-cognitive conflict with more-competent girls have consistently shown a general tendency to wardself-confirmation (for a review, see Duveen & Psaltis, 2013). In a similar fashion, experienced, fourth-year students facing a threatening disagreeing epistemic authority (i.e., teacher-researcher) have tended to resist the message that he/she delivers (Quiamzade, Mugny, Dragulescu, & Buchs, 2003). The fact that individuals facing more-competent disagreeing others sometimes regulate conflict in a

competitive way shows that the occurrence of an interpersonal dominant response to disagreement is also possible.

Performance Goals as Regulators of Conflict With More Competent Others

In sum, the extant literature on conflict regulation shows that in some situations individuals tend to comply with more competent others, whereas in others they rather tend to sustain their own position. So far, however, no theoretical account of these variations has been put forward. We contend that performance goals could function as a critical factor to produce these variations. Thus, by applying the idea developed above—that performance goals qualitatively impact social interactions with more competent others, so that performance-approach goals lead to a dominant form of interpersonal behavior regulation, and performance-avoidance goals lead to a submissive form of interpersonal behavior regulation—then we hypothesized that in dealing with a more-competent other, (a) performance-approach goals should orient conflict regulation toward more agency (i.e., resistance / dominance), in other words, what Sommet et al. (2014) have termed competitive conflict regulation, and (b) performance-avoidance goals should orient conflict regulation toward less agency (i.e., obedience / submission), in other words, protective conflict regulation.

Hypotheses and Overview

In this article, we predict that, when individuals interact with more-competent disagreeing others, performance goals will serve the function of regulating interpersonal behaviors aimed at coping with such a disagreement. Specifically, four studies aim at testing two hypotheses: (1) performance-approach goals should more positively predict competitive conflict regulation (self-confirmation) when facing a more-competent partner than when facing an equally competent partner, and (2) performance-avoidance goals should more positively predict protective conflict regulation (compliance) when facing a more-competent partner than when facing an equally competent partner. Performance-goal orientation was assessed (Studies 1, 3, and 4) and manipulated (Study 2). Participants interacted with a fictitious disagreeing partner on the Internet (Studies 1 and 3), reacted to a bogus disagreeing opinion on a questionnaire (Study 2), or took part in face-to-face videotaped interaction with a disagreeing other (Study 4). In Studies 1 and 2, the partner was presented as having either similar or superior academic competence as compared to that of the participant. In Study 3, the partner was presented as having either similarly or better performed at a bogus competence test; moreover, a control condition with no competence feedback was added. In

Study 4, participants interacted in dyads and took the same bogus competence test, and received either similar or asymmetrical scores. Finally, relational conflict regulation was a self-reported measure (Studies 1 and 3), a more objective model-preference measure (Study 2), or a behavioral measure (Study 4).

Study 1

Method

Participants. One hundred and thirty nine (78 females and 61 males with a mean age of 21.4 years; $SD = 3.55$) in the Bachelor of Social and Human Sciences program at a French-speaking medium-size Swiss University, volunteered in Study 1.

Procedure. The study was conducted on the Internet. University students were invited by mail to participate in an Internet study on collaborative e-learning. Respondents thought they interacted with another student. This bogus partner was either presented as being a bachelor student (same-competence partner condition, $N = 78$) or a PhD student (superior-competence partner condition, $N = 61$). Then, participants were given a text that described either the “primacy effect” (i.e., when asked to memorize a list of words, people tend to better recall the *first terms*, $N = 69$) versus “recency effect” (i.e., when asked to memorize a list of words, people tend to better recall the *last terms*, $N = 70$). Following the reading of this text, participants answered a question about the effect trend (i.e., “Imagine yourself as learning a series of words. Immediately after this task, to what extent would you be able to recall the first / last words?”) so as to ensure that they were committed to the assigned primacy vs. recency effect. Participants subsequently received a disagreeing reply from a fictitious partner. Participants who had read the text on primacy effect received an answer related to the recency effect and *vice versa*. In an open-ended question, participants were invited to react to this answer.

Measures.

Performance goals. Prior to the “interaction”, individual differences in goal orientation were assessed. Items were extracted from Elliot and McGregor’s (2001) Achievement Goal Questionnaire (AGQ), validated in French by Darnon and Butera (2005). On a scale ranging from 1 (*not at all*) to 7 (*completely*), participants answered three items concerning performance-approach goals (e.g., “It is important for me to do better than other participants”; $\alpha = .91$, $M = 3.29$, $SD = 1.57$), and three items concerning performance-avoidance goals (e.g., “I just want to avoid doing poorly in this experiment”; $\alpha = .69$, $M = 2.97$, $SD = 1.21$). Correlation between the two aggregated scores was $r = .40$, $p = .001$.³

Table 1

Conflict regulation items and their factor loading using principal component extraction with oblique rotation (oblimin).

<i>When reacting to your partner's answer, to what extent did you...</i>	Study 1		Study 3	
	Factor 1	Factor 2	Factor 1	Factor 2
...try to show you were right?	.86	-.27	.83	.01
...resist and maintain your initial position?	.75	-.31	.69	-.23
...try to show he/she was wrong?	.85	-.30	.81	-.16
...think his/her answer was more correct than yours?	-.38	.78	-.20	.75
...try to comply to his/her opinion?	-.27	.84	.06	.79
...agree with his/her own way of viewing things?	-.68	.54	-.43	.58
<i>% of explained variance</i>	<i>47.98%</i>	<i>16.78%</i>	<i>35.26%</i>	<i>22.95%</i>

Note. Factor loadings > .45 are in boldface.

Self-reported conflict regulation. After having reacted to the bogus partner's answer, respondents were invited to report on their mode of conflict regulation. The six items were the ones used by Sommet and colleagues (2014): On a scale ranging from 1 (*not at all*) to 7 (*completely*), three items required the participants to indicate to what extent they regulated conflict in a competitive way (e.g., "did you try to show the partner was wrong"; $M = 3.74$, $SD = 1.58$). Another three items required them to indicate to what extent they regulated conflict in a protective way (e.g., "did you comply with your partner's proposition"; $M = 3.54$, $SD = 1.26$).

Results

Factorial structure of the scales. In preliminary analyses, factor analyses were conducted on the six conflict regulation items via principal-components extraction with oblimin rotation. As can be seen in Table 1, these analyses revealed the expected two-factor structure. On the one hand, Factor 1 accounted for 48.5% of the variance and comprised the three competitive relational regulation items. On the other hand, Factor 2 accounted for 16.7% of the variance and comprised the three protective relational regulation items. Correlation between the two factors was $r = -.39$, $p < .001$. Due to the weak Cronbach's alpha associated with protective regulation, factor scores were used as dependent variables⁴. The competitive regulation score could range from -1.82 to 2.24, and the protective regulation score from -1.83 to 3.15.

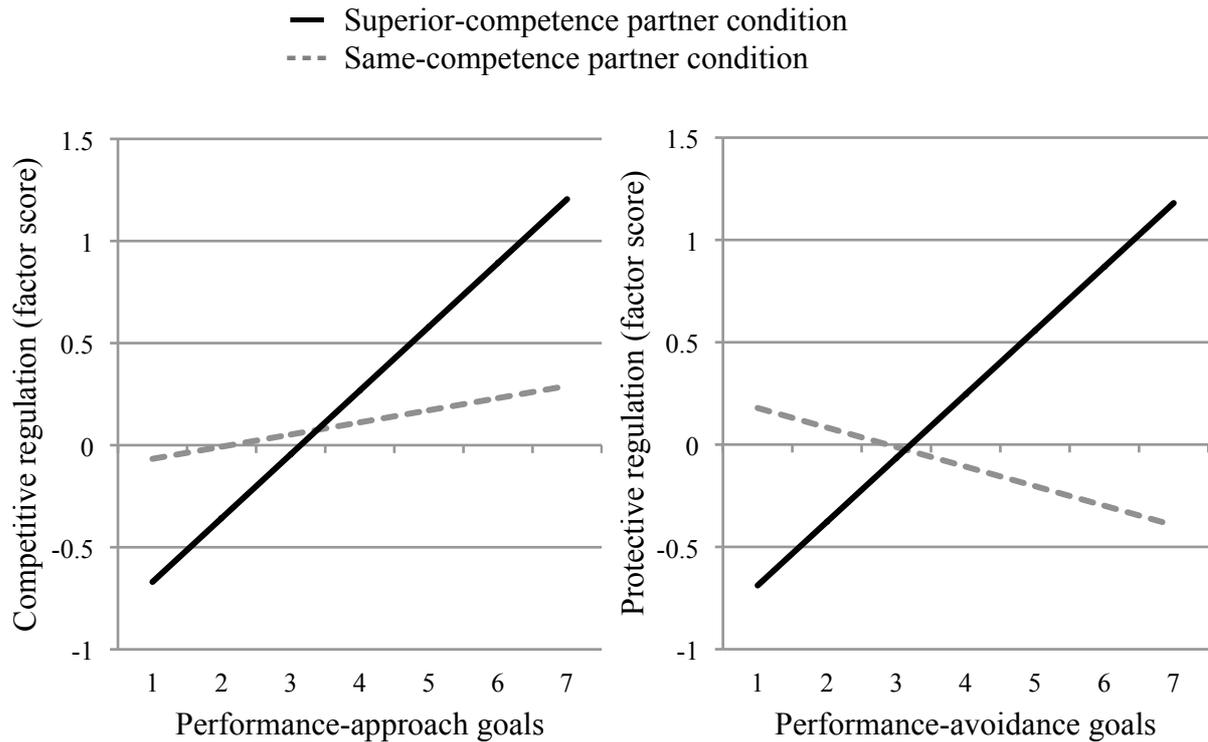


Figure 1. Competitive and protective regulation as a function of, respectively, performance-approach goals (on the left) and performance-avoidance goals (on the right) and partner's competence (Study 1).

Overview of the linear regression analyses. Multiple linear regression analyses were conducted to examine the effects of both performance goals and partner's competence on the two self-reported relational conflict regulation factor scores. In preliminary analyses, gender, assigned text (primacy vs. recency), and age were included in the regression model. The only significant effect was an age effect on competitive regulation, $\beta = -.17$, $F(1, 128) = 4.20$, $p < .05$. Mean-centered age was therefore entered in further analyses. As our hypothesis amounts to an interaction effect, it is necessary to take into account the interactions between the covariate and the manipulated independent variable (Yzerbyt, Muller, & Judd, 2004). Thus, our model contained nine predictors: mean-centered performance-approach goals, mean-centered performance-avoidance goals, partner's competence ($-.5$ for same competence and $+.5$ for higher competence), the three first order interactions, the second-order interaction, plus the mean-centered age, and the interaction between mean-centered age and partner's competence.

Self-reported competitive regulation. A main effect of performance approach goals was found. The more participants endorsed performance-approach goals, the more they reported having regulated conflict in a competitive manner, $\beta = .29$, $F(1, 129) = 9.51$, $p < .003$, $\eta^2_p = .07$. More interestingly, the predicted interaction between performance-approach goals and partner's competence was significant, $\beta = .19$, $F(1, 129) = 4.38$, $p < .04$, $\eta^2_p = .03$. When the partner was presented as being more competent, the higher the performance-approach goals, the higher the competitive regulation, $\beta = .49$, $F(1, 129) = 12.42$, $p < .001$, $\eta^2_p = .09$, whereas, when the partner was presented as being equally competent, such relationship was not observed, $\beta = .09$, $F < 1$, *n.s.* (see Figure 1, left panel). Although not part of our hypothesis, it is worth noting that the interaction between performance-avoidance goals and partner's competence was also significant, $\beta = -.24$, $F(1, 129) = 6.90$, $p < .01$, $\eta^2_p = .05$. Lastly, as reported above, age was negatively associated with competitive regulation, $\beta = -.17$, $F(1, 129) = 4.09$, $p < .05$, $\eta^2_p = .03$. No other effect reached significance.

Self-reported protective regulation. As expected, the interaction between performance-avoidance goals and partner's competence was significant, $\beta = .25$, $F(1, 129) = 6.65$, $p < .02$, $\eta^2_p = .05$. When the partner was presented as being more competent, the higher the performance-avoidance goals, the higher the protective regulation, $\beta = .38$, $F(1, 129) = 6.71$, $p < .02$, $\eta^2_p = .05$, whereas, when partner was presented as being equally competent, such relationship was not observed, $\beta = -.12$, $F < 1$, *ns* (see Figure 1, right panel). No other predictor included in the model yielded significant effects.

Discussion

In line with our first hypothesis, these results indicated that, when the partner was more competent, the more individuals pursued performance-approach goals, the more they regulated conflict in a competitive way, which is not the case when the partner was equally competent. Furthermore, in line with our second hypothesis, results indicate that, when the partner was more competent, the more individuals pursued performance-avoidance, the more they regulated conflict in a protective way, which was not the case when the partner was equally competent. Additionally, the analyses revealed that performance-approach goals were associated with less protective regulation, when partner's competence was higher as opposed to equal. This phenomenon does not come as a surprise as, from a theoretical perspective, competitive and protective regulations are negatively related constructs (i.e., the higher the self-confirmation, the lower the compliance), and, from an empirical perspective, outcomes variables of the present study are negatively correlated. Thus, the present study supports the

idea that individuals endorsing performance goal have two distinct manners to regulate interpersonal behaviors when dissenting with a more competent other: performance-approach goals lead to regulate conflict in a competitive way whereas performance-avoidance goals lead to regulate conflict in a protective way.

However, in Study 1, goals were measured as dispositional variables, which prevented us from establishing causal links between performance goals and relational conflict regulation with a more competent other. Study 2 addresses this issue by manipulating goals. Moreover, in Study 1, we used a direct and quite transparent measure of conflict regulation. Self-reported measures may facilitate respondent to provide responses that they perceive as being more socially desirable, or as matching the purpose of the research (Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Razavi, 2001). Thus, one might argue that a less controllable outcome variable should be used to provide convergent validity to the present results.

Therefore, using a paper-and-pencil adaptation of our experimental paradigm, Study 2 tested the effect of manipulated performance goals and relative competence on the relative preference between two models: a “confirmation model” (corresponding to competitive regulation) and a “compliance model” (corresponding to protective regulation). Compared to an equally competent partner, we hypothesized that when exposed to the disagreeing answer of a more competent partner, performance-approach goals would predict higher ratings of the “confirmation model” over the “compliance model” than performance-avoidance goals.

Study 2

Method

Participants. Seventy-three French vocational school students (agricultural and technical industrial training) were invited to participate in the experiment while having a free period in a study room of their school. Three participants had uncommon studentized deleted residuals on the relevant measure and were therefore dropped from the analysis. The cutoff point set by Kutner, Nachtsheim, Neter and Li (2004), namely $DFFITS > 2\sqrt{(p/n)}$, was used. The final sample consisted of 29 women, 40 men (1 missing a gender response). Due to an oversight during questionnaire elaboration, participant age was not gathered; their school level corresponded to Grade 10-12, with an age typically ranging from 16 to 18.

Procedure. Participants were told that study consisted in solving a problem. In doing so, they would have access to the answer of another student at their school. Subsequently, respondents were given either performance-approach goal instructions (i.e., “[you should] try to perform better than the majority of students”; $N = 36$) or performance-avoidance goal

instructions (i.e., “[you should] try to avoid performing less well than the majority of students”; $N = 34$). These instructions were the ones developed and validated by Darnon, Harackiewicz, Butera, Mugny, and Quiamzade (2007). After the goal induction, as in Study 1, participants read a text that described either the primacy effect ($N = 35$) or the recency effect ($N = 35$), and answered the same question about the effect trend. Then, they read the opinion of an alleged partner student. The “partner” was presented either as being in the same grade level (same-competence partner condition; $N = 38$) or in a higher one (superior-competence partner condition; $N = 32$). His/her opinion followed the recency model for participants who had read the text on primacy and vice versa. Finally, participants were presented with two models following from the theory presented in the text. The graphs illustrated possible relationships between word position in the list and recall probability, namely a decreasing curve (corresponding to the primacy effect) and an increasing curve (corresponding to the recency effect).

Measures.

Model preference. Participants had to evaluate whether two models were correct, defensible and convincing on the basis of three items rated on a scale ranging from 1 (*not at all*) to 7 (*completely*). The first model illustrated the respondent’s answer (“the confirmation model”; $\alpha = .97$, $M = 4.60$, $SD = 2.15$) and the second the other student’s answer (“the compliance model”; $\alpha = .95$, $M = 3.53$, $SD = 2.12$). The correlation between the two aggregated scores was $r = -.73$, $p < .001$. In the context of this study, as mentioned above, we wanted to depart from a self-reported measure and focus on the participants’ preference for confirmation or compliance. Thus, as far as competitive regulation is concerned, namely validating one’s own answer *while* invalidating that of the other, it was operationalized as the preference for the confirmation model over the compliance one. As far as protective regulation is concerned, namely validating the other’s answer *while* invalidating that of the self, it was operationalized as the preference for the compliance model over the confirmation one.

Hence, a new variable was computed by subtracting the rating of the confirmation model from the rating of the compliance model ($M = 1.06$, $SD = 3.98$). A value of zero indicated that neither one’s own position nor the partner’s position was preferred. A positive value indicated preference for the predictive model that referred to sticking to one’s own position, theoretically corresponding to competitive regulation. A negative value indicated preference for the predictive model that referred to following the partner’s point of view, theoretically corresponding to protective regulation.

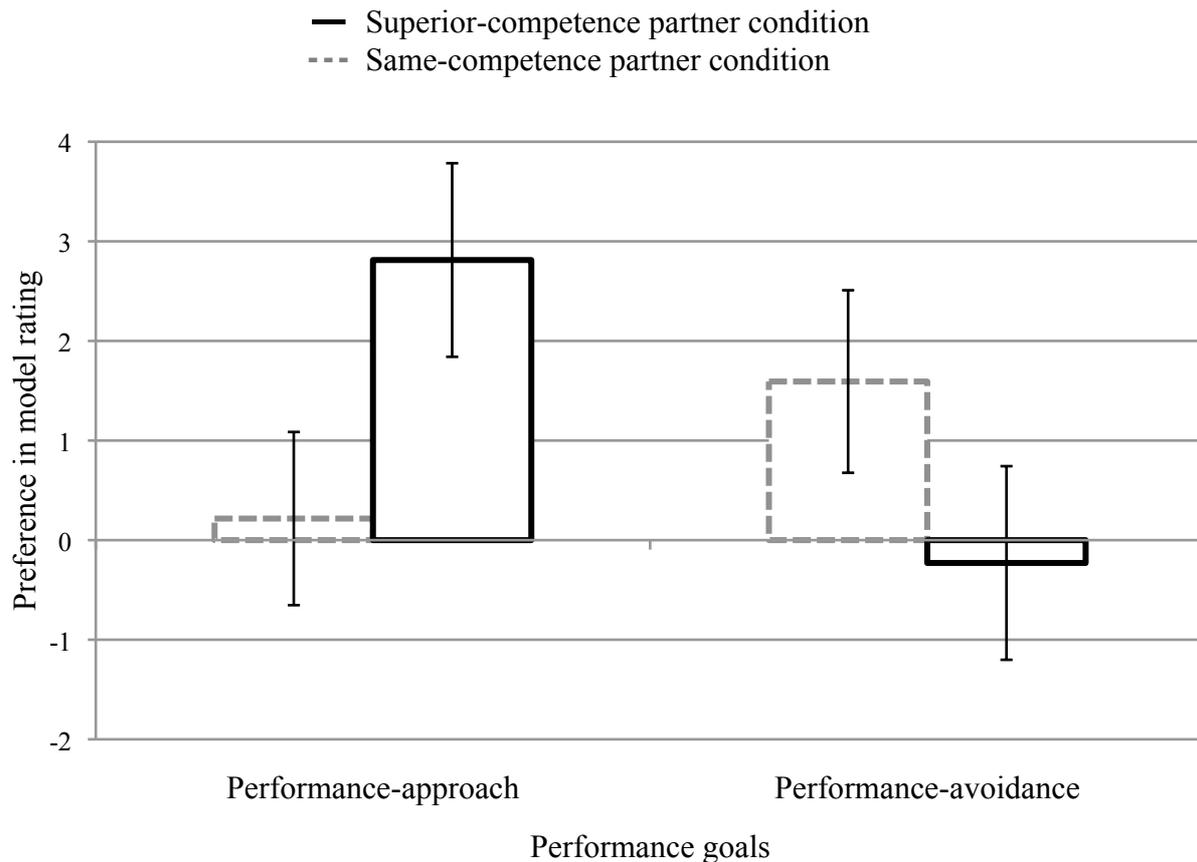


Figure 2. Preference for a model as a function of type of performance goals condition and partner's competence. A positive value refers to a preference for the "confirmation model", whereas a negative value refers to a preference for the "compliance model" (Study 2).

Results

Multiple linear regression analyses were conducted with the goal variable (coded -.5 for performance-avoidance goals and .5 for performance-approach goals), the partner's competence (coded -.5 for same academic competence and .5 for higher academic competence), and the interaction on the model preference score. Preliminary analyses indicated that neither the assigned text (primacy vs. recency), nor gender of participant significantly predicted the outcome variable. Thus, these variables were not included in further analyses. As expected, the predicted interaction between goals and partner's competence was significant, $\beta = .28$, $F(1, 66) = 5.60$, $p < .03$, $\eta^2_p = .08$. In comparison to performance-avoidance goals, performance-approach goals predicted more preference for the "confirmation model" over the "compliance model" (i.e., a more positive difference score) when partner's competence was higher, $\beta = .39$, $F(1, 66) = 4.90$, $p < .03$, $\eta^2_p = .07$, than when

it was equal, $\beta = -.17$, $F(1, 66) = 1.18$, $p = .28$, $\eta^2_p = .02$ (see Figure 2). No other effect reached significance.

Discussion

Congruent with those of Study 1, the present results revealed an interaction between performance goals and the partner's academic competence on relational conflict regulation. When participants were confronted with a more-competent partner, performance-approach goals predicted higher preference for a self-confirmatory model over the compliant model than did performance-avoidance goals. Such a difference was not observed when participants were confronted to an equally competent partner. Thus, in this study where we manipulated goals and used preference for a confirmatory model over the compliant one as an outcome variable, the results correspond to a conceptual replication of Study 1, to the extent that preferential rating of the confirmatory model over the compliance model corresponds to the competitive relational regulation.

Nevertheless, one might argue that the partner's academic level is not a manipulation of relative competence *per se*. Indeed, it implies that participants infer from their partner's academic status the fact that s/he is similarly *versus* more competent on the task. Thus, in Study 3, participants received an explicit competence feedback following a bogus test: Their fictitious partner was presented as having a score that was either similar to theirs (equal relative competence) or a higher one (superior relative competence). Furthermore, to test an important corollary of the basic hypothesis, we added a control condition in which no score was given. Muller, Atzeni, and Butera (2004) reported that mere coaction, in the same way as upward comparison, elicits some threat to self-competence. Indeed, not knowing the competence level of a partner raises uncertainty about self-competence and generates a distractive focus on social comparison. Therefore, if it is true that in relational conflict people are concerned with competence, then individuals endorsing performance goals should regulate interpersonal behavior in a similar fashion regardless of whether the partner's competence is unknown or superior.

Using a slightly different experimental paradigm, in which participants' spontaneous position in the conflict was freely expressed (i.e., participants' intuitive beliefs in the phenomenon at hand) instead of being induced by a text (i.e., participants reading a text on the phenomenon at hand), as in the previous study, we hypothesized that (a) performance-approach goals should be more positively associated with competitive conflict regulation when the disagreeing partner has a higher or unspecified competence score than when the

score is equal, and (b) performance-avoidance goals would be more positively associated with protective conflict regulation when the disagreeing partner has a higher or unspecified competence score than when the score is equal.

Study 3

Method

Participants. Two hundred and eighty students in the Social and Human Sciences program at a French-speaking medium-size Swiss university volunteered in Study 3. Two participants had uncommon studentized deleted residuals on the relevant measure and were therefore dropped from the analysis. Because of our large sample ($N > 275$), the cut off point used in Study 2 was not conservative enough (Kutner et al., 2004). Thus, the cut off point set by Freund and Littell (1991), namely $rstudent_i = \pm 2.5$ (Davis, 2006), was used. The final sample consisted of 289 bachelor ($N_B = 151$), master ($N_M = 97$) and PhD ($N_{PhD} = 31$) students ($N_O = 6$ others ; 4 missing data), 201 women and 88 men, with a mean age of 23.6 years ($SD = 4.89$).

Procedure. The study was conducted on the Internet. University students were invited by mail to participate in a study on social representations of bipolar disorder. As in Study 1, respondents thought they interacted with another student. First, they were invited to fill in a multiple-choice questionnaire supposedly assessing their and their partner's knowledge in psychopathology. Once they had completed the test, they received their competence score and that of the "partner": In the same-competence partner condition ($N = 85$), both scores were 65/100; in the superior-competence partner condition ($N = 111$), the scores were 65/100 for the participant and 80/100 for the partner; and in the control condition ($N = 93$), no feedback concerning their or their partner's competence was provided. Subsequently, participants were given a text describing bipolar disorder, which covered several issues, but did not address the issue of its etiology. In a closed-ended question, participants were then asked "to give their opinion about the cause of the bipolar trouble". They had two possibilities: a nurture-based ($N = 102$ participants opted for this option) or a nature-based explanation ($N = 187$ participants opted for this option). After having justified their choice, they received a disagreeing reply from their "partner". Participants in support of a nature-based, biological explanation received an answer related to the nurture-based, environmental determinants of the disorder and *vice versa*. In an open-ended question, participants were invited to react to this answer.

Measures.

Performance goals. Prior to the “interaction”, participants filled out the same goal questionnaire used in Study 1 ($\alpha = .90$, $M = 3.09$; $SD = 1.43$, for performance-approach goals; $\alpha = .79$, $M = 2.87$, $SD = 1.31$, for performance-avoidance goals). The correlation between the variables was $r = .52$, $p < .001$.

Self-reported conflict regulation. After having reacted to the bogus partner’s answer, respondents were invited to report their mode of conflict regulation on a questionnaire including the same items as in Study 1 ($M = 3.95$, $SD = 1.24$, for competitive regulation; $M = 3.52$, $SD = 1.07$, for protective regulation).

Results

Factorial structure of the scales. In preliminary analyses, factor analyses were conducted on the six conflict regulation items via principal-components extraction with oblimin rotation. As it can be seen in Table 1, factor analyses again revealed the two-factor structure, with Factor 1 accounting for 35.7% of the variance and comprising the three competitive relational regulation items and Factor 2 accounting for 22.8% of the variance and comprising the three protective relational regulation items. The correlation between the two factors was $r = -.19$, $p < .002$. As in Study 1, due to the weak Cronbach’s alpha associated with protective regulation, factor scores were used as dependent variables⁵. The competitive regulation score could range from -2.56 to 2.31 and the protective regulation score from -2.48 to 3.46.

Overview of the linear regression analyses. Multiple linear regression analyses were conducted to examine the effects of performance goals and relative competence on self-reported relational regulation factor scores. Partner’s competence was contrast coded (Judd & McClelland, 1989). In the contrast of interest, when partner’s competence was equal, the variable was coded -2; when it was higher, it was coded +1; when it was non-specified, it was coded +1. The orthogonal contrast was also computed, coding 0 for an equally competent partner, -1 for a more-competent partner and +1 for the control condition. The model also included performance-approach and performance-avoidance goals, as well as their interactions with the contrasts. Preliminary analyses indicated that the outcome variables were not significantly predicted by the expressed opinion (nature vs. nurture), participant gender, academic level, or age. Thus, these variables were not included in further analyses. Our final model therefore contained 11 predictors: contrast 1, contrast 2, mean-centered performance-approach goals, mean-centered performance-avoidance goals, the five first-order interactions and the two second-order interactions.

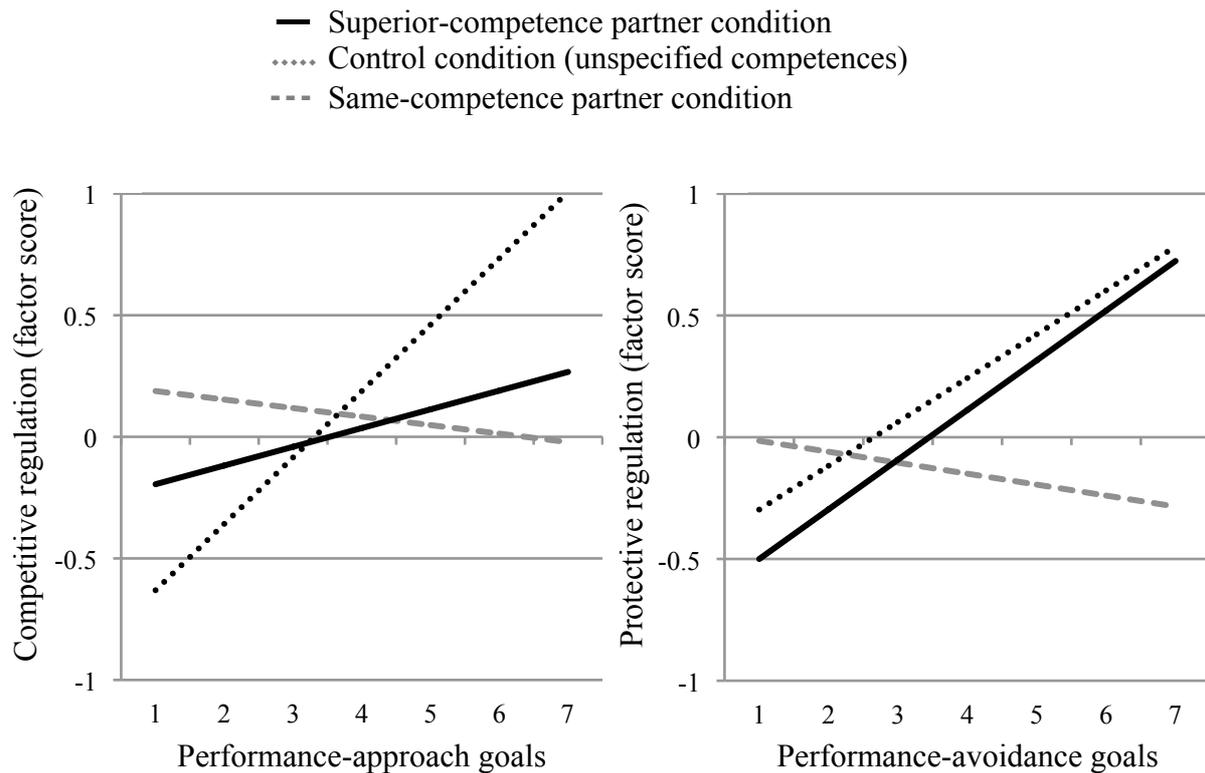


Figure 3. Competitive and protective regulation as a function of, respectively, performance-approach goals (on the left) and performance-avoidance goals (on the right) and partner's competence (Study 3).

Self-reported competitive regulation. As in Study 1, a main effect of performance-approach goals was found. The more participants endorsed performance-approach goals, the more they reported having regulated conflict in a competitive manner, $\beta = .15$, $F(1, 277) = 4.70$, $p < .04$, $\eta^2_p = .02$. More importantly, in line with our first hypothesis, the interaction between our contrast of interest and performance-approach goals was significant, $\beta = .14$, $F(1, 277) = 4.09$, $p < .05$, $\eta^2_p = .014$, while the interaction with the orthogonal contrast was not, $F(1, 277) = 2.77$, $p = .10$. Performance-approach goals were found to be associated more positively with competitive regulation both when partner's competence was higher, $\beta = .11$, $F < 1$, $n.s.$, and when it was non-specified, $\beta = .39$, $F(1, 277) = 10.81$, $p < .002$, $\eta^2_p = .04$, than when it was equal, $\beta = -.05$, $F < 1$, $n.s.$, (see Figure 3, left panel). No other effect reached significance.

Self-reported protective regulation. A main effect of performance-avoidance goals was found. The more participants endorsed performance-avoidance goals, the more they reported having regulated conflict in a protective manner, $\beta = .15$, $F(1, 277) = 4.54$, $p < .04$,

$\eta^2_p = .02$. More importantly, in line with our second hypothesis, the interaction between our contrast of interest and performance-avoidance goals was significant, $\beta = .14$, $F(1, 277) = 4.36$, $p < .04$, $\eta^2_p = .015$, while the interaction with the orthogonal contrast was not, $\beta = -.01$, $F < 1$, *n.s.* Performance-avoidance goals were found to be associated more positively with protective regulation both when partner's competence was higher, $\beta = .27$, $F(1, 277) = 4.93$, $p < .03$, $\eta^2_p = .02$, and when it was non-specified, $\beta = .24$, $F(1, 277) = 3.86$, $p = .05$, $\eta^2_p = .01$, than when it was equal, $\beta = -.06$, $F < 1$, *n.s.* (see Figure 3, right panel). Although not part of our hypothesis, it is interesting to note that the interaction between our contrast of interest and performance-approach goals was also significant $\beta = -.15$, $F(1, 277) = 5.21$, $p < .03$, $\eta^2_p = .02$ while the interaction with the orthogonal contrast was not, $\beta = -.03$, $F < 1$, *n.s.* Moreover, the interaction between the two performance goals was significant, $\beta = .15$, $F(1, 277) = 3.97$, $p < .04$. No other effect reached significance.

Discussion

Consistent with what was observed in Studies 1 and 2, but adding a control condition for partner's relative competence, the present results show that performance-approach goals and performance-avoidance goals are, respectively, more associated with competitive and protective regulation when the disagreeing partner is presented as having superior or unspecified competence score than when presented as having identical competence.

Although the results of Studies 1, 2, and 3 were highly convergent, in these studies the disagreeing partner was always fictitious and the interaction was therefore quite limited. In Study 4, we aim at replicating our findings in a more ecological context while testing the same hypotheses on behavioral measures. Dyads of participants came to the lab and obtained bogus competence scores. In the first condition, so as to recreate the "same-competence partner condition" of the first three studies, the same score was given to both members of the dyad. In the second condition, so as to recreate the "superior-competence partner condition" of the first three studies, asymmetrical scores were given. This last scenario implies one participant having a superior score and therefore—as a corollary—creates the supplementary case of one participant having an inferior score. A more competent partner should constitute a self-evaluation threat, whereas similarly or less competent ones should not, and therefore result in a similar pattern of behavioral regulation. Participants were then invited to discuss a problem involving conflict. Independent judges were asked to count occurrences of competitive and protective regulation behaviors in the videotaped interactions. We hypothesize that (a) performance-approach should be associated with more competitive

conflict regulation behaviors when the competence score obtained by the partner is higher than when it is equal or lower, and (b) performance-avoidance should be associated with more protective conflict regulation behaviors when the competence score obtained by the partner is higher than when it is equal or lower.

Study 4

Method

Participants. Seventy-eight volunteers were recruited in the Human Sciences building of a medium-size French-speaking Swiss university. Outlier analysis revealed that one observation deviated from the others. Since nonlinear regressions were used in this study, contrary the case for studies 2 and 3, Cook's distance ($D > 2$) was used, as recommended by Xie and Wei (2003). The final sample consisted of 55 women and 22 men with a mean age of 21.9 ($SD = 3.21$).

Procedure. Same-sex dyads came to the lab to participate in a study on "social representations of mental illness". First, the experimenter invited them to fill in the same bogus questionnaire used in Study 3. The test was conducted on a laptop connected to the Internet, and at its completion, a competence score appeared on the screen. There were two possibilities: both participants of the dyad received a bogus feedback of 65/100 (same competence partner condition, $N = 23$), or one participant of the dyad received a bogus feedback of 65/100 (superior-competence partner condition, $N = 27$) while his/her partner received 80/100 (inferior-competence partner condition, $N = 27$). Participants had to publicly announce their score to the experimenter, so that the partner would listen. Subsequently, the dyads were given two scientific texts describing the etiology of Alzheimer's disease. One participant of the dyads read arguments in favor of a biological explanation (i.e., gene coding for Apolipoprotein E), whereas the other one read arguments in favor of an environmental explanation (i.e., lack of social support). Finally, participants had to discuss the question, "what is the most probable cause of Alzheimer's disease?". The experimenter left the lab and the interactions were videotaped.

Measures.

Achievement goals. Prior to the interaction and to the feedback, participants filled in the same goal questionnaire used in Studies 1 and 3 ($M = 2.68$, $SD = 1.39$, $\alpha = .85$, for performance-approach; $M = 3.00$, $SD = 1.39$, $\alpha = .77$, for performance-avoidance). The correlation between the two variables was $r = .45$, $p < .001$.

Occurrences of relational conflict regulation behaviors. Two independent blind judges coded the interactions of the 39 videotaped discussions. The procedure was adapted from Asterhan and Schwarz (2009). Judges were asked to detect the occurrences of (a) denigration of the partner (i.e., unreasoned opposition with the position defended by the partner, labeled in Asterhan and Schwarz, 2009, as “opposition”, i.e., “overt verbal utterances of unreasoned disagreement”, p. 383); (b) self-confirmation (i.e., unreasoned support of the position of participant’s text, labeled in Asterhan and Schwarz, 2009, as “rebuttal”, i.e., “response [aiming at] weakening [other’s] claim”, p. 383); and (c) compliance (i.e., unreasoned support of the position of partner’s text, labeled in Asterhan and Schwarz, 2009, as “agreement”, i.e., “overt verbal utterances of unreasoned agreement” p. 383). It should be noted that, as our study is concerned with relational conflict regulation, which is theoretically non-related to focus on the task, only categories corresponding to *unreasoned* statements (described to the judges as being non-relevant: authoritative arguments, personal beliefs, etc.) in Asterhan and Schwarz (2009) were taken into account. The sum of the occurrences of denigration with the partner and self-confirmation corresponded to behavioral competitive regulation ($M = 0.62$, $SD = 0.96$). Occurrences of compliance corresponded to behavioral protective regulation ($M = 0.38$, $SD = 0.63$). Initial inter-rater agreement was good ($\kappa = .76$, $p < .001$, for behavioral competitive regulation, and $\kappa = .76$, $p < .001$, for behavioral protective regulation; Landis & Koch, 1977). All disagreements were then resolved by direct interaction between the judges. The correlation between the two variables was $r = -.07$, $p = .56$.

Results

Violation of the assumptions of standard linear regression models. Because our dependent variables (i.e., behavioral competitive and behavioral protective regulation) are “count variables” (i.e., corresponding to a number of behavioral occurrences), observations are non-normally distributed. In such a case, linear regressions are no longer appropriate. Thus, we conducted a Poisson regression (King, 1988). Poisson regression assumes that (1) the outcome variable’s variance equals its mean (one of Poisson distribution propriety is the fact that $E(X) = \text{var}(X)$), and (2) independence of errors (as the other types of regression, the error term of one observation (ε_i) is assumed to be independent of the error term of another observation (ε_j)). Firstly, to control for mild violation of the first assumption, we had to use robust standard errors for the parameter estimates (Cameron & Trivedi, 2009). Second, as far as independence of errors is concerned, we calculated intraclass correlations. With such a

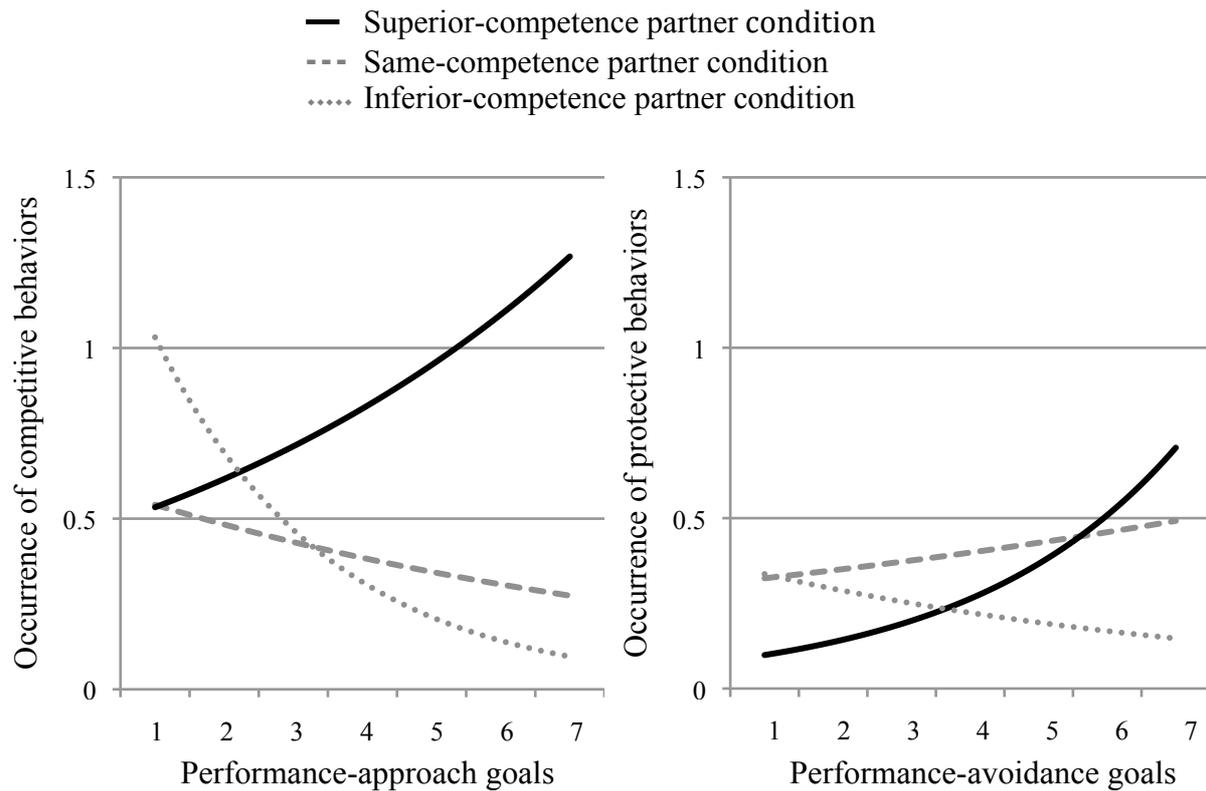


Figure 4. Occurrence of competitive and protective regulation behaviors as a function of, respectively, performance-approach goals (on the left) and performance-avoidance goals (on the right) and partner's competence (Study 4). Dependants variables of the Poisson regression equations (i.e., $\log(E(Y_i | X)) = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_{p-1} X_{i,p} + \varepsilon_i$) add to be transformed (i.e., $\Leftrightarrow E(Y_i | X) = \exp(\beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_{p-1} X_{i,p} + \varepsilon_i)$), which explains the exponential shape of the curves.

distribution, Pearson's correlation coefficient has been shown to be the most reliable estimator (Tsagris, Elmatzoglou, & Frangos, 2012). Neither behavioral competitive regulations ($r = -.03, p = .86$), nor behavioral protective regulations ($r = -.24, p = .41$) were found to be significantly correlated within dyads. Thus, analyses were conducted at the individual level (Kenny, Kasjy, & Cook, 2006).

Overview of the Poisson regression analyses. Multiple Poisson regression analyses were conducted on both behavioral relational conflict regulations. Partner's competence was contrast coded. In the contrast of interest, when partner's competence was equal, the variable was coded -1 ; when it was lower, it was coded -1 ; when it was higher, it was coded $+2$. The orthogonal contrast was also computed: Equal-competence partner was coded -1 , inferior-competence partner was coded 1 , and superior-competence partner was coded 0 . The two

other independent variables were performance-approach and performance-avoidance goals. In preliminary analyses, the chosen theory (nature vs. nurture), gender and age were included in the regression model. The only significant effect was a gender effect (coded $-.5$ for women and $+.5$ for men) on protective regulation behaviors, $B = 1.39$, Wald $\chi^2(1, N = 77) = 5.77, p < .02$. Gender was therefore entered in further analyses. As in Study 1, the interaction between the covariate and the manipulated independent variable was also taken into account (Yzerbyt et al., 2004). Thus, the Poisson regression analyses contained 14 predictors: the contrast of interest (participant's competence), the orthogonal contrast, mean-centered performance-approach goals, mean-centered performance-avoidance goals, the five first-order interactions, the two second-order interactions, plus gender, the interaction between gender and our contrast of interest, and the interaction between gender and the orthogonal contrast.

In line with our first hypothesis, the analysis revealed a marginal interaction effect between our contrast of interest and performance-approach goals, $B = .18$, Wald $\chi^2(1, N = 77) = 3.65, p < .06$, while the interaction with the orthogonal contrast was not significant, Wald $\chi^2 < 1, n.s.$. Performance-approach goals were found to be more positively associated with occurrences of competitive behavior regulation when partner's competence was higher, $B = .31$, Wald $\chi^2(1, N = 77) = 1.85, p = .17$, than when it was either equal, $B = -.11$, Wald $\chi^2 < 1, n.s.$ or lower, $\beta = -.38$, Wald $\chi^2(1, N = 77) = 2.79, p = .10$ (see Figure 4, left panel). No other effect reached significance.

In line with our second hypothesis, the analysis revealed a significant effect of interaction between our contrast of interest and performance-avoidance goals, $B = .46$, Wald $\chi^2(1, N = 77) = 12.72, p < .001$, while the interaction with the orthogonal contrast was not significant, Wald $\chi^2(1, N = 77) = 1.88, p = .17$. Performance-avoidance goals were found to be more positively associated with occurrences of protective regulation behavior when the partner's competence was higher, $B = 1.10$, Wald $\chi^2(1, N = 77) = 18.04, p < .001$, than when it was either equal, $B = .12$, Wald $\chi^2 < 1, n.s.$, or lower, $B = -.66$, Wald $\chi^2(1, N = 77) = 1.67, p = .20$ (see Figure 4, right panel). As reported above, men (facing men) were found to regulate conflict in a more protective way than women (facing women), $B = 1.39$, Wald $\chi^2(1, N = 77) = 5.77, p < .02$. No other effects reached significance.

Discussion

Consistent with what was observed in Studies 1, 2, and 3, but in face-to-face interactions and using behavioral measures, the present results confirm the moderating role of relative competence on the link between performance goals and relational regulation. On

the one hand, performance-approach goals tended to be more associated with competitive conflict regulation behaviors (i.e., unreasoned self-confirmation and disagreement) when the disagreeing partner was presented as being more competent than when presented as being equally or less competent. On the other hand, performance-avoidance goals were more associated with protective conflict regulation behaviors (i.e., unreasoned agreement) when the disagreeing partner was presented as being more competent than when presented as being equally or less competent.

Additionally, it should be noted that the analyses revealed an effect of gender: Women displayed less protective behaviors (toward women) than men did (toward men). In this respect, it should be noted that the material of the task relates to the medical sciences, a field that is becoming increasingly feminized (Cheryan, 2012). It may well be that the women of our sample perceived the task as being slightly more adapted to their gender than did the men. Indeed, as far as feminine topics are concerned, as opposed to men, women have been found to be less compliant, monopolizing the conversation, and paying less attention to the interlocutor (Dovidio, Brown, Heltman, Ellyson, & Keating, 1988).

General Discussion

In dynamic learning systems (e.g., peer learning), disagreement with a more-competent other (e.g., a more-skilled student) is both a common and a hardly predictable situation. Indeed, in such circumstances, the self-evaluation threat elicited by the other's superior competence (Muller & Butera, 2007) can induce either highly agentic, dominant, contending responses (e.g., Psaltis, 2011), or rather the opposite, poorly agentic, submissive, eluding responses (e.g., Quiamzade et al., 2000). Reconciling those divergent tendencies, the present research shows evidence of the performance goals function as a mechanism regulating the direction taken by interpersonal behaviors a with more competent other: Compared to a disagreeing partner presented as having a similar competence, when a disagreeing partner is presented as having a superior competence, performance-approach goals are associated with more competitive conflict regulation (i.e., self-confirmation) and performance-avoidance goals are associated with more protective conflict regulation (i.e., compliance).

The present set of studies was designed to provide complementary evidence of this phenomenon. Firstly, regarding performance goals, Study 2—through the *manipulation* of goals—was characterized by a high degree of internal validity, whereas Studies 1, 3, and 4—through the *measurement* of goals—were more ecological. Second, regarding the procedure, Study 4—through the use of face-to-face videotaped interactions—was marked by a high

degree of external validity, whereas Studies 1, 2 and 3—through the use of computer-assisted interactions with a fictional partner—allowed a tighter monitoring of the conflict situation. Thirdly, regarding the materials, Studies 1 and 2 involved a disagreement on a cognitive psychology task (i.e., the serial position effect), whereas Studies 3 and 4 involved a disagreement on a medical science task (i.e., for Study 3, the etiology of bipolar trouble, where the participant's initial position was freely expressed; and, for Study 4, the etiology of Alzheimer's disease, where the participant's initial position was experimentally induced), attesting to the robustness of the effect throughout contexts. Fourthly, regarding the outcome variable, socio-cognitive conflict regulation was assessed through a self-reported measure (Studies 1 and 3), a self-confirmatory (vs. compliant) model preference (Study 3), and a behavioral measure (Study 4), indicating an overall convergent validity. Finally, regarding relative partner's competence, it was indirectly (i.e., academic status; Studies 1 and 2) and directly (i.e., bogus feedback; Studies 3 and 4) manipulated.

Theoretical and Practical Contributions

The reported findings contribute in three important ways to research in educational psychology. The first contribution pertains to the link between achievement goals and interpersonal behaviors. Although peer interactions have long been regarded as a crucial factor in learning and teaching processes (Slavin, 1996; see also Bandura, 1971), and despite that the need for more research on such relationship having been emphasized in several recent articles (e.g., Darnon, Dompnier, & Poortvliet, 2012; Van Yperen & Orehek, 2013), studies on the matter remain scarce. In the context of socio-cognitive conflict regulation, the present results provide convergent evidence that performance goals can work as a regulator of interpersonal behavior: As opposed to non-threatening others—here in the case of horizontal (Studies 1-4) or downward (Study 4) social comparison (Mendes, Blascovich, Major, & Seery 2001)—when a partner is threatening for self-evaluation—here in the case of upward social comparison (Studies 1-4) or mere interaction (i.e., unspecified competence, Study 3; Muller et al., 2004)—performance-approach goals activate an appetitive self-other regulation system, leading to highly agentic behaviors, namely competitive regulation; in parallel, performance-avoidance goals activate an aversive self-other regulation system, leading to poorly agentic behaviors, namely protective regulation.

Scaling up the present results, we believe that the approach presented in the present article integrate interpersonal behaviors beyond the scope of socio-cognitive conflict regulation, or even group behaviors (Park & Hinsz, 2006). Indeed, it could account for the fact that—due to the threatening nature of others' competence—performance-approach goals

have often been found to lead to highly agentic interpersonal behavior, be it in scholastic contexts (e.g., active cheating behaviors: Pulfrey & Butera, 2013; negative attitudes toward helping others: Poortvliet & Darnon, 2014), or in organizational ones (e.g., reduced in-group team functioning: Dierdorff & Ellington, 2012). It could also account for the fact that performance-avoidance goals have been often linked to poorly agentic interpersonal behaviors, be it—again—in academic settings (e.g., low level of extraversion: Zweig & Webster, 2004; fear of negative peer judgment when seeking help: Tanaka, Murakami, Okuno, & Yamauchi, 2001), or in organizational ones (e.g., withdrawing efforts from the work group or evading task responsibility: Chi & Huang, 2014).

In sum, the moderating role of relative competence in the effects of performance goals on relational conflict regulation suggests promising avenues for future research linking performance goals to the full range of interpersonal behaviors (e.g., information sharing, leadership style, social loafing). Moreover, future research may consider the extent to which such relationships would hold in contexts where performance goals have a low degree of social utility (Dompnier, Darnon, & Butera, 2013; for instance in a learning environment where selection is low or inexistent, such as amateur arts classes) or regulated by autonomous (*vs.* controlled) reasons (Vansteenkiste, Mouratidis, & Lens, 2010; for instance in learning environment where structured competition is low or inexistent, such as recreational sports).

The second contribution pertains to the link between relative competence and relational conflict regulation, and it solves the longstanding riddle of the direction of the interpersonal behaviors—more dominant versus more submissive—that follow the disagreement with a more-competent other. On the one hand, disagreements with more-competent others, as compared to equal or more-incompetent others, have been found to elicit a more protective conflict regulation (i.e., mere imitation without any further elaboration; for a review, see Quiamzade & Mugny, 2001). The present set of studies reveals that in fact such conflict regulation is predicted by performance-avoidance goals *only*. Yet, performance-avoidance goals endorsement has been shown to be higher for individuals seeing themselves as incompetent (e.g., subsequent to receiving poor exam grades; Senko & Harackiewicz, 2005, Study 1; see also Pulfrey, Buchs, & Butera, 2011), when one's own sense of competence is threatened (Brodish & Devine, 2009), and for members of low socio-educational strata (Jury, Smeding, Court, & Darnon, 2013). Hence, our results allow a comprehensive re-interpretation of the studies showing the effect of others' superior competence on protective regulation: Performance-avoidance goals may have played a key

role in orienting individuals facing a more (vs. less or equally) competent partner toward submissive behaviors.

On the other hand, disagreements with more-competent others, as compared to equal or more-incompetent ones, have been sometimes found to elicit more-competitive conflict regulation (i.e., self-confirmatory responses). The most striking example is represented by the literature on gender and socio-cognitive conflict regulation (Psaltis, 2011) showing, in mixed-sex dyads, “a general tendency of male [...] to resist being positioned as less knowledgeable” (p. 306). The present set of studies reveals that in fact such conflict regulation is predicted by performance-approach goals *only*. In this respect, in addition to unifying the discrepant findings on socio-cognitive regulation when disagreeing with more-competent others, our results allows a comprehensive re-reading of Psaltis and colleagues’ studies (Psaltis & Duveen, 2006, 2007; Psaltis, Duveen, & Perret-Clermont, 2009): Performance-approach goals may have played a central role in orienting participants (in this case, boys) facing a more competent partner (in this case, a girl) toward dominant behaviors.

The third contribution pertains to the effect of status in computer-mediated communication (CMC). Crowston and Kammerer (1993) argued that “the use of CMC promotes more equal exchanges by de-emphasizing social context cues or by permitting anonymity” (p. 6; for a critical review, see Spears & Lea, 1994). Hence, through the “democratization” of the discursive practices, CMC could reduce the occurrences of both dominant (Hiltz & Turoff, 1993) and inhibited (Kiesler, Siegel, & McGuire, 1984) interpersonal behaviors. In contrast with such positions, Studies 1 and 3—in which participants communicated with a bogus partner through the Internet—showed that, in such a context, relative competence information could actually predict both competitive (for performance-approach goals oriented individuals facing a more competent other) and protective (for performance-avoidance goals oriented individuals facing a more competent other) conflict regulations. These findings echo the ones of Weisband, Schneider and Connolly (1995), showing that the social influence dynamics as a function of relative status do not differ between computer-mediated and face-to-face communication. As massive open online courses (MOOCs) become increasingly used in education, and the issue of distance interaction between students of such courses arises (Clarà & Barberà, 2013), our results caution that relative competence could produce the same undesirable effects in a dematerialized as in materialized learning environment. This element is to be borne in mind for optimizing the pedagogy of distance learning systems.

Limitations

Some limitations should be mentioned. First of all, one of Study 3's simple slopes for the analysis on competitive regulation fell short of significance, and one of the Study 4's predicted interactions was marginally significant. That being said, it should be noted that, with our effects sizes being small to medium (i.e., $\eta_p^2 \in [.01, .08]$, Richardson, 2011), recent development in statistical analysis suggests that it is impossible for attempts of replication to be *always* successful (Francis, 2012). In the present case, the fact that the effects of all four studies appear—when taken as a whole—to be consistent, speaks to the coherence of our hypotheses.

Second, although the factorial structure of our self-reported conflict regulation scale revealed the two predicted factors, the score of protective regulation had a low Cronbach's alpha. The results obtained with these scales, however, were in line with those observed with model preference and behavioral measures; future research may combine these measures with other self-reported measures of interpersonal conflict-handling behaviors used in organizational psychology (Thomas & Kilmann, 1978), or the self-reported resistance and compliance assessments developed in the literature on social power (Nesler, Aguinis, Quigley, Lee, & Tedeschi, 1999).

Third, and finally, the ecological validity of experimental, lab-based research is usually low, and our paradigms make no exception. In particular, (a) participants' competence levels were manipulated (instead of appraised), and (b) participants communicated with an unidentified (bogus) partner (instead of a known classmate). Thus, exploring the effect of learners' performance goals as moderated by their actual competence (e.g., inferred from their GPA) in a natural academic setting (e.g., during collaborative dialogues in classroom) would be a worthwhile follow-up study. Such a study would probably yield the same results as in the present experiments, although with enhanced effects due to the higher involvement of participants in the interaction. It should be noted, however, that in actual social and learning groups, each individual's academic competence is inextricably linked to a plurality of other variables (e.g., physical attractiveness, classroom climate, classroom mean academic level) combining to define his/her social status; furthermore, this social status evolves in a complex manner as individuals get to know each other (Anderson, John, Keltner, & Kring, 2001). Hence, manipulating relative competence, using a bogus partner (Studies 1 to 3) and selecting students who were unacquainted with one another (Study 4), enabled us to reduce the impact of confounding variables. More generally, one might also argue that our participants were not in real, meaningful interaction situations, which might have resulted in unrealistic responses.

Again, a study with freely interacting students, drawn from classes with known reputations in terms of competence, would enhance the commitment of participants to their responses. It should be noted, however, that such a study should not reveal fundamentally different effects as compared with the present experiments; indeed, a vast literature on social comparison processes has long shown that even the most purified experimental comparisons have very real consequences for participants, in terms of self-esteem, self-worth, perceived threat, perception of the comparison target, and behavior (e.g., Muller & Butera, 2007; Quiamzade & Mugny, 2009; Tesser, 1988).

Practical Implications for Education

Despite these limitations, the reported findings are the first to allow for predicting the interpersonal behaviors that result from the disagreement with a more competent other: Performance-approach goals predict more competitive conflict regulation (i.e., self-confirmation), and performance-avoidance goals more protective conflict regulation (i.e., compliance). In addition to the two theoretical contributions discussed above, these findings also suggest an important practical implication. First keep in mind that the ubiquity of competition at school—be it based on normative aspects (e.g., in school; grading practice, Pulfrey et al., 2011) or institutional aspects (e.g., at a university: selection process; Darnon et al., 2009)—contributes to the endorsement of both performance-approach and performance-avoidance goals (for a review, see Murayama & Elliot, 2012) and, *in fine*, to the displaying of maladaptive interpersonal behaviors (for a review, see Poortvliet & Darnon, 2012). However, the present results suggest that, even when pursuing performance-approach and performance-avoidance goals, in a context of equalized perceived competences, the adoption of dominant and submissive regulations may be lowered. This is an important point to the extent that it provides an insight into the mechanism involved in several methods that have been developed to weaken the undesirable effects of competence asymmetry within groups or dyads (for a review of such methods, see Cohen & Lotan, 1995). For example, Aronson's (1978) "jigsaw classroom" is a technique that creates positive resource interdependence by distributing unique information to each group member, and therefore making the competence of each group member salient, which in turn requires one to reflexively coordinate the distributed information to allow the group to reach its goal or goals (see also Darnon, Buchs, & Desbar, 2012). Another example is Tammivaara's (1982) "multiple ability treatment", where a supervisor stresses the fact that, when collectively carrying out a task, *no one* has *all* the necessary competences, but *each one* has *some* of the necessary competences. A final example, discussed more recently, is "reciprocal peer tutoring" (Ensergueix & Lafont, 2010),

Empirical Part I: Second Line of Research

where same-age peers of equal competences work on a task while alternatively taking the role of tutee (instructed to *ask* the other) or of tutor (instructed to *explain* to the other). For an exhaustive description of status interventions that could be used by educators, please refer to Webb (2009).

In conclusion, the present research reveals a hitherto unstudied function of performance goals in the regulation of self-other behaviors: When a disagreeing other is perceived as threatening for self-evaluation, here in the case of upward social comparison, performance-approach goals trigger highly agentic behaviors, self-confirmatory strategies and competitive regulation, whereas performance-avoidance goals trigger poorly agentic behaviors, compliance strategies and competitive regulation. Such findings point to the need for instructors, from schoolteachers to tutors and trainers, to reduce competence asymmetry within the groups they are in charge of, so as to prevent the detrimental effects of conflict.

Footnotes

¹ It is worth noting that, according to some authors, mastery goals can be divided into mastery-approach goals and mastery-avoidance goals (Elliot & McGregor, 2001; Van Yperen, 2006); however, the current discussion will not bring this distinction into play as it is not relevant for the present research.

² It should be mentioned that performance-avoidance goals have also been found to be positively associated—although to a lesser extent—to the behavioral activation system (Bjørnebekk, 2007, Elliot & Thrash 2002). Indeed, in specific contexts, Elliot and Thrash (2002) argue that performance-avoidance goal-oriented individuals could “attempt to override a general avoidance tendency by approaching normative competence (i.e., approach to avoid)” (p. 807). In this article, because we focus on the regulation of interpersonal behaviors, and more notably on that of conflict, whose approach (competitive regulation, i.e., confirming one’s point of view) and avoidance (protective, i.e., conforming to another’s point of views) components are mutually exclusive, this potential cross-relationship between performance-avoidance and behavioral activation will not be discuss any further.

³ It should be noted that (a) performance-approach goals items used in Studies 1, 3, and 4, emphasize more normative comparison (i.e., “normative goals”) than competence demonstration (i.e., “appearance goals”); (b) items of performance-avoidance goals items used in the same studies do not include an explicit normative reference. However, as far as interpersonal context is concerned, normative and appearance goals are suspected to predict similar effects (Senko, Hulleman, & Harackiewicz, 2011) and implicit and explicitly normative performance-avoidance goals seem to lead to the same pattern of results (Elliot & Murayama, 2008).

⁴ Cronbach’s alpha were $\alpha = .78$ of for competitive regulation, and $\alpha = .60$ for self-reported protective regulation. Due to the low alpha of the latter construct, we decided to use factor scores as dependant variable. However, regression analyses on the aggregated scores led to the same pattern of results. Indeed, in Study 1 the predicted interaction between performance-approach goals and partner’s competence on competitive regulation was significant, $\beta = .18$, $F(1, 129) = 3.93$, $p < .05$, $\eta^2_p = .03$, as was the predicted interaction between performance-avoidance goals and partner’s competence on protective regulation, $\beta = .30$, $F(1, 129) = 9.69$, $p < .003$, $\eta^2_p = .07$.

⁵ Cronbach’s alpha were $\alpha = .69$ for competitive regulation, and $\alpha = .52$ for self-reported protective regulation. As in Study 1, due to the low alpha of the latter construct we decided to use factor scores as dependant variable. However, regression analyses on the

Empirical Part I: Second Line of Research

aggregated scores led to the same pattern of results. Indeed, the predicted interaction between performance-approach goals and partner's competence on competitive regulation was significant, $\beta = .15$, $F(1, 277) = 4.93$, $p < .03$, $\eta^2_p = .02$, as was the predicted interaction between performance-avoidance goals and partner's competence on protective regulation, $\beta = .14$, $F(1, 277) = 4.53$, $p < .04$, $\eta^2_p = .02$.

EMPIRICAL PART II:

Third Line of Research

**Follow (the Goals of) the Leader:
The Performance Goals Socialization Phenomenon^{13, 14}**

Abstract

How are competitive goals transmitted? Although most competence-relevant contexts (e.g., schools) are hierarchy-relevant (e.g., teachers/students), the influence of supervisors' performance-approach goals (desire to outperform others) on their subordinates' performance goals has never been studied. We formulated a performance goals socialization hypothesis: The more a supervisor pursue performance-approach goals, the more the time spent under his/her supervision should predict followers' performance-approach and -avoidance (desire *not to be* outperformed by others) goals. Study 1, involving soccer coaches and their players, showed that indeed a performance goals socialization *phenomenon* exists. Study 2, involving thesis supervisors and their Ph.D. students, showed its *consequences*: performance goals socialization reduced subordinates' motivation and well-being over time. Study 3, involving video game team leaders and their players, showed its *mechanism*: the stronger the subordinates' identification to their team, the more pronounced the performance goals socialization. Study 4, involving schoolteachers and their pupils, showed its *directional moderator*: the higher the subordinates' perceived self-competence, the higher the change in performance-*approach* goals over time, and the lower that in performance-*avoidance* goals. Additionally, Study 4 showed its *ideological antecedents*: supervisors' self-enhancement values (i.e., emphasis on power/achievement). It is then crucial to consider social hierarchy and group dynamics when studying goal formation.

Keywords: Performance goals, socialization, social identification, self-competence, self-enhancement values.

¹³ In preparation as Sommet, N., Pillaud, V., Meuleman, B., & Butera, F. (2014) Follow (the Goals of) the Leader: The Performance Goals Socialization Phenomenon..

¹⁴ Precisions of the decompositions of Study 3's second-order interactions are provided as supplementary material.

Follow (the Goals of) the Leader:

The Performance Goals Socialization Phenomenon.

Asserting one's superior competence relative to others is one of the most deeply rooted goals in the Western world. From research communities (where scholars must increase their relative *h*-index; Hirsh, 2005), to business organizations (where employees must increase their relative productivity index; Sahay, 2005), and sport teams (where athletes must increase their relative performance index; Grehaigne, Godbout, & Bouthier, 1997), *performance-approach goals* appear to be both culturally promoted (Kasser, Cohn, Kanner, & Ryan, 2007) and socially useful (Dompnier, Darnon, & Butera, 2013). Yet, these goals also have some costs for these social groups, as they have been linked to academic dishonesty (Murdock & Anderman, 2006), socially irresponsible corporate behaviors (Campbell, 2007), or moral disengagement in sporting activity (Kavussanu, 2006).

Hence, we are left to wonder how—despite their deleterious effects on social groups and society—performance goals could (still) be socially reproduced. More precisely, in this article, we argue that group supervisors are agents of goals socialization: the more supervisors (e.g., teachers, managers, coaches) pursue performance goals, the more their subordinates (e.g., students, employees, athletes) will develop performance goals over time. In addition to hypothesizing the existence of this new phenomenon (section 1), we aim at showing its deleterious consequences on subordinates' motivation and well-being (section 2), at proposing in-group identification as its underlying mechanism (section 3), perception of self-competence as its directional moderator (section 4), and self-enhancement values as its antecedents (section 5).

The Performance Goals Socialization Phenomenon

In this first section, we aim at demonstrating the plausibility of supervisors-to-subordinates transmission of performance goals over time; we designate this phenomenon as “performance goals socialization” (see Figure 1, first panel from the top). We will first review the relevant literature in the general domain of achievement goals, and then focus on performance goals.

Subordinates' Achievement Goals

Achievement goals can be described as social-cognitive mental frames that guide individuals in interpreting, processing, and coping with competence-relevant situations (Kaplan & Flum, 2010). Surprisingly, the vast majority of research in the achievement goal literature focus on *subordinates*, be they pupils, employees, or athletes (cf., Van Yperen,

Blaga, & Postmes, 2014). This specificity features in the first generation of achievement goals research—i.e., based on a dichotomous framework, differentiating mastery goals (i.e., orientation toward the *acquisition* of competences) from performance goals (i.e., orientation toward the *demonstration* of competences; for pupils, see Dweck, Davidson, Nelson, & Enna, 1978; for employees, see VandeWalle, 1997; for athletes, see Duda, 1983)—as well as in the second generation—i.e., based on a trichotomous framework, differentiating two types of performance goals, namely performance-*approach* goals (i.e., the desire to outperform other) and performance-*avoidance* (i.e., the desire *not to* be outperformed by others: for students, see Elliot & Church, 1997; for employees, see Van Yperen, 2003; for athletes, see Halvari & Kjørmo, 1999)¹.

This literature showed that subordinates' achievement goals are both stable traits (e.g., as emerging from temperament, Elliot & Thrash, 2002) and transient states (e.g., as shaped by perceptions of learning environment, Anderman & Anderman, 1999), and that it is possible to track changes in mastery, performance-approach, and performance-avoidance goals over time (Corker, Donnellan & Bowles, 2013; Fryer & Elliot, 2007; Muis & Edwards, 2009). However, although scholars have studied change in subordinates' achievement goals—be they undergraduates (e.g., following competence feedbacks, Senko & Harackiewicz, 2005), workers (e.g., as influenced by aging, Ng, & Feldman, 2013), or athletes (e.g., as related to performance attributions, Williams, Donovan, & Dodge, 2000), they overlooked the dynamics involved by the hierarchical nature of their social environment (i.e., undergraduates, workers, and athletes being under the respective supervisions of professors, managers, and coaches).

Supervisor-to-Subordinates Transmission of Achievement Goals Over Time

Supervisor's mastery and performance-approach goals have been defined isomorphically to those of subordinates (Kozlowski & Klein, 2000). The former goals therefore correspond to a will to develop professional competences, while the latter ones correspond to a will to demonstrate superior professional competences than other supervisors (for Educational Psychology—teachers—see Butler, 2007; for Organizational Psychology—employers—see Dragoni, 2005; for Sport Psychology—coaches—see Stephens, 2000).

At this point, it is important to point out two basic assumptions of the present work. First, because holding a position of power is associated with the activation of the behavioral approach system (i.e., an appetitive motivational system; Keltner, Gruenfeld, & Anderson, 2003), with a sensitivity to rewards rather than to threats (Smith & Bargh, 2008), and therefore with the endorsement of *approach*- rather than *avoidance*- related goals (Willis & Guinote, 2011), supervisors' performance-avoidance will not be considered in the present

research. Second, as powerful individuals tend to pursue unequivocal focal goals (Guinotes, 2007), to inhibit alternative goals (Slabu, & Guinote, 2010), and to resist others' (goals) influence (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008), we will assume supervisors' achievement goals to be stable constructs.

To date, the level-1 (i.e., subordinates) and level-2 (i.e., supervisors) streams of achievement goals research have progressed rather independently of each other and—to the best of our knowledge—there are no (published) studies addressing the issue of supervisors-to-subordinates transmissions of achievement goals over time. Yet two sets of indirect evidence suggest that such a phenomenon could occur: (i) classroom goal structure; (ii) achievement goal contagion.

Classroom goal structure. In the early nineties, Ames (1992) has described how educators' instructional practices could generate mastery (*vs.* performance) classroom goal structure (for organizations, see Dragoni, 2005, and Dragoni & Kuenzi, 2012). Indeed, mastery and performance-approach goals oriented instructors respectively engage in mastery- (e.g., emphasis on collaborative teaching models) and performance- (e.g., emphasis on competitive teaching models) oriented practices (Retelsdorf & Günther, 2011). Accordingly, in pursuing mastery goals, supervisors tend to create a group mastery goals structure and—by extension—trigger the emergence of subordinates' mastery goals over time (Patrick, Kaplan, & Ryan, 2011). Symmetrically, in pursuing performance-approach goals, supervisors tend to create a group performance goals structure and—by extension—trigger the emergence of subordinates' performance-approach *and* avoidance goals over time (Wolter, 2004).

The multilevel model of achievement goals contagion. Building on Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel's (2001) findings—showing that performance-approach goals could be activated without individual's awareness by subtle environment cues—Eren (2009) developed a multilevel model of achievement goal contagion, whereby learners might unconsciously infer and endorse the goals of their instructors over time. It is worth noting that, as stated in the article, “mastery goals cannot be included in the achievement goals contagion framework” (p. 240), their expression by instructors being less salient in classroom environment. Thus, the author proposes that, as a function of both their mirroring and mentalizing abilities (i.e., imitation and/or recognition of the intentions and goals of other; Ciaramidaro et al., 2007), students could read their teacher's performance-approach goals via external cues (e.g., goal-related behaviors), and endorse performance-approach *or* performance-avoidance goals (depending on individual factors; e.g., self-efficacy, implicit theories of intelligence).

The Performance Goals Socialization Hypothesis.

Ames' (1992) and Eren's (2009) theoretical frameworks allow us to hypothesize a possible supervisors-to-subordinates transmission of achievement goals over time, and more notably a transfer from supervisors' performance-approach goals to subordinates' performance-approach *and/or* performance-avoidance goals. However, no systematic, and especially empirical study to date has addressed this question.

Thus, in the present research, we aim at testing a performance goals *socialization* hypothesis. Before going any further, it should be noted that we *do not* formulate a clear-cut hypothesis for mastery goals, notably because—as previously indicated—supervisors' mastery goals are less socially discernible for subordinates, as they rely on a self-referenced, and not socially situated, standard of competence (Elliot, 1999). Moreover, it has been found that mastery goals may be expressed for social desirability reasons, without association with concrete behaviors (Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Dompnier, Darnon, & Butera, 2009)

As far as performance goals are concerned, we *do* formulate a clear-cut general hypothesis and its corollary, which will be tested in Study 1: The higher a supervisor's performance-approach goals, the more the time spent under his/her supervision should predict his/her subordinates' performance-approach goals (hypothesis 1a) and, by extension, his/her performance-avoidance goals (hypothesis 1b).

The Consequences of Performance Goals Socialization

Beyond the originality of the performance goals socialization hypothesis, why is it important? In this second section, we explore the possible long-term consequences for subordinates of this phenomenon (see Figure 1, second panel from the top).

Level-1 Temporal Effect of Subordinates' Performance Goals

Performance-approach and performance-avoidance goals were both found to relate to the *emergence* of maladaptive pattern of motivation and well-being. On the one hand, studies using longitudinal designs report that performance-approach goals are associated, over time, with a decline in low-achievers' motivation (Harackiewicz, Barron, Tauer, & Elliot, 2002), a lack of salesmen's efforts (VandeWalle, Brown, Cron, & Slocum, 1999), or a lack of exercise involvement in sport trainees (Papaioannou, Bebetos, Theodorakis, Christodoulidis, & Kouli, 2006). On the other hand, performance-avoidance goals were found to be associated, over time, with students' dissatisfaction (Tuominen-Soini, Salmela-Aro, & Niemivirta, 2012),

workers' progressive disinterest in their job (Tanaka, Okuno, & Yamauchi, 2013), or athletes' exacerbated focus over mistakes (Stoeber, Stoll, Pescheck, & Otto, 2008).

The aforementioned studies suggest that students', employees' and workers' performance goals—regardless of their valence—negatively predict the evolution of their motivation or well-being (i.e., level-1 temporal effect). Could their supervisors' performance goals trigger this evolution (i.e., cross-level temporal effect)?

Cross-level Temporal Effect of Supervisors' Performance Goals

Since their recent theorization, supervisors' performance-approach goals have proven to be promising predictors of both *intra*-individual (e.g., diminution of leaders' motivation to assume their leadership role; Hendricks & Paynes, 2007) and *inter*-individual (e.g., teachers emphasis on classroom discipline, Paulick, Retelsdorf, & Möller, 2013) achievement-related responses. It is surprising, however, that only a few studies adopt a cross-level perspective (i.e., effects of supervisors' achievement goals on subordinates' responses). Amongst these, Preenen, Vianen, and Pater (2014) showed that managers' performance-approach goals were negatively related to their employees' experience of challenge while being assigned a task. In Sport Psychology, Barić (2007) reported that coaches' performance-approach goals were negatively associated to their players' investment and enjoyment. Additionally, using an experimental paradigm, Franklin, Porter, and Swider (2013) showed that leaders' performance-approach goals negatively predicted team task commitment.

The aforementioned studies provide preliminary evidence that supervisors' performance-approach goals may be negatively associated with a series of their subordinates' indexes of motivation or well-being. In the present research, we propose that these effects could be the outcome of performance goals socialization. Specifically, we formulate an exploratory hypothesis and its corollary, which will be examined in study 2: A supervisor's performance goals may affect his/her subordinates' pattern of motivation and well-being over time, through the emergence of their performance-approach goals (hypothesis 2a) and performance-avoidance goals (hypothesis 2b).

Identification as a Mechanism of Performance Goals Socialization

In this third section, we aim at demonstrating that the hypothesized phenomenon can indeed be described as *socialization* effect, and—as such—is likely to be underlain by a group identification mechanism (see Figure 1, third panel from the top).

Socialization of Supervisor-Based Values

A series of studies have reported that group supervisors might be the agents of values

socialization. In his classic work, Newcomb (1943) reported that professors might contribute to the progressive increase of the liberal attitudes of their students; values that remain the same over the course of the lifespan (25 years after: Newcomb, Koenig, Flacks, & Warwick, 1967; 50 years after: Alwin, Cohen, & Newcomb, 1991). A further example is the work by Grojean, Resick, Dickson and Smith (2004), who discussed the fact that managers can relay specific ethical norms and transmit individualistic values to their followers. One last example comes from Steinfeldt, Foltz, Mungro, Speight, Wong and Blumberg, (2011), who reported that coaches tend to convey to their players masculinity values, such as asceticism, success, or competitiveness. We argue here that supervisor-to-subordinates performance goals socialization might share the same mechanism as any supervisors-based values socialization. Let us first discuss how specific values and performance goals interrelate with each other.

Performance-Approach Goals and Values

In their very definition, achievement goals and values are tightly intertwined. For instance, Vansteenkiste, Mouratidis and Lens (2010) define achievement goals as the “overarching reasons [...] for achievement striving” (p. 218), those reasons potentially being “part of [one’s] personal system values” (p. 220). Moreover, Schwartz and collaborators (2001) define value as the as “transsituational goals [...] that serve as guiding principles in people’s lives” (p. 521). More specifically, concerning performance-approach goals, Pulfrey and Butera (2013) showed that they were associated with self-enhancement values, those that focus on control over people and resources (i.e., “Power”), and on personal success (i.e., “Achievement”; see Schwartz & Sagiv, 1995). Likewise, performance-approach *and* -avoidance goals have been associated with a focus on social status (Levy, Kaplan, & Patrick, 2004) and the pursuit of self-focused interests (Luzadis & Gerhardt, 2011), and—for performance-approach goals only—with supervisors’ focus on maintenance of order (*vs.* self-regulation) and discipline (*vs.* autonomy) within their subordinates (Gordon, Dembo, & Hocevar, 2007).

Group Identification as an Underlying Mechanism of Socialization

Turner, Hogg, Oakes, Reicher, and Wetherell (1987) argued that group identification—the extent to which individuals categorize themselves as group members (see Leach et al., 2008)—is the core psychological mechanism underlying socialization of values. And indeed, Guimond (2000) showed that, from the first to the fourth year of their training program, the more military students identified as officers, the more they espoused the values of their groups (in that case, negative attitudes toward outgroups). Likewise, Livingstone, Haslam, Postmes, and Jetten (2011) reported that students randomly assigned in teams were

more aware of and compliant to their group values at the end, as compared with the beginning of a working day; in-group identification, here also, explained this socialization effect. In the same vein, Smith, Amiot, Callan, Terry, and Smith (2012) acknowledged that the first six months were fundamental in the socialization of staff members; organizational identification, once again, was shown to be the psychological glue for newcomers to become committed to their group's values.

As group supervisors are the agents of value socialization, and as performance goals are closely tied to particular values, we argue that subordinates' in-group identification should be the underlying mechanism of performance goals socialization. Specifically, we formulate a *moderation* hypothesis and its corollary, tested in Study 3: Over time, the higher the subordinates' group identification, the more their supervisor's performance-approach goals should predict their own performance-approach goals (hypothesis 3a) and, by extension, their performance-avoidance goals (hypothesis 3b).

The Direction of Performance Goals Socialization

In this fourth section, we aim at providing the bases for predicting the conditions under which performance goals socialization triggers the emergence of subordinates' performance-approach *vs.* -avoidance goals, and we propose perception of self-competence as its directional moderator (see Figure 1, fourth panel from the top).

Self-Competence as a Precursor of the Valence of Performance Goals

Following the early work of Elliot and Church (1997)—showing high and low competence expectancies to be an antecedent of, respectively performance-approach and performance-avoidance goals endorsement—Law, Elliot and Murayama (2012) recently reported that perceived self-competence moderated the relation between performance-approach and -avoidance goals: When perceived self-competence is high, performance-approach goals are pursued unencumbered by performance-avoidance goals while, when it is low, performance-avoidance goals are pursued conjunctionally with performance-approach goals (see also, Linnenbrink-Garcia et al., 2012). Moreover, Senko and Harackiewicz (2005, Study 1) reported that high early exam performance was associated with an increase in performance-approach goals, and poor early exam performance with an increase in performance-avoidance goals (see also Jagacinski, Kumar, Boe, Lam, & Miller, 2010).

Self-Competence as a the Directional Moderator of Performance Goal Socialization

Could, then, perceived self-competence determine whether performance goals socialization results in strengthening performance-approach or performance-avoidance goals?

Some indirect support comes from Wolter's (2004) work, showing that the perception of classroom performance goals structure (i.e., a competitive classroom environment) is positively associated with the emergence of both performance-approach and -avoidance goals (see also, Elliot & Murayama, 2012); this result can be articulated with Urda and Schoenfelder's (2006) theoretical suggestion that, embedded in an environment where competition is valued, students placing confidence in their ability would tend to develop performance-approach goals, while students doubting their ability would tend to develop performance-avoidance goals.

Since perception of high (*vs.* low) self-competence have been repeatedly identified as an antecedent of performance-approach (*vs.* -avoidance) goals, and since it was proposed as moderating the effect of competitive environment on the emergence of performance-approach (*vs.* -avoidance) goals, we argue that it could be the directional moderator of performance goals socialization. Specifically, we formulate a fourth hypothesis and its corollary, which will be tested in Study 4: As subordinates' perception of self-competence increases, their supervisor's performance-approach goals should positively predict their performance-approach goals over time (hypothesis 4a); as subordinates' perception of self-competence decreases, their supervisor's performance-approach goals should positively predict their performance-avoidance goals over time (hypothesis 4b).

Self-Enhancement Values as Antecedents of Performance Goals Socialization

In this fifth section, we aim at identifying an important societal precursor of the hypothesized phenomenon, namely the supervisors' adherence to self-enhancement values (see Figure 1, fifth panel from the top).

Western Culture and the Promotion of Self-Enhancement Values

Most capitalistic societies promote the seeking for dominance through competition as well as the pursuit of one's self-interest, whether we consider socializing institutions such as media (e.g., Rahtz, Sirgy, & Meadow, 1989), business corporations (e.g., Gagné & Deci, 2005), or even sport federations (e.g., Gould & Rolo, 2004). Hence, individuals from Western societies—all the more from most extremely capitalistic country—attribute especially high importance to self-enhancement values (Schwartz, 2007). Interestingly for our contention, Pulfrey and Butera (2013) remarked that “values [transmitted via socializing institutions] constitute the ultimate lynchpin between societal macro-ideology and individual life goals” (p. 2153). Indeed, individuals from Western societies have been shown to develop a stronger tendency toward social comparison (e.g., between one's and other's wealth), and to endorse

goals that are more focus on striving for success, image and status (for a review, see Kasser et al., 2007). Moreover, Pudelko and Boon (2014) reported that the more supervisors (in that case teachers) from Western societies (in that case, Australia) endorse self-enhancement values, the more they endorse performance-approach goals.

Supervisors' Self-enhancement Values as Preceding Performance Goals Socialization

In Western educational systems, evaluation (Covington, 1992) and selection (Sommet, Pulfrey, & Butera, 2013) policies aim at estimating the value of students relatively to others (i.e., ranking) in order to assign them to the place they “deserve” in society (Dubet & Duru-Bellat, 2004). In particular, education institutions operate as a filter aiming at selecting the most meritorious and competent students (Darnon et al., 2009), contributing to the culture of self-enhancement described above.

We therefore posit that the more teachers adopt the dominant values of our society (i.e., self-enhancement values), the more they will fill the role of socialization agents in moulding students' performance-approach (when perceiving themselves as competent) or -avoidance (when perceiving themselves as incompetent) goals. Specifically, we formulate a fifth hypothesis and its corollary, also tested in Study 4: The higher a supervisor's self-enhancement values, the more the time spent under his/her supervision should predict his/her subordinates' performance-approach goals (i.e., when they perceive themselves as competent, hypothesis 5a) and, by extension, performance-avoidance goals (i.e., when they perceive themselves as incompetent hypothesis 5b); these effects should be mediated by supervisor's performance-approach goals.

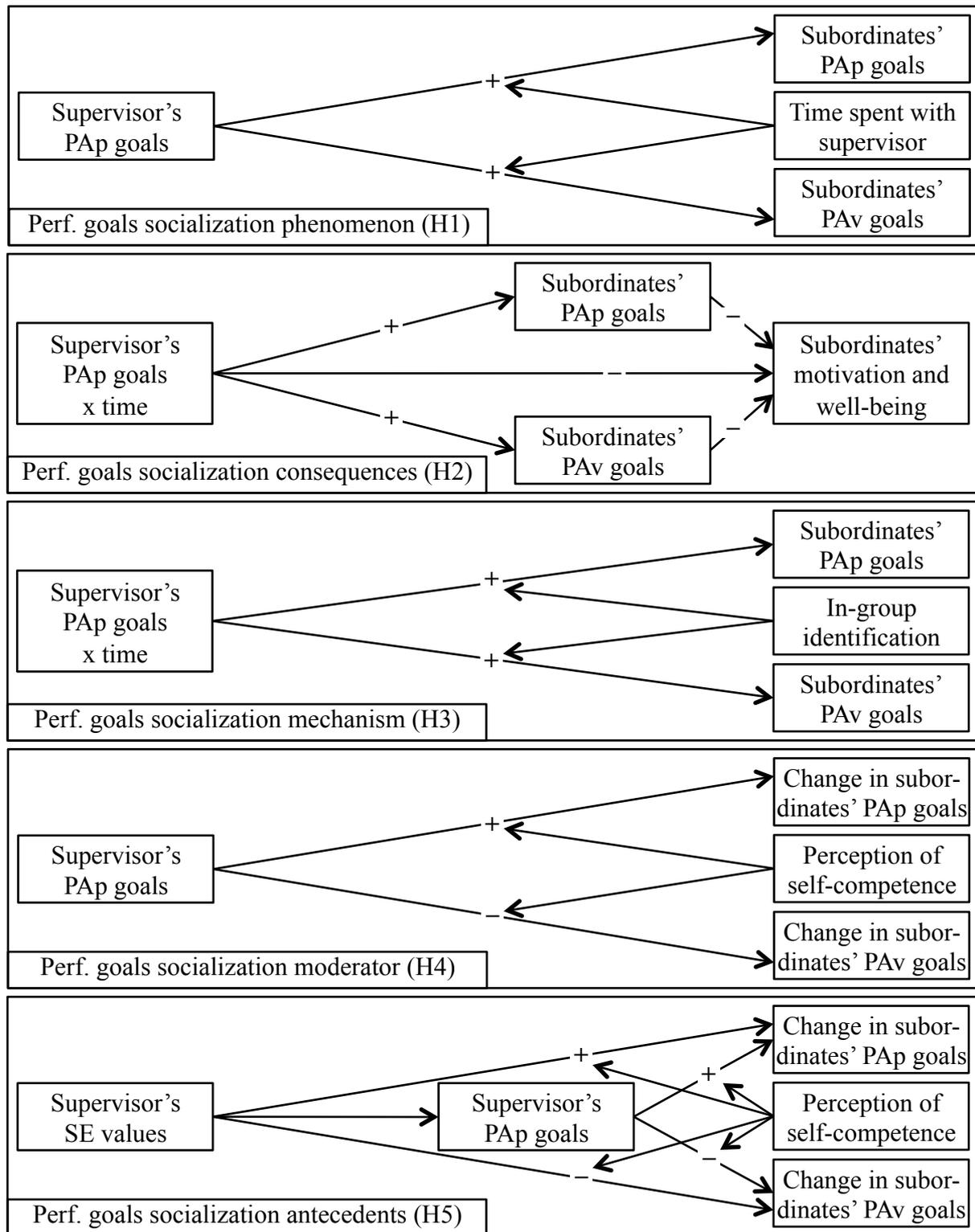


Figure 1. Graphical representation of performance goals socialization phenomenon (first panel from the top; H1), consequences (second panel; H2), mechanism (third panel; H3), directional moderator (fourth panel; H4) and antecedent (fifth panel; H5). PAp stands for performance-approach, PAv for performance-avoidance, and SE for self-enhancement.

Study 1

Method

Participants and procedure. $N = 151$ players of Swiss amateur soccer teams, 140 men and 11 women, with a mean age of 22.66 ($SD = 10.17$), filled in a questionnaire prior to their weekly training session. At the same time, their $n = 14$ male coaches (i.e., $M = 10.71$ players surveyed per team), with a mean age of 40.9 ($SD = 14.50$), and a mean seniority of 3 years ($SD = 2.53$), also filled in a questionnaire.

Measures.

Coaches' achievement goals. From 1 (“not at all”) to 7 (“completely”), coaches answered six items, extracted from Elliot and McGregor’s (2001) Achievement Goal Questionnaire (AGQ; validated in French by Darnon and Butera, 2005). Three items measured mastery-approach goals (e.g., “When I coach my team, I want to improve my training methods as much as possible”; $\alpha = .84$, $M = 6.26$, $SD = 1.23$), and three others performance-approach goals (e.g., “When I coach my team, it is important for me to do better than other coaches”; $\alpha = .89$, $M = 4.14$, $SD = 2.01$). It should be noted that, although our hypotheses only concern performance goals, we included mastery goals in this study for exploratory purposes.

Soccer players' achievement goals. Players also answered items extracted from the AGQ. Three items measured mastery-approach goals (e.g., “When I play soccer, I want to learn the sport techniques as much as possible”; $\alpha = .80$, $M = 5.67$, $SD = 1.32$), three performance-approach goals (e.g., “When I play soccer, it is important for me to play better than the players of the other teams”; $\alpha = .74$, $M = 5.58$, $SD = 1.30$)², and three performance-avoidance-goals (e.g., “When I play soccer, I just want to avoid playing poorly”; $\alpha = .60$, $M = 4.57$, $SD = 1.42$).

Number of year(s) players spent under the supervision of the coach. Players reported “the date from which [they] have been playing with [their] actual coach”. The variable was transformed in number of year(s) ($M = 1.68$, $SD = 2.16$)³.

Results

Multivariate multilevel structure of the data.

We aimed at *simultaneously* testing our cross-level interaction hypotheses on three outcomes (i.e., players' mastery, performance-approach, and performance-avoidance goals). Thus, drawing on Aguinis, Gottfredson and Culpepper's (2013) step-by-step procedure, we built three models:

(i) Unconditional multivariate model. Using Stata's generalized SEM Builder (StataCorp, 2011), we run an unconditional multivariate model on players' mastery, performance-approach, and performance-avoidance goals. As the distributions of our outcomes were slightly to moderately left-skewed (with a respective skewness of $sk = -1.00$, $sk = -1.19$, and $sk = -0.36$), quasi-maximum likelihood estimation was used (i.e., "sandwich" estimators, robust to violation of normality assumption, and particularly in the case of heavy-tailed outcomes, Ruiz, 1994). Moreover, we specified the intercepts of players' three achievement goals as being random at level-2 (i.e., to vary between coaches). They were all significant, and we therefore calculated the three intraclass correlations: $\rho = .20$ for mastery goals (i.e., 20 % of the variance in this goal was due to between-team differences), $\rho = .07$ for performance-approach goals, and $\rho = .31$ for performance-avoidance goals. Hence, the use of multilevel modeling was appropriate (Rabe-Hesketh & Skrondal, 2012).

(ii) Random intercept and random slope model. We added coaches' performance-approach goals (i.e., a level-2 variable) and time players spent with them (i.e., a level-1 variable) in our model. We allowed the slope of the level-1 variable to be random at level-2 (i.e., to vary between coaches). The model failed to converge, which, given the low sample size at level 2 (i.e., $N = 14$), was not surprising. Using simulations, Maas and Hox (2005) showed that, in such cases (i.e., $n < 30$), second-level slope variance (i.e., the random effect) is underestimated which, typically, leads to non-convergence (see also, Moineddin, Matheson, & Glazier, 2007). However, the authors showed that neither the fixed parameter estimates associated to main effects nor the ones associated to interactions were significantly biased. As a solution to this issue, we followed Hox's (2002) suggestion not to consider random effect, so as to simplify the model.

(iii) Cross-level interaction model. As a third step, we grand-mean centered coaches' performance-approach goals as well as time players spent with them, and we added the interaction between the two in our model. From this, we conducted three series of preliminary analyses.

Firstly, we included in our model grand-mean centered coaches' mastery goals as well as their interactions with our predictors. As the result showed a significant main effect of coaches' mastery goals on players' performance-avoidance goals, the variable was kept in the analyses for this outcome. No other main or interaction effect related to coaches' mastery goals on players' mastery, performance-approach, or performance-avoidance goals reached significance. Hence, these terms were not further considered.

Secondly, given the large range of our time variable, we aimed at accounting for potential ceiling or floor effects in achievement goals socialization. Thus, we included in our model a quadratic term for time (i.e., squared number of years players spent under the supervision of their coaches), as well as its interaction with coaches' performance-approach goals (for a similar approach, see Orth, Robins, & Soto, 2009). As the results showed a significant interaction effect for players' performance-avoidance goals, the terms were kept in the analyses for this outcome. No other main or interaction effect related to quadratic time on players' mastery, performance-approach, or performance-avoidance goals was found. These terms were not further considered.

Thirdly, we conducted a complete analysis of covariance (Yzerbyt, Muller, & Judd, 2004) aiming at determining the need for controlling additional level-2 (i.e., age and seniority of the coaches) and/or level-1 (i.e., age and gender of the players) variables. The effects of coaches' age, coaches' seniority and players' gender on the three achievement goals were found to be non-significant. In contrast, players' age was found to negatively predict players' mastery, performance-approach and performance-avoidance goals ($ps < .012$). However, given that this variable did not change the pattern of our results or interact with our predictors, and as it was not theoretically relevant in the present research (for a comment on the effect of age on achievement goals, see Bong, 2009), the variable was not kept in the analyses.

Socialization of achievement goals.

Players' mastery goals. The model contained three predictors: coaches' performance-approach goals, time players spent with them, and the interaction between the two. No effect reached significance ($ps > .34$).

Players' performance-approach goals. The model contained the same three predictors: coaches' performance-approach goals, time players spent with them, and the interaction between the two. Consistent with hypothesis 1a, the interaction was significant, $B = 0.08$, $SE = 0.02$, $Z = 3.60$, $p < .001$. As it can be seen in Figure 2 (left panel), time players spent with their coaches was more positively associated with their performance-approach goals when coaches' performance-approach goals were high, $B = 0.17$, $SE = 0.04$, $Z = 4.03$, $p < .001$, than when they were low, $B = -0.18$, $SE = 0.06$, $Z = -2.56$, $p < .011$. No other effect reached significance.

Players' performance-avoidance goals. The model contained six predictors: coaches' performance-approach goals, time players spent with them, linear and squared time players spent with them, and the two interactions between the goals and the time variables; as previously noted, coaches' mastery goals were controlled. In line with hypothesis 1b, the

interactions between coaches' performance-approach goals and the time players spent with them were significant, $B = 0.07$, $SE = 0.03$, $Z = 2.17$, $p < .031$, for the linear term, and $B = -0.03$, $SE = 0.01$, $Z = -2.59$, $p < .01$, for the quadratic term. As it can be seen in Figure 2 (right panel), time players spent with their coaches was more positively associated with their performance-avoidance goals when coach's performance-approach goals were high, $B = 0.13$, $SE = 0.12$, $Z = 1.09$, $p = .27$, for the linear term, and $B = -0.05$, $SE = 0.02$, $Z = -2.14$, $p < .033$, for the quadratic term, than when they were low, $B = -0.17$, $SE = 0.07$, $Z = -2.32$, $p < .021$, for the linear term, and $B = 0.09$, $SE = 0.02$, $Z = 2.74$, $p < .007$ for the quadratic term. This polynomial interaction (the curvilinear aspects of the simple slopes in Figure 2) suggests a ceiling effect when coaches' performance-approach goals were high, and a floor effect when they were low. It is worth noting that an unexpected positive main effect of coaches' mastery goals was also found, $B = 0.32$, $SE = 0.14$, $Z = 2.33$, $p < .02$. No other effect reached significance.

Discussion

In line with hypothesis 1a, these results indicated that the higher the supervisors' (in this case, coaches) performance-approach goals, the more the time spent under their supervision is positively associated with their subordinates' (in this case, soccer players) performance-approach goals. Furthermore, in line with hypothesis 1b, the results revealed the same phenomenon for subordinates' performance-avoidance goals, notwithstanding the intervention of a ceiling effect (for supervisors endorsing high performance-approach goals) and a floor effect (for supervisors endorsing low performance-approach goals). This unexpected polynomial interaction effect—in that it was only observed for subordinates' performance-avoidance goals—might suggest a somehow faster performance goals socialization leading performance-avoidance goals (as compared to performance-approach goals) to reaching their maximum / minimum.

Thus, achievement goals socialization was only found for performance goals: On the one hand, supervisors' mastery goals did not significantly interact with time in predicting soccer players' mastery, performance-approach or performance-avoidance goals; on the other hand, supervisors' performance-approach goals did not significantly interact with time in predicting players' mastery goals. Surprisingly, however, supervisors' mastery goals were found to be positively associated with subordinates' performance-avoidance goals. Before being commented, this effect should be confirmed.

Empirical Part II: Third Line of Research

Two limitations of Study 1 point out the need for replication. On the one hand, while sample size at level 1 was satisfactory, at level 2, it was low. This could both cause model convergence issues and enhanced probability of type-I error (Bell, Morgan, Kromrey, & Ferron, 2010). On the other hand, Study 1 took place in sport setting. Yet, achievement goals were found to relate to different effects as a function of the achievement domain considered (e.g., see Van Yperen, et al., 2014). Hence, in Study 2, we aim at replicating Study 1's findings within more numerous *academic* groups, while also exploring hypotheses 2a and 2b. Supervisors were doctoral advisors, and subordinates their Ph.D. students.

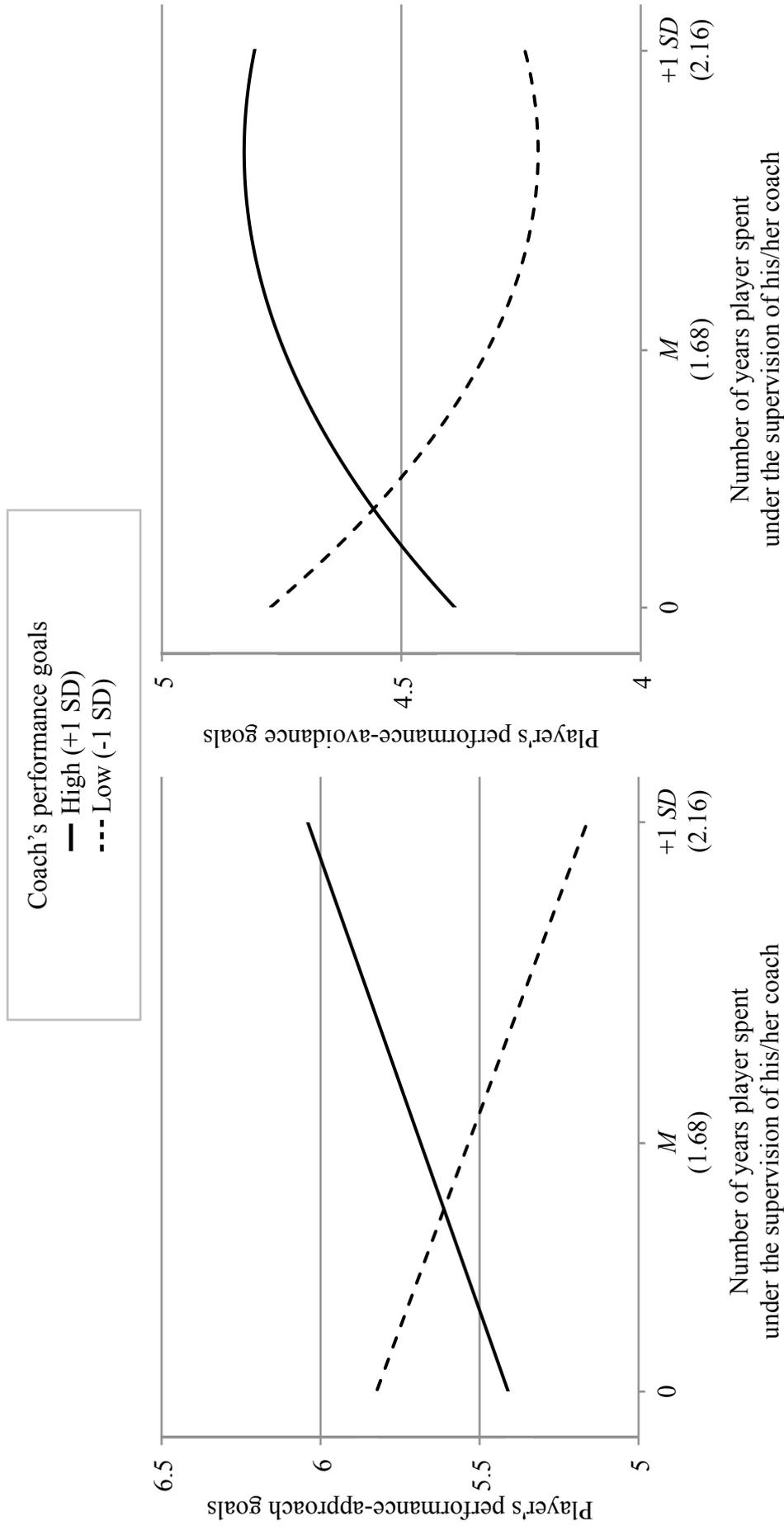


Figure 2. Players' performance-approach (left panel) and -avoidance (right panel) goals as a function of coaches' performance-approach goals, and number of year(s) player spent under the supervision of the coach. Study 1.

Study 2

Method

Participants and procedure. $N = 71$ Ph.D. students of two Swiss universities filled in an online questionnaire. One participant, identified as an outlier, was removed from the analyses⁴. The final sample consisted of 37 Ph.D. students enrolled in a university of Social Science and 33 others enrolled in a university of Technical Science. They were 45 men and 25 women, with a mean age of 28.39 ($SD = 3.61$). At the same time, their $N = 41$ thesis supervisors (i.e., $M = 1.71$ students surveyed per supervisor), 38 men and 3 women, also filled in an online questionnaire.

Measures.

Thesis supervisors' achievement goals. Thesis supervisors answered the same items used in Study 1. Three items measured mastery-approach goals (e.g., "In my research work, I want to learn as much as possible about my subject"; $\alpha = .89$, $M = 6.49$, $SD = 0.56$) and three performance-approach goals (e.g., "In my research work, my goal is to have more publications than most other researchers"; $\alpha = .81$, $M = 3.76$, $SD = 1.22$).

Ph.D. students' achievement goals. Ph.D. students answered the same items used in Study 1. Three items measured mastery-approach goals (e.g., "In my thesis work, I want to learn as much as possible about my subject"; $\alpha = .53$ ⁵, $M = 6.52$, $SD = 0.50$), three performance-approach goals (e.g., "In my thesis work, it is important for me to do better than other Ph.D. students; $\alpha = .92$, $M = 3.34$, $SD = 1.51$) and three performance-avoidance-goals (e.g., "In my thesis work, I just want to avoid doing poorly"; $\alpha = .72$, $M = 3.46$, $SD = 1.44$).

Number of year(s) Ph.D. student spent under the supervision of the director. Ph.D. students reported "when did [they] start [their] Ph.D.". Variable was transformed in number of year(s) ($M = 2.42$, $SD = 1.49$).

Ph.D. students' intention to drop out of thesis. From 1 ("not at all") to 7 ("completely"), Ph.D. students answered two items (e.g., "I often think about quitting my thesis in a near future";, $M = 2.29$, $SD = 1.37$), extracted from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). The correlation between the two items was $r = .55$.

Ph.D. students' satisfaction. From 1 ("not at all") to 7 ("completely"), Ph.D. students answered the five items of the Bacharach, Bamberger and Conley's (1991) Job Satisfaction Scale (e.g., "In my thesis, I am satisfied of my research work in light of my career expectations"; $\alpha = .82$, $M = 4.86$, $SD = 1.14$).⁶

Results

Replication of Study 1's findings.

Multivariate multilevel structure of the data. As first step, we built an unconditional multivariate model. As in Study 1, quasi-maximum likelihood estimation was used. Random intercept of the three goals were found to be non-significant. Intraclass correlations (ICC) were $\rho = .08$ for mastery goals (i.e., 8 % of the variance in this goal was due to between-supervisor differences), and $\rho_s \approx .00$ for both performance-approach and -avoidance goals (i.e., with respect to performance goals, Ph.D. students within clusters are independent). Hence, use of multilevel modeling was not appropriate.

Yet, notably because the ICC of mastery goals was somehow substantial, we built a multivariate model with standard error adjusted for clustering (Rogers, 1993). Grand-mean centered supervisors' performance-approach goals, grand-mean centered time Ph.D. students spent with them and the interaction between the two were entered as predictors, and PhD students' mastery, performance-approach, and performance-avoidance goals as outcome variables. To account for potential sample effect, university affiliation of participant was controlled (coded “-0.5” for “Social Science” and “+0.5” for “Technical Science”).

Preliminary analyses. We conducted two series of preliminary analyses from the model described above. Firstly, as in Study 1, we included grand-mean centered supervisors' mastery goals as well as its interaction with our predictors in our model. Neither the main effect of supervisors' mastery goals nor the interaction effect on players' mastery, performance-approach, or performance-avoidance goals reached significance. Hence, these terms were not further considered.

Secondly, we conducted a complete analysis of covariance aiming at determining the need for controlling additional variables pertaining to the thesis supervisor (i.e., gender) or the Ph.D. student (i.e., gender and age). As the effects of these variables on the three Ph.D. students' achievement goals were found to be non-significant, they were not kept in the analyses.

Hence, our final model contained four predictors: supervisors' performance-approach goals, time Ph.D. students spent with them, supervisors' performance-approach goals, the interaction between the two as well as students' University affiliation.

Ph.D. students' mastery goals. No effect reached significance ($ps > .30$).

Ph.D. students' performance-approach goals. Consistent with our hypothesis 1a, the interaction between supervisors' performance-approach goals and time Ph.D. students spent with them was significant, $B = 0.20$, $RSE^7 = 0.08$, $Z = 2.26$, $p < .024$ (*a1* path in Figure 3). As

in Study 1, time students spent with their supervisors was more positively associated with their performance-approach goals when supervisors' performance-approach goals were high, $B = 0.20$, $RSE = 0.15$, $Z = 1.30$, $p = .20$, than when they were low, $B = -0.30$, $RSE = 0.18$, $Z = -1.68$, $p = .093$. No other effect reached significance.

Ph.D. students' performance-avoidance goals. Consistent with our hypothesis 1b, the interaction between supervisors' performance-approach goals and time Ph.D. students spent with them was significant, $B = 0.15$, $RSE = 0.06$, $Z = 2.70$, $p < .007$ (*a2* path in Figure 3). As in Study 1, time students spent with their supervisors was more positively associated with their performance-avoidance goals when supervisors' performance-approach goals were high, $B = 0.10$, $RSE = 0.10$, $Z = 1.01$, $p = .31$, than when they were low, $B = -0.27$, $RSE = 0.14$, $Z = -1.94$, $p = .052$. No other effect reached significance.

Consequences of performance goals socialization.

Ph.D. students' intention to drop out of thesis.

Total effects of supervisors' performance goals over time. As a first step, we aimed at exploring the consequences of supervisors' performance goals over time on Ph.D students' intention to drop out of thesis. Following the same procedure as in Study 1 (i.e., from Aguinis et al., 2013), we built a multilevel model with maximum likelihood estimation, with grand-mean centered supervisors' performance-approach goals (i.e., a level-2 variable), grand-mean centered time students spent with their supervisors (i.e., a level-1 variable), and the interaction between the two as predictors (i.e., the cross-level interaction term), and with Ph.D students' intention to drop out as the outcome variable. Once again, university affiliation of participant was controlled. In an unconditional model, intraclass correlation for students' intention to drop out was found to be significant, $\rho = .16$; we therefore specified its intercept as being random. Additionally, in a random intercept and random slope model, the random effect associated with time students spent with their supervisors was found to be significant, $\sqrt{\psi} = 0.17$, 95%, CI 0.08-0.40; we therefore specified it as being random.

The interaction between supervisors' performance-approach goals and time Ph.D. students spent with them was significant, $B = 0.18$, $SE = 0.07$, $Z = 2.67$, $p < .008$ (*c1* path in Figure 3). As it can be seen in Figure 4 (left panel), time students spent with their supervisor was more positively associated with their intention to drop out of thesis when supervisors' performance-approach goals were high, $B = 0.73$, $SE = 0.11$, $Z = 6.68$, $p < .001$, than when they were low, $B = 0.26$, $SE = 0.14$, $Z = 1.92$, $p = .05$. A positive main effect of time was also found, $B = 0.49$, $SE = 0.09$, $Z = 5.59$, $p < .001$. No other effect reached significance.

Indirect effect of supervisors' performance goals over time through Ph.D. students' achievement goals. As a second step, we aimed at determining the potential role of Ph.D. students' achievement goals in explaining the interaction between supervisors' performance-approach goals and time Ph.D. students spent with them on students' intention to drop out. We included grand-mean centered students' mastery, performance-approach and performance-avoidance goals in the model. All the interactions between the goals were entered as control variables⁶.

It is worth noting that the interaction between supervisors' performance-approach goals and time Ph.D. students spent with them remained significant, $B = -0.17$, $SE = 0.07$, $Z = 2.49$, $p < .013$ (*c1*' path in Figure 3)⁹. More importantly, Ph.D. students' performance-approach goals were positively associated with their intention to drop out, $B = 0.19$, $SE = 0.08$, $Z = 2.42$, $p < .016$ (*b1* path in Figure 3). As Ph.D. students' performance-approach goals could be a good candidate in explaining the moderation effect between supervisors' performance-approach goals and time Ph.D. students spent with them on students' intention to drop out, we calculated the indirect effect, $B = a * B = -0.02$, $SE_{ab} \approx \sqrt{(B_a^2 * SE_b^2 + B_b^2 * SE_a^2)} = 0.02$ (*a1* * *b1* path in Figure 3). Confidence interval of the indirect effect, determined for a 95% level and calculated using Monte Carlo simulations¹⁰, was of CI 0.001-0.093.

Ph.D. students' satisfaction.

Total effects of supervisors' performance goals over time. As a first step, we built the same multilevel model used for intention to drop out, but this time with students' satisfaction as the outcome variable. In an unconditional model, intraclass correlation for students' satisfaction was found to be significant, $\rho = .28$; we therefore specified its intercept as being random. Additionally, in a random intercept and random slope model, the random effect associated with time students spent with their supervisors was found to be significant, $\sqrt{\psi} = 0.47$, 95%, CI 0.16-1.44; we therefore specified it as being random.

The interaction between thesis supervisors' performance-approach goals and time students spent with them was significant, $B = -0.26$, $SE = 0.07$, $Z = -3.76$, $p < .001$ (*c2* path in Figure 3). As it can be seen in Figure 4 (right panel), time students spent with their supervisors was more negatively associated with their satisfaction when supervisors' performance-approach goals were high, $B = -0.25$, $SE = 0.10$, $Z = -2.40$, $p < .017$, than when they were low, $B = 0.39$, $SE = 0.14$, $Z = 2.89$, $p < .004$. No other effect reached significance.

Indirect effect of supervisors' performance goals over time through Ph.D. students' achievement goals. As a second step, we aimed at determining the potential role of Ph.D. students' achievement goals in explaining the interaction between thesis supervisors'

performance-approach goals and time students spent with them on students' satisfaction. We included grand-mean centered Ph.D. students' mastery, performance-approach and performance-avoidance goals in the model. All the interactions between the goals were entered as control variables.

It is worth noting that the interaction between thesis supervisors' performance-approach goals and time students spent with them remained significant, $B = -0.27$, $SE = 0.07$, $Z = -3.81$, $p < .001$ ($c2'$ path in Figure 3). More importantly, Ph.D. students' performance-avoidance goals were negatively associated with their satisfaction, $B = -0.17$, $SE = 0.08$, $Z = -2.12$, $p < .034$ ($b2$ path in Figure 3). Mastery goals were positively associated with their satisfaction, $B = 0.82$, $SE = 0.22$, $Z = 3.64$, $p < .001$.

As a Ph.D. students' performance-avoidance goals could be a good candidate in explaining the moderation effect between supervisors' performance-approach goals and time Ph.D. students spent with them on students' satisfaction, we calculated the indirect effect, $B = -0.02$, $SE \approx 0.01$ ($a2 * b2$ path in Figure 3). Confidence interval of the indirect effect, determined for a 95% level and once again calculated using Monte Carlo simulation, was of CI -0.061--0.001.

Discussion

Consistent with what observed in Study 1, but for a different achievement domain (i.e., academic instead of sport), the present results indicated that the higher the supervisors' (in this case, thesis supervisors) performance-approach goals, the more the time spent under their supervision was positively associated with their subordinates' (in this case, Ph.D. students) performance-approach (hypothesis 1a) and performance-avoidance (hypothesis 1b) goals. Contrasting with Study 1, however, polynomial interaction between supervisors' performance goals and time students spent under their supervision was not found to be significant. The tighter range of our time variable might explain it.

Moreover, beyond the replication of the performance goals socialization phenomena, Study 2 provided an illustration of its consequences. First, in line with hypothesis 2a, results indicated that, over time, supervisor's performance-approach goals had positive direct and indirect—through the emergence of Ph.D. students' performance-approach goals—effects on their subordinates' intention to drop out. These findings are consistent with the one establishing a positive relationship between performance goals climate and dropout behaviors (Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002). However, the valence of the performance goals mediator is somehow surprising, as individuals' performance-approach

goals (vs. performance-*avoidance* goals) have been found to positively predict persistence (Elliot, McGregor, & Gable, 1999). This could be explained by the specificity of our participants (i.e., Ph.D. students), who are often expected to work collaboratively (e.g., with co-authors) on complex scientific material (e.g., state-of-the-art findings). Yet, performance-approach goals have been found to specifically impair team adaptation while conducting difficult task (LePine, 2005), which could favor disengagement and dropout (Rumberger, 2001).

Second, in line with hypothesis 2b, results indicated that, over time, supervisors' performance-approach goals had negative direct and indirect—through the emergence of Ph.D. students' performance-avoidance goals—effects on their subordinates' satisfaction. These findings are consistent with the one establishing a negative relationship between performance goals climate and satisfaction (Treasure & Robert, 2001). Moreover, they echo previous research showing a negative effect of performance-avoidance goals on satisfaction (Diseth, & Samdal, 2014).

Taken together, those results show that the performance goals socialization effects are not trivial: supervisors' performance goals—through the respective emergence of their subordinates' performance-approach and -avoidance goals—are associated with an increase over time in intention to drop out, and a decrease in satisfaction. Now that we have empirically defined the phenomena of performance goals socialization—as well as identified (some of) its consequences—in Study 3, we intended to specify that this phenomenon is indeed a socialization process, and that therefore group identification should be an important underlying mechanism.

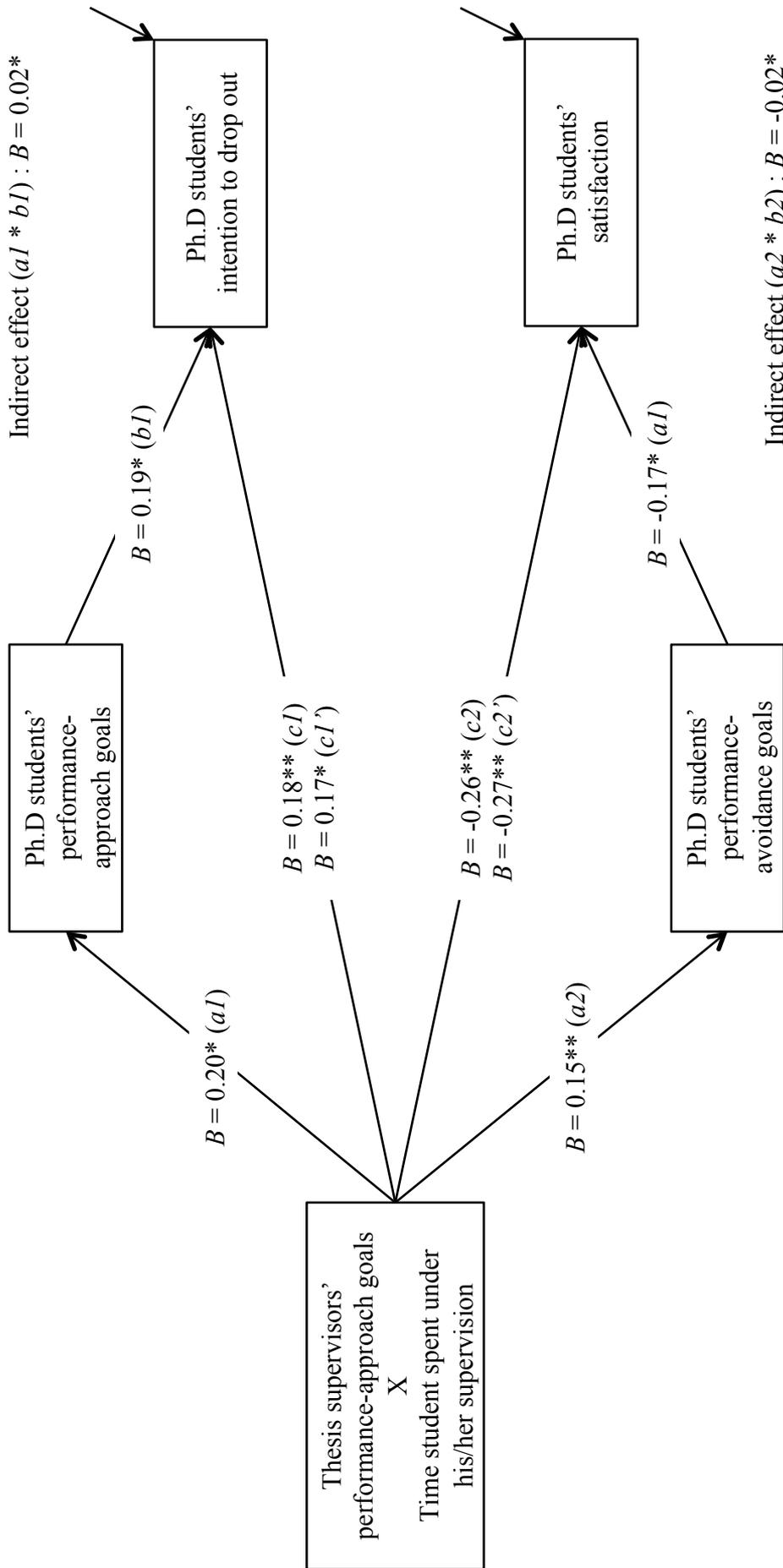


Figure 3. Moderation effect of thesis supervisors' performance-approach and time Ph.D. spent under their supervision on Ph.D. students' intention to drop out and satisfaction, through Ph.D. students' performance-approach and -avoidance goals. Study 2.

Note. * $p < .05$, ** $p < .01$.

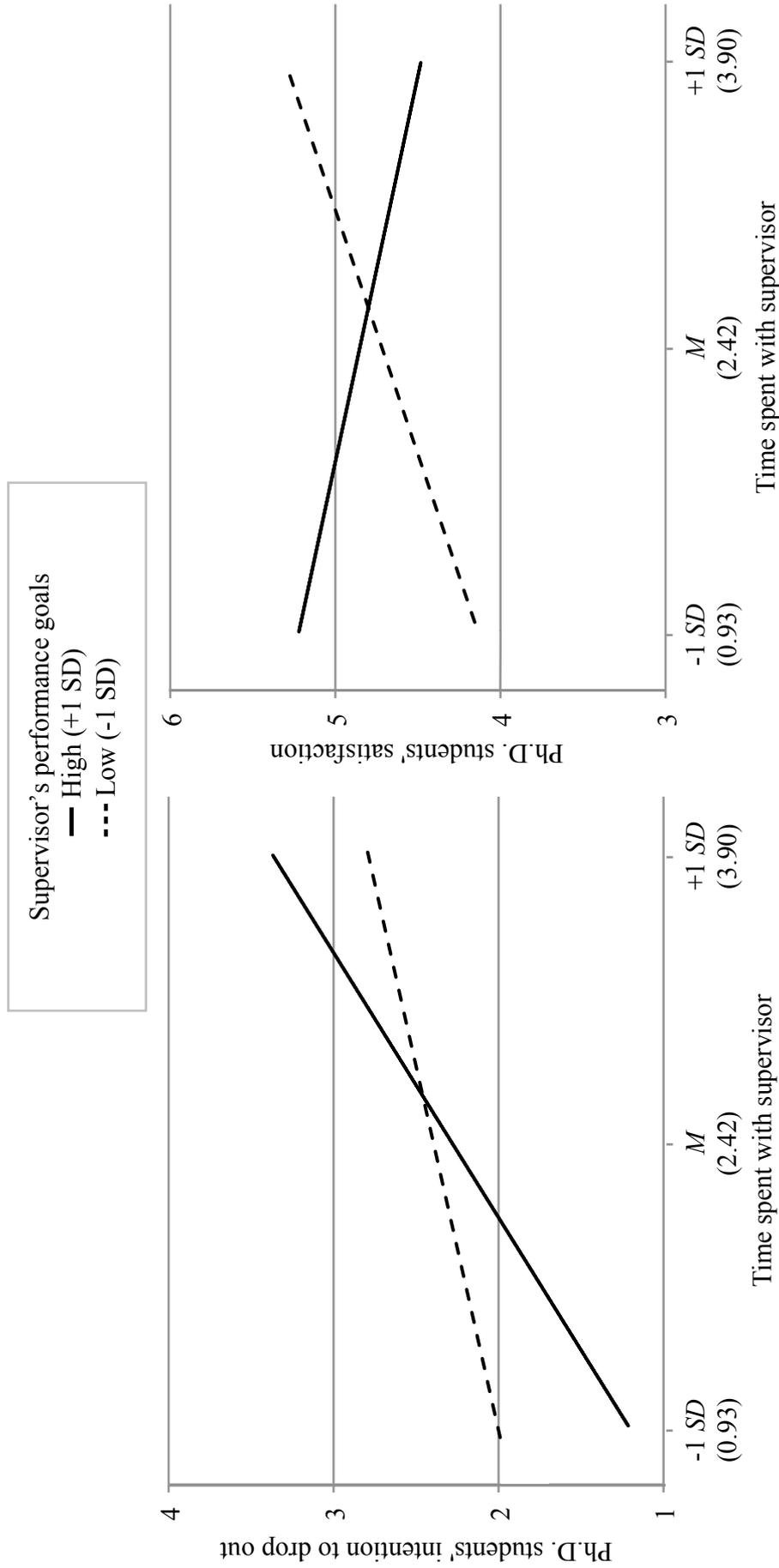


Figure 4. Ph.D. students' intention to drop out from thesis (left panel) and satisfaction (right panel) as a function of thesis supervisors' performance-approach goals, and number of year(s) Ph.D. students spent under the supervision of their supervisor. Study 2.

Study 3

Method

Participants¹¹ and procedure. Fifty-eight players of an online multiplayer video game, namely “Quake Live”, an online first-person shooter, embedded in 24 teams (i.e., $M = 2.42$ players surveyed per team) filled in an online questionnaire. In this game, the particularity of the teams is to be hierarchically structured. Each member has an explicit status, namely—from the lowest to the highest—Initiate, Member, Veteran, Clan Leader, and Clan Officer. The latter two notably allow the players to invite new members to join the team, and to promote, demote or exclude existing members. In our sample, the $N = 25$ Clan Officers (or Clan Leaders in the case of teams having no Clan Officer)¹² were treated as team leader. They were 24 males and 1 missing value, with a mean age of 25.74 ($SD = 3.56$). The $N = 33$ players having inferior ranks were treated as subordinates. They were 32 men and 1 woman, with a mean age of 24.09 ($SD = 4.46$).

Measures.

Leaders’ performance goals. Leaders answered the same performance goals items as in Studies 1 and 2. Only the three items measuring performance-approach goals were considered (e.g., “When I play, I want to perform better than the other players.”; $\alpha = .81$, $M = 5.29$, $SD = 1.16$). As in Studies 1 and 2 supervisors’ and subordinates’ mastery goals were not found to consistently produce any results, these goals were no longer considered.

Team-members’ performance goals. Team-members answered the same performance goals items as their leaders. Three items measured performance-approach goals ($\alpha = .56$, $M = 5.21$, $SD = 1.01$) and three other performance-avoidance goals (“When I play, I want to avoid being worse than the other players.”; $\alpha = .82$, $M = 4.71$, $SD = 1.68$).

Team-members’ identification with their team. From 1 (“not at all”) to 7 (“completely”), each team-member answered three items (i.e., “Do you identify with your clan?”; “Do you feel close to the members of your clan?”; and “Do you think you're similar to the members of your clan?”; $\alpha = .85$, $M = 5.50$, $SD = 1.09$), based on Falomir-Pichastor, Mugny, Invernizzi, Di Palma and Estrada (2007)

Time team-members spent under the supervision of the leader. During the completion of the questionnaire, the date on which team-members joined their team was collected. This information was publicly accessible via the players’ game statistics profile. The variable was transformed in number of months ($M = 10.73$, $SD = 9.94$).

Team-members’ average game performance. Team-members’ averaged accuracy (in shooting opponents during matches) was also collected on their players’ game statistics

profile. Average percentage was of 29.18 ($SD = 6.39$) and was used as a measure of performance; indeed performance was reported as an antecedent of achievement goals (Senko & Harackiewicz, 2005) and could be confounded in the effect of leaders' performance-approach goals.

Results

In building the unconditional multivariate model with maximum likelihood estimation on team-members performance-approach and performance-avoidance goals, random intercepts of the two goals were found to be non-significant. ICCs were $\rho = .05$ for performance-approach and $\rho \approx .00$ for performance-avoidance goals. Hence, use of multilevel modeling was not appropriate.

As in Study 2, we built a multivariate model with standard error adjusted for clustering (Rogers, 1993). Grand-mean centered leaders' performance-approach goals, grand-mean centered time members spent in the team, grand-mean centered members' identification with their teams, as well as their interactions, were entered as predictors. Members' performance-approach and -avoidance goals were defined as outcomes variables.

Preliminary analyses. As in Studies 1 and 2, a complete analysis of covariance was conducted. Team-leaders' age and team-members' age and performance were added to the model described above. The effects of leaders' and members' age were found to be non-significant. However, members' performance level was found to be negatively associated to their performance-avoidance goals, and the term was kept in the analyses, cf. below.

Hence, our final model contained four predictors: leaders' performance-approach goals, time members spent in the team, members' identification with their teams, their three first-order interactions and the second-order interaction, as well as members' performance.

Team-members' performance-approach goals. Consistent with our hypothesis 3a, the second-order interaction between leaders' performance-approach goals, time members spent in the team, and members' identification with their teams was significant, $B = 0.04$, $SE = 0.01$, $Z = 2.87$, $p < .005$. Specifically, when time members spent in the team was high (+1 SD), the interaction between leaders' performance-approach goals and members' identification with their teams was significant, $B = 0.52$, $SE = 0.18$, $Z = 2.99$, $p < .003$, while this was not the case when it was low (-1 SD), $B = -0.25$, $SE = 0.16$, $Z = -1.62$, $p > .1$. As shown in Figure 5 (left panel), when time members spent in the team was high, leaders' performance-approach goals were more positively associated with their subordinates' performance-approach goals when team identification was high (+1 SD), $B = 0.48$, $SE = 0.29$,

$Z = 1.68, p < .093$, than when it was low (-1 SD), $B = -0.65, SE = 0.16, Z = -3.99, p < .001$. It is worth noting that the interaction between time members spent in the team and members' identification with their teams was significant, $B = -0.04, SE = 0.11, Z = -3.45, p < .001$. No other effect reached significance.

Team-members' performance-avoidance goals. Consistent with our hypothesis 3b, the second-order interaction between leaders' performance-approach goals, time members spent in the team, and members' identification with their teams was significant, $B = 0.64, SE = 0.03, Z = 2.41, p < .016$. Specifically, when time members spent in the team was high ($+1$ SD), the interaction between leaders' performance-approach goals and members' identification with their teams was significant, $B = 0.98, SE = 0.29, Z = 3.34, p < .001$, while this was not the case when it was low (-1 SD), $B = -0.29, SE = 0.31, Z = -0.97, p > .33$. As shown in Figure 5 (right panel), when time members spent in the team was high, leaders' performance-approach goals were more positively associated with their subordinates' performance-avoidance goals when team identification was high ($+1$ SD), $B = 0.92, SE = 0.42, Z = 2.20, p < .028$, than when it was low (-1 SD), $B = -1.22, SE = 0.52, Z = -2.33, p < .020$. It is worth noting that the interaction between leaders' performance-approach goals and members' identification with their teams was significant, $B = 0.34, SE = 0.14, Z = 2.38, p < .020$. As noted earlier, members' performance was negatively associated with his performance-avoidance goals, $B = -0.10, SE = 0.03, Z = -3.34, p < .001$.

Discussion

Extending Studies 1 and 2's findings, and consistent with hypotheses 3a and 3b, Study 3 shows that, over time, the higher the subordinates' identification with their group, the more their supervisors' performance-approach goals are positively associated with their own performance-approach (hypothesis 3a) and -avoidance (hypothesis 3b) goals. Thus, the mechanism of performance goals socialization resembles the one involved in attitudinal socialization. For instance, Guimond (2000) showed that, within groups, social transmission and internalization of group-specific attitudes over time was more pronounced when members strongly highly identified with their group. In our case, socialization of performance goals over time was also more pronounced, as group identification increased.

However, one might wonder whether the performance goals socialization effects—although moderated by group identification processes—actually correspond to a progressive endorsement of goals over time (i.e., a socialization effect) or to the fact that subordinates not pursuing the same goals as their supervisors are eventually excluded from (or decide to leave)

Empirical Part II: Third Line of Research

the group, i.e., a (self-)selection effect. Hence, in Study 4, we will use a longitudinal design so as to rule out this alternative possibility.

Moreover, two important issues remain unaddressed. First, in Studies 1 to 3, supervisors' performance-approach goals were found to be associated with the emergence of both subordinates' performance-approach *and* -avoidance goals over time. Yet, these two goals are distinct constructs and produce competing effects (Murayama, Elliot, & Yamagata, 2011). It is therefore critical to define when supervisors' performance-approach goals are associated with the emergence of subordinates' performance-approach goals, and when they are associated with the emergence of performance-avoidance goals. In Study 4, self-perceived competence was tested as a candidate for moderation. Second, one may wonder what the antecedent of performance goals socialization effect are. In Study 4, self-enhancement values are proposed as a precursor of performance goals socialization.

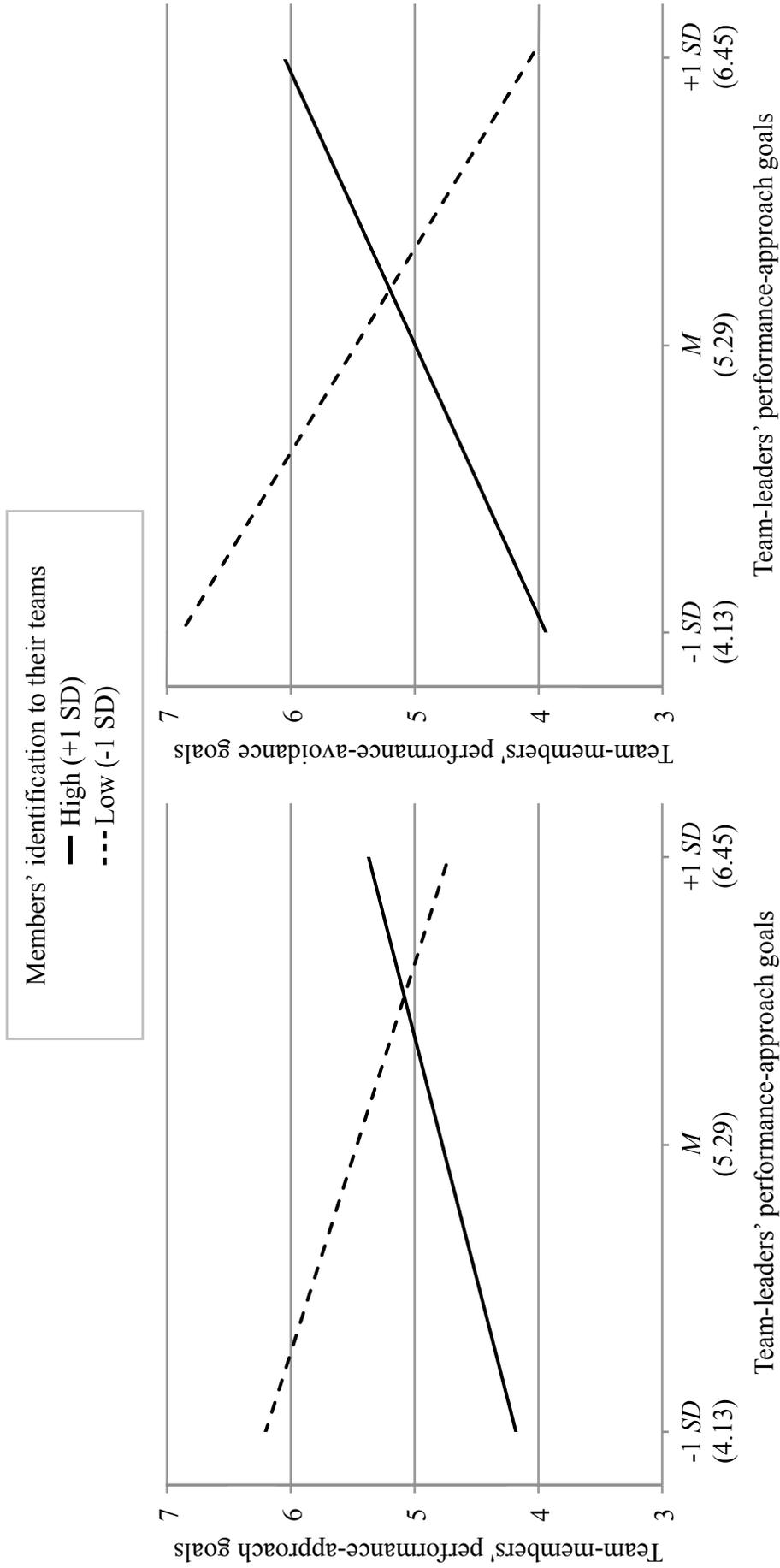


Figure 5. Team-members' performance-approach (left panel) and -avoidance (right panel) goals as a function of team-leaders' performance-approach goals, and team-members' identification with their team when time spent under the supervision of the coach is high (+1 SD). Study 3.

Study 4

Method

Participants. $N_{T1} = 625$ French middle school students, embedded in $N_C = 25$ classes, took part in the first wave of data collection. $N_T = 25$ of their teachers concurrently participated in the study. One participant was removed due to incomplete data, leaving a final teacher-sample of 7 men and 17 women, with a mean age of 41.0 ($SD = 11.04$), and with a mean seniority of 15.06 years ($SD = 11.42$). $N_{T2} = 496$ of the first-wave pupils, whose teacher participated, fully completed the second wave questionnaire. The final pupil sample consisted of 259 boys and 237 girls, 124 sixth-graders, 124 seventh-graders, 139 eight-graders, and 109 ninth-graders, with a mean age of 13.08 ($SD = 1.19$).

Procedure.

Wave 1. At the beginning of the school year (i.e., late September), two experimenters submitted a first questionnaire, presented as a “research on the goals of middle-school pupils”, to the pupils of a French middle school. Parents were informed by post about the general purpose of the study two weeks before. All except four pupils were allowed to participate in the study. The wave 1 questionnaire measured pupils’ achievement goals and perception of his/her self-competence in six disciplines, namely Mathematics, First Foreign Language, French, Physical Education, History and Geography, and Earth and Life Science (2060 observations for 496 pupils, i.e., a mean of 4.2 observations per children). Additionally, they were asked whether or not “before this year [they] know [their] teacher” for the six same disciplines (1435 negative answers, 585 positive ones, and 40 missing).

At the same time, $N_T = 24$ teachers in the six aforementioned disciplines (6 in Mathematics, 6 in First Foreign Language, 5 in French, 3 in Physical Education, 2 in History and Geography, and 2 in Earth and Life Science) reported, in a paper-and-pencil ($N_{pp} = 5$) or on-line ($N_{ol} = 19$) questionnaire, their self-enhancement values and achievement goals for teaching.

Wave 2. Four months later (i.e., late January), two experimenters invited the pupils to fill in a second questionnaire, measuring their achievement goals for the same six disciplines.

Measures.

Teachers’ performance-approach goals. In Wave 1, teachers answered the same three items used in Studies 1 to 3 (e.g., “When I am teaching, it is important for me to teach better as compared to other teachers”; $\alpha = .87$, $M = 2.58$, $SD = 1.61$).

Teachers’ self-enhancement values. Also in Wave 1, from 1 (“not at all”) to 7 (“completely”), teachers answered six items (e.g., “It is important to me to be ambitious”, “It

is important to me to be the one who makes decisions/leads”; $\alpha = .62$, $M = 4.38$, $SD = 1.00$) extracted from the Portrait Values Questionnaire (Schwartz, Melech, Lehmann, Burgess, Harris, & Owens, 2001; see also Pulfrey & Butera, 2013).

Pupils’ perceptions of self-competence. In Wave 1, pupils reported their perceptions of their self-competence in the aforementioned six disciplines, on a scale ranging from 0 (“*not competent at all*”) to 100 (“*fully competent*”) ($M = 62.38$, $SD = 25.05$). For the ease of the reading of the multilevel models coefficients, we divided this variable by 10 (n.b., $M' = 6.24$, $SD' = 2.51$).

Change in pupils’ performance goals from Wave 1 to Wave 2. For each wave, participants answered the same six items used in Studies 1 to 3. One of the performance-avoidance items (i.e., “My fear of performing poorly in this discipline is what motivates me”) was removed due to reliability issue, as in previous research (e.g., Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007; Pulfrey, Buchs, & Butera, 2011). Thus, for each discipline, three items measured performance-approach goals (e.g., “My goal in this discipline is to have better grade than most of others pupils”) at Wave 1 (average of the six Cronbach’s alpha for all discipline, $M_\alpha = .86$, $M = 4.03$, $SD = 1.88$) and Wave 2 ($M_\alpha = .90$, $M = 3.75$, $SD = 1.45$). Change in performance-approach goals was computed by subtracting the latter from the former ($M = -0.29$, $SD = 1.70$). Moreover, two items measured performance-avoidance goals (e.g., “I just want to avoid doing poorly in this discipline”) at Wave 1 ($M_\alpha = .58$, $M = 5.84$, $SD = 1.46$) and Wave 2 ($M_\alpha = .71$, $M = 5.63$, $SD = 1.62$). Again, change in pupils’ performance-avoidance goals was computed by subtracting the latter from the former ($M = -0.20$, $SD = 1.60$).

Results

Cross-classified multilevel structure of the data. The structure of our data was more complex than Studies 1, 2, and 3. It consisted in i level-1 (i.e., within-pupil) discipline observations (i.e., performance goals and perception of self-competence in Mathematics, First Foreign Language, French, Physical Education, History and Geography, and Earth and Life Science; $N_{L1} = 2060$ observations), nested in two non-hierarchical clusters: Level-2a units consisting of j pupils (i.e., each discipline-specific observation relates to a specific pupil; $N_{L2a} = 496$ pupils), and level-2b units consisting of k teachers (i.e., each discipline-specific observation relates to a specific teacher; $N_{L2b} = 24$ teachers). The units are said to be *cross-classified* to the extent that level-1 units, in a given cluster, are *not* sub-classified by the further factor (i.e., two pupils could have the same teacher for one discipline, and different teachers for another; Rabe-Hesketh & Skrondal, 2012). Additionally, pupils were nested in

level-3 units, namely the l classes (i.e., each pupil belonged to a specific class; $N_{L3} = 25$ groups). Such a structure (see Figure 6 for a graphical representation) allowed us to test each of our hypotheses in a parsimonious and efficient way. Indeed, instead of running six times a given analysis (i.e., one time per discipline) we could test each hypothesis in a single step, independently of the discipline.

Unconditional (hierarchical and) cross-classified models. As a first step, for each of two outcome variables (i.e., change in pupils' performance-approach and -avoidance goals for a given discipline from Wave 1 to Wave 2), we run an unconditional hierarchical and cross-classified multilevel model (i.e., without any covariate) using maximum likelihood estimation. We specified the intercept as being random at level 2a (i.e., to vary between pupils), at level 2b (i.e., to vary between teachers), and at level 3 (i.e., to vary between classes).

The variance components for pupils (level 2a) were significant for both variables. We therefore calculated the intraclass correlations: it was $\rho_{2a} = .51$ for change in pupils' performance-approach goals and $\rho_{2a} = .40$ for change in pupils' performance-avoidance goals. These results indicate it was appropriate to specify pupils as a clustering level.

Moreover, it appeared that the variance components for teachers (level 2b) were not significant for both variables, meaning that both intraclass correlations were not significantly different from zero. These results—similar to the ones observed in Studies 2 and 3—indicate that the variance of change in performance-approach and -avoidance goals was not due to between-teacher differences. Yet, we did not expect a mere effect of teachers' performance-approach goals *per se* on these outcomes. Indeed, we expected cross-level interactions effects between a level-1 variable (i.e., pupils' perception of their self-competence in a given discipline) and a level-2b variable (i.e., teachers' performance-approach goals in this same discipline). In this respect, Rabe-Hesketh and Skrondal (2012) pointed to the fact that, contrary to hierarchical multilevel model, in cross-classified models “the residual error ϵ_{ij} [in our case, $\sqrt{\theta} = 1.19$, 95%, CI 1.14-1.23, for change in pupils' performance-approach goals; and $\sqrt{\theta} = 1.23$, 95%, CI 1.19-1.28, for change in pupils' performance-avoidance goals] comprises both the interaction between [observations] and [teacher] and any other effects specific to [observations] i in [teacher] j ” (p. 436). Therefore, teacher was maintained as a clustering level.

Finally, variance components and intraclass correlations for classes (level 3) were not different from zero, indicating that the variance of change in performance-approach and -avoidance goals was not due to between-class differences. As we had no hypothesis involving a cross-level interaction with a variable associated to classes, this level was not considered in

further analysis. In the final cross-classified multilevel model, discipline-specific observations (level 1) were cross-classified by pupils (level 2a) and teachers (level 2b).

Preliminary statistical treatment of the control variables. As in Studies 1 to 3, for each set of analyses, we conducted a preliminary analysis assessing the effect of a series of additional level-2b (i.e., age, seniority, and gender of the teachers), level-2a (i.e., grade level, age and gender of the pupils), and level-1 (i.e., discipline and the fact that the pupil did know his/her teacher in a given discipline before the school year) control variables. The fact that the teacher was known before the school year (coded “-0.5” for “teacher unknown” and “+0.5” for “teacher known”) significantly interacted with our variables of interest in predicting change in pupils’ performance-avoidance goals, and the term was kept in the analyses for this outcome. As the other variables did not produce any significant effect, they were not included in further analysis.

Moderating role of perceived self-competence on performance goals socialization.

Change in pupils’ performance-approach goals. Cross-classified multilevel regressions were conducted with grand-mean centered teachers’ performance-approach goals (i.e., a level-2b variable), grand-mean centered pupils’ perceptions of self-competence (i.e., a level-1 variable), as well as the cross-level interaction between the two, on change in pupils’ performance-approach goals over time. In order to be congruent the multivariate approach adopted in Studies 1 to 3, grand-mean center change in pupils’ performance-avoidance goals in the discipline was included as a control variable.

In a random intercept and random slope model, the random effect associated with teacher’s performance-approach goals was found to be significant, $\sqrt{\psi} = 0.23$, 95%, CI 0.18-0.28, indicating that the effect of teacher’s performance-approach on change in performance-approach goals varied across pupils. Additionally, the random effect associated with perceptions of self-competence was significant, $\sqrt{\psi} = 0.12$, 95%, CI 0.09-0.18, indicating that the effect of perceptions of self-competence on change in performance-approach goals varied across pupils. These two random slope terms were therefore kept in the analyses.

The intercept had a significant effect, $B = -0.32$, $SE = 0.06$, $Z = -5.28$, $p < .001$, suggesting a general decrease of pupils’ performance-approach goals from Wave 1 to Wave 2. More importantly, in line with hypothesis 4a, the analyses revealed an interaction effect between teachers’ performance-approach goals and pupils’ perception of self-competence, $B = 0.02$, $SE = 0.01$, $Z = 2.94$, $p < .004$. As shown in Figure 7 (left panel), when pupils’ perception of self-competence was high (+1 SD), teachers’ performance-approach goals were more positively associated with the change in their performance-approach goals, $B = 0.05$, SE

= 0.03, $Z = 1.87$, $p < .063$, than when pupils' perception of their self-competence was low (-1 SD), $B = -0.06$, $SE = 0.03$, $Z = -2.09$, $p < .037$. It is worth noting that change in performance-avoidance goals was positively associated with change in performance-approach goals, $B = 0.18$, $SE = 0.02$, $Z = 4.67$, $p < .001$. No other effects reached significance.

Change in pupils' performance-avoidance goals. The same cross-classified multilevel regressions were conducted on change in pupils' performance-avoidance goals; as previously noted, the fact that pupils knew their teacher before the beginning of the school year was also included, as well as the two first-order interactions with pupils' perception of self-competence and teachers' performance-approach goals, and the second-order interaction. Change in pupils' performance-approach goals in the discipline was also included as a control variable.

In a random intercept and random slope model, the random effect associated with pupils' perception of self-competence was significant $\sqrt{\psi} = 0.13$, 95%, CI 0.09-0.17, indicating that the effect of perceptions of self-competence on change in performance-avoidance goals varied between pupils. The random slope term was therefore kept in the analysis.

The intercept had a significant effect, $B = -0.18$, $SE = 0.06$, $Z = -3.27$, $p < .002$, suggesting a general decrease of performance-avoidance goals from Wave 1 to Wave 2. Moreover, pupils' perception of self-competence at Wave 1 had a significant negative effect on the change in performance-avoidance goals, $B = -0.03$, $SE = 0.02$, $Z = -2.16$, $p < .031$. More importantly, the second-order interaction between teachers' performance-approach goals, pupils' perception of self-competence, and the fact that the teacher was known before was significant, $B = 0.04$, $SE = 0.02$, $Z = -2.52$, $p < .012$. Specifically, the interaction between teachers' performance goals and pupils' perception of self-competence was not significant when the teacher was known before the beginning of the school year, $B = 0.02$, $SE = 0.01$, $Z = 1.62$, $p > .1$, whereas—in line with hypothesis 4b—it was significant when he/she was unknown, $B = -0.02$, $SE = 0.01$, $Z = -2.11$, $p < .036$ (b_2 path in Figure 8); in this last scenario, as shown in Figure 7 (right panel), when pupils' perception of their self-competence was low (-1 SD), his/her teacher's performance-approach goals were more positively associated with the change in their performance-avoidance goals, $B = 0.07$, $SE = 0.03$, $Z = 2.19$, $p < .029$, than when pupils' perception of their self-competence was high (+1 SD), $B = -0.01$, $SE = 0.03$, $Z = -0.45$, $p > .1$. It is worth noting that change in performance-approach goals was positively associated with change in performance-avoidance goals, $B = 0.19$, $SE = 0.02$, $Z = 8.95$, $p < .001$. No other effects reached significance.

Ideological antecedent of performance goals' socialization.

Multilevel mediated moderation analyses. In order to test for the ideological antecedent (i.e., self-enhancement value) of performance goals socialization, we conducted a mediated moderation analyses following the steps outlined by Muller, Judd, and Yzerbyt (2005; for the application of this procedure with data having multilevel structure, see Impett, Le, Asyabi-Eshghi, Day, & Kogan, 2013). The analyses implied a level-2b independent variable (i.e., teachers' self-enhancement value), a level-1 moderator (i.e., pupils' perception of self-competence) and a level-2b mediator (i.e., teachers' performance-approach goals). First, we assessed whether there was a significant interaction between self-enhancement values and pupils' perception of self-competence on change in pupils' performance (-approach and, then, -avoidance; $c1$ and $c2$ paths). Second, we assessed whether teachers' performance-approach goals explained this relationship: We tested the effect of self-enhancement value on teachers' performance goals (a path) and then, we included teachers' performance goals as a mediator in the first model ($b1/b2$ and $c1'/c2'$ path).

Self-enhancement values as an antecedent of the socialization of performance-approach goals.

Direct moderating effect. Cross-classified multilevel regressions were conducted with grand-mean centered teachers' self-enhancement value, grand-mean centered pupils' perception of self-competence, as well as the cross-level interaction between the two, with change in pupils' performance-approach goals as the dependent variable. As in the above analyses, change in pupils' performance-avoidance goals in the discipline was also included as a control variable. Furthermore, because the random effect associated with perceptions of self-competence—before including the cross-level interaction in the model—was once again significant, $\sqrt{\psi} = 0.12$, 95%, CI 0.08-0.18, the term was kept in the analyses.

The analyses revealed an interaction effect between teachers' self-enhancement values and pupils' perception of self-competence, $B = 0.02$, $SE = 0.01$, $Z = 2.25$, $p < .025$ ($c1$ path in Figure 8). When pupils' perception of self-competence was high (+1 SD), their teacher's self-enhancement values were more positively associated with the change in their performance-approach goals, $B = 0.10$, $SE = 0.04$, $Z = 2.33$, $p < .02$, then when it was low (-1SD), $B = -0.04$, $SE = 0.04$, $Z = -0.90$, $p > .1$.

Mediational role of teachers' performance-approach goals. Firstly, linear regression analyses were conducted with mean centered teacher self-enhancement value on teachers' performance approach goals. Results showed that the higher the teachers' self-enhancement value, the higher his/her performance-approach goals, $B = 0.33$, $SE = 0.11$, $F(1, 23) = 9.08$, $p < .007$ (a path in Figure 8).

Secondly, cross-classified multilevel regressions were conducted with grand-mean centered teachers' self-enhancement values, grand-mean centered pupils' perception of self-competence, as well as the cross-level interaction between the two, with change in pupils' performance-approach goals as dependent variable. To test the mediational role of teachers' performance-approach goals, we included grand-mean centered teachers' performance-approach goals as well as its interaction with pupils' perception of self-competence in the model. Change in performance-avoidance goals and the random effect associated with pupils' perception of their self-competence were respectively kept as a control variable and a random slope term. While analyses revealed an interaction effect between teachers' performance-approach goals and pupils' perception of self-competence, $B = 0.02$, $SE = 0.01$, $Z = 2.50$, $p < .013$ (*b1* path in Figure 8), the interaction between and teachers' self-enhancement values and pupils' perception of self-competence became non-significant, $B = 0.01$, $SE = 0.02$, $Z = 0.47$, $p = .635$ (*c1*' path in Figure 8). The indirect effect was of $B = a * b = .007$, $SE_{ab} \approx .04$ ($a * b1$ path in Figure 8). Confidence intervals, determined for a 95% level and once again construed using a Monte Carlo simulation, were = 0.001-0.016.

Self-enhancement values as an antecedent of the socialization of performance-avoidance goals. The same model was applied to change in pupils' performance-avoidance goals. Again, pupils' change in performance-approach goals was used as a control variable. Furthermore, because the random effect associated with perceptions of self-competence—before including the cross-level interaction in the model—was again significant, $\sqrt{\psi} = 0.13$, 95%, CI 0.10-0.18, $\chi^2(1) = 21.72$, $p < .001$, the term was kept in the analyses.

Again, pupils' perception of self-competence at Wave 1 had a significant negative effect on the change in performance-avoidance goals, $B = -0.03$, $SE = 0.02$, $Z = -2.01$, $p < .045$. However, contrary to our prediction, the interaction between pupils' perception of self-competence and teachers' self-enhancement values was not significant, $B = -0.004$, $SE = 0.01$, $Z = -0.26$, $p > .1$ (*c2* path in Figure 8). As the direct interaction of our model was not significant, subsequent mediational analyses were not performed.

Discussion

Extending the findings of Studies 1 to 3, and consistent with hypotheses 4a and 4b, subordinates' perception of self-competence was found to moderate performance goals socialization. On the one hand, as subordinates' (in this case, middle school students) perception of self-competence increases, the more their supervisors' (in this case, teachers) performance goals were positively associated with the change in their performance-approach

goals over time (hypothesis 3a). On the other hand, as subordinates' perception of self-competence decreases, the more their supervisors' performance goals were positively associated with the change in their performance-avoidance goals over time (hypothesis 3b). It is worth noting that hypothesis 3b was confirmed only when pupils did not know their teacher before the beginning of the school year. This unexpected result is however coherent with the socialization phenomenon, to the extent that it might mean that, when pupils knew already their teacher, they were *already* socialized. Furthermore, in the sense that it was not observed for performance-approach goals, this effect might suggest, as in Study 1, a somehow faster performance-avoidance (*vs* performance-approach) goals socialization.

One might wonder why a general decrease in both performance goals was observed. In line with this result, however, Meece and Miller (1999, 2001) reported a similar fall-to-spring decline in schoolchildren's performance goals. The authors admitted the negative change was unexpected and do not produce any theoretical explanation. Yet, in scholastic context, performance-approach and -avoidance would tend to be negatively associated with social desirability (Pekrun, Maier, Elliot, 2006; see also Darnon et al., 2009 noting that, for them, it was not the case for performance-avoidance goals). However, advancing through the middle school system, Bigot, Pichot and Testé (2004) showed that pupils' normative clear-sightedness increased. Thus, in our study, over the course of months, pupils may have become more clear-sighted regarding the negative social value attached to performance goals and—for self-presentation purpose—they may have reported lower scores on these scales (for a similar reasoning see Dompnier et al., 2009).

Furthermore, in line with hypothesis 5a, results revealed that the higher the supervisors' (in this case, teachers) self-enhancement values, the more the time spent under their supervision predicted their the performance goals of the subordinates (in this case, pupils), to the extent that they have a high perception of self-competence; this effect was mediated by supervisors' performance-approach goals. Contrary to hypothesis 4b, however, supervisors' self-enhancement values were not found to be associated with the emergence of performance-avoidance goals over time. This effect might be much more harder to detect on the field; indeed, there is a qualitative leap from teachers' endorsement of Western culture's dominant value (i.e., self-enhancement values; Shwartz, 2006) to subordinates' endorsement of a Western culture's non-dominant achievement goals (i.e., performance-avoidance goals; Hulleman, & Senko, 2010). More controlled experiments should address this issue in the future.

Pupils identification number	Discipline	Teachers identification number	Class identification number
1	Ma	1	1
1	Fr	2	1
1	Eng	3	1
1	1
2	Ma	1	1
2	Fr	2	1
2	Eng	?	1
2	1
3	Ma	?	2
3	Fr	2	2
3	Eng	3	2
3	2
4	Ma	?	?
4	Fr	?	?

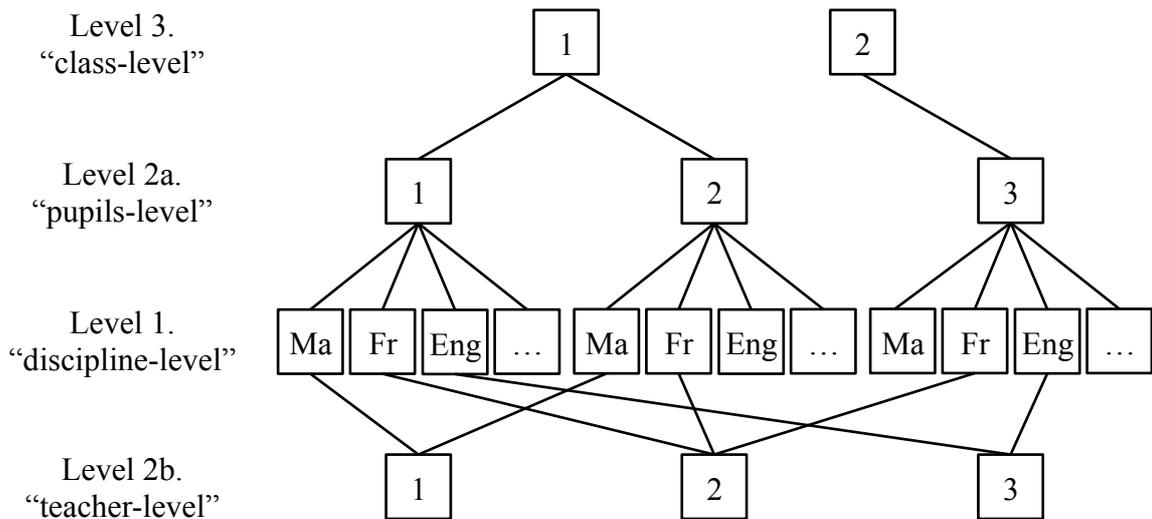


Figure 6. An example of the organization of the data matrix of Study 4 for three pupils (upper panel; the data are fictitious), as well as a graphical representation of its cross-classified structure (lower panel). “Ma” stands for Mathematics, “Fr” for French, “Eng” for English; “...” indicated that there were six disciplines overall.

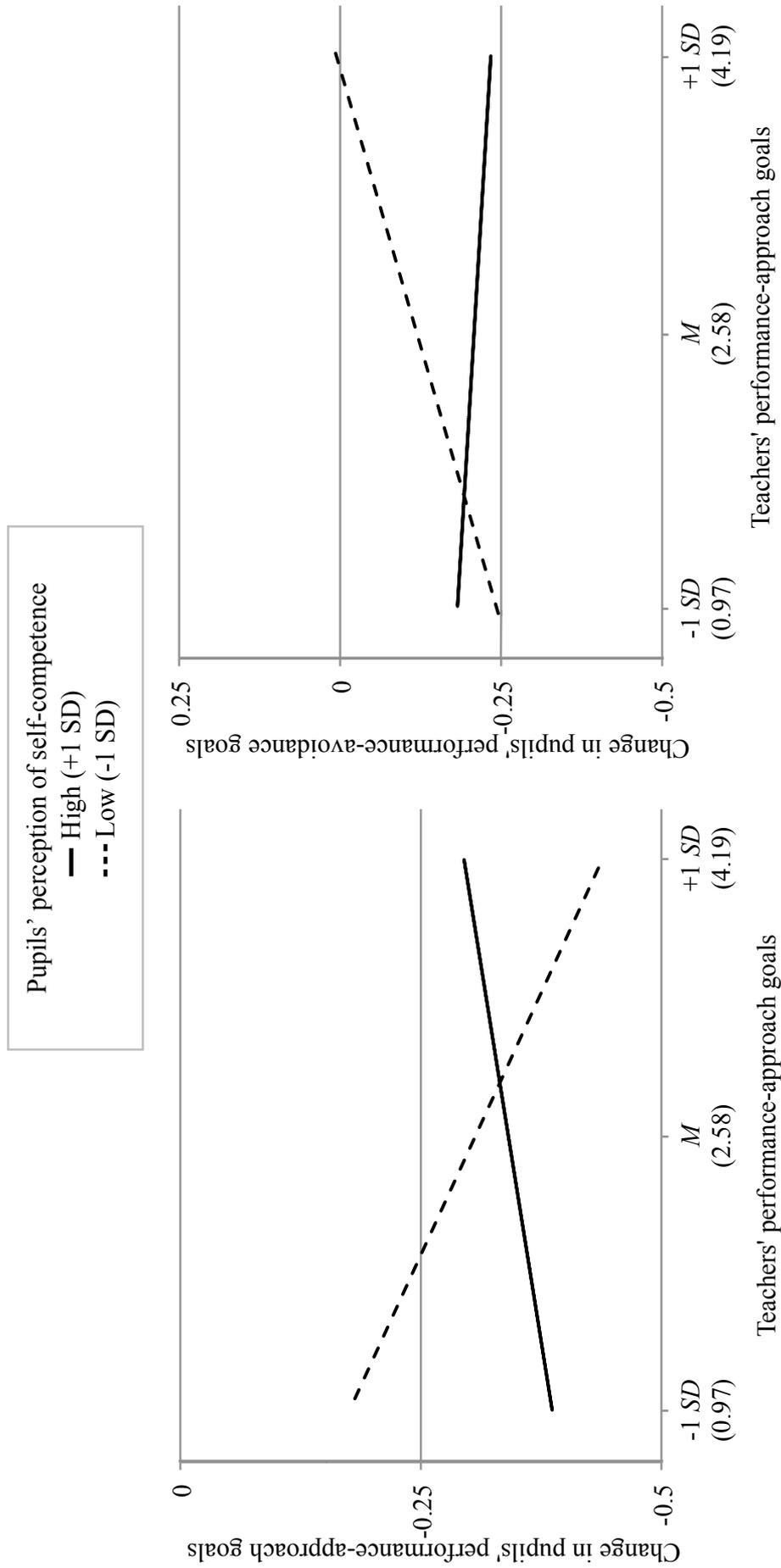


Figure 7. Pupils' change in performance-approach (left panel) and -avoidance (right panel) goals as a function of teachers' performance-approach goals and pupils' perception of self-competence. For the right panel, the interaction concerns the case where teacher was unknown before school year began. Study 4.

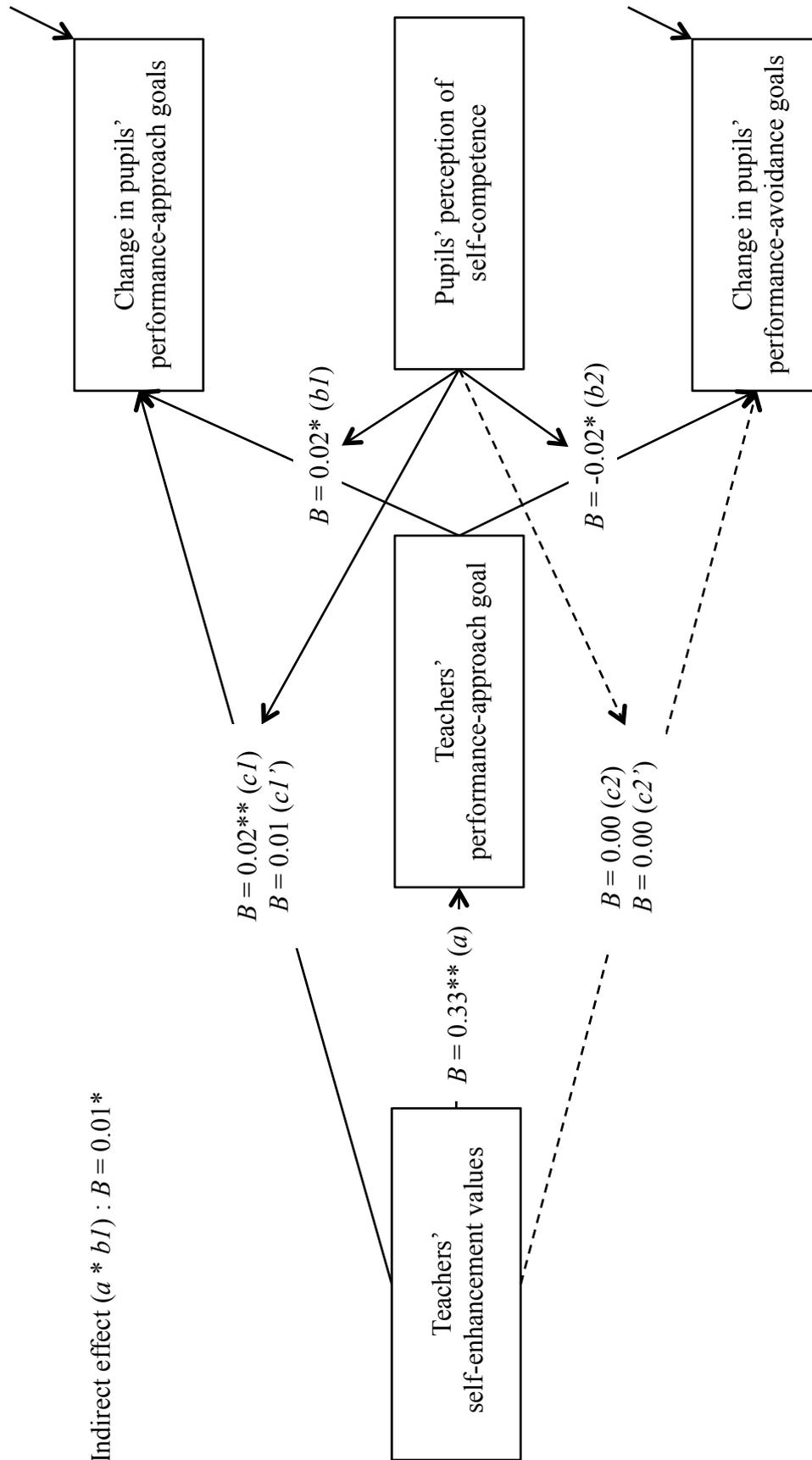


Figure 8. Moderation effect of teachers' self-enhancement values and pupils' perception of self-competence on change in pupils' performance-based goals, mediated by teachers' performance-approach goals. Path b2 refers to the pupils for whom the teacher was unknown before the school year began. Study 4.

Note. * $p < .05$, ** $p < .01$.

General Discussion

Performance-based goals have high social cost for groups, to the extent they have been associated with hostile responses to academic disagreements within learning dyads (Sommet, Darnon, Mugny, et al., 2014), non-cooperative organizational behaviors within work teams (Poortvliet, & Giebels, 2012), moral disengagement and unsportsmanlike conducts within sport teams (Boardley & Kavussanu, 2010; for a review on the detrimental effects of performance goals within groups, see Conroy, Elliot & Trash, 2009). It is thus crucial to understand how—in spite of these detrimental costs—social reproduction of these goals operates. Specifically, in the present research, we focused on the function of group supervisors as agents of performance goals socialization, to illustrate a hitherto neglected, albeit important phenomenon: performance goals socialization.

Across various achievement domains, four studies provided convergent evidence of the existence of the phenomenon, as well as empirical illustrations of its consequences, mechanism, moderator, and antecedent. With respect to the *phenomenon* itself, in a first cross-sectional study—that was carried out with sport teams—coaches' performance-approach goals were found to be positively associated with the emergence over time of their players' performance-approach *and* -avoidance goals. With respect to its *consequences*, in a second cross-sectional study—that was carried out with academic organizations—thesis supervisors' performance-approach goals were found to be associated with an increase over time (directly and indirectly through the emergence of performance-approach goals) in their Ph.D. students' intentions to drop out *and* with a decrease over time (directly and indirectly through the emergence of performance-avoidance goals) in their Ph.D. students' satisfaction. With respect to its *mechanism*, in a third cross-sectional study—that was carried out with video game teams—leaders' performance-approach goals were found to be more positively associated with the emergence of performance-approach *and* -avoidance goals, as team-members in-group identification increased. This result underlines that the phenomenon under study is indeed a form of socialization. With respect to its *directional moderator*, in a last longitudinal study—that was carried out with secondary school classrooms—teachers' performance-approach goals were found to be more positively associated with change in performance-approach goals as pupils' perception of competence increased, and with change in performance-avoidance goals as it decreased. With respect to its *antecedents*, teachers' self-enhancement values were found to be a precursor of the emergence of performance-approach goals.

Theoretical Contributions

The first contribution of the present set of studies pertains to the issue of the predictors of performance-based goals. Independently of each other, some scholars addressed this question at a structural level (e.g., group goal structure as a predictor of the *definition* of achievement goals; Wolter, 2004), while others addressed it at the intrapersonal level (e.g., perceived self-competence as a predictor of the *valence* of performance-based goals; Elliot & Church, 1997). In adopting an integrative cross-level approach, the findings of Studies 1, 2 and 4 allow to articulate these two levels of analysis. Indeed, at level 2, group-supervisors are the relays of performance-based goals socialization, to the extent that supervisors' performance-approach goals lead subordinates to define competence in interpersonal terms (i.e., the *definition* function of performance goals socialization). At level 1, subordinates' perceptions of self-competence are the vectors of the approach vs. avoidance component associated with those goals, to the extent that subordinates' perceived self-(in)competence leads them to frame their goals in approach (vs. avoidance) terms (i.e., the attribution of *valence* of performance goals socialization). Considering both supervisors' and subordinates' goals, our result extend the work on performance goals adjustment over time (e.g., Anderman & Midgley, 1996; Kumar & Jagacinski, 2011; Senko & Harackiewicz, 2005), by showing the importance of taking interpersonal and inter-positional perspectives (that is, studying the (goals) dynamics between individuals from different status; Doise, 1986; Poortvliet & Darnon, 2010) in understanding those changes.

In deepening the understanding of performance goal socialization, future research should identify mediating variable(s) between supervisors' performance-approach goals and subordinates' performance-based goals. On the one hand, following a *social* approach, the various dimension of supervisors' managing and instructional practices (e.g., task assignments, evaluation practices, grouping strategies; see Meece, Anderman, & Anderman, 2005) depicted in the group goal structure literature (Ames, 1992; Dragoni, 2005; Papaioannou, 1994) would all be good candidates. More specifically, we believe that *leadership style* could be the most promising one, to the extent that Hamstra, Van Yperen, Wisse, and Sassenberg (2013) showed that supervisors' transactional leadership (i.e., a focus on monitoring team-members rather than empowering them) predicted the adoption of their subordinates' performance goals. On the other hand, following a *neurocognitive* approach, the multilevel model of achievement goals contagion (Eren, 2009) would provide other potential mediators, namely mirroring functions (i.e., the neurophysiological system involved in the

recognition of others' goal-related behaviors), and theory of mind (i.e., the psychological system involved in the attribution of mental state to others).

The second contribution of the present set of studies pertains to the relationship between performance-based goals and values. On the one hand, achievement goals theorists have accumulated evidence that performance-approach goals are related to self-enhancement values (e.g., Pulfrey & Butera, 2013), as performance-approach goals are associated with both social dominance—i.e., “Power”, e.g., Darnon et al., 2009, Gordon et al., 2007, Levy et al., 2004—and personal success—i.e., “Achievement”, e.g., Elliot and Church, 1997, Luzadis & Gerhardt 2011, Retelsdorf, Butler, Streblov, & Schiefele, 2010). On the other hand, group socialization theorists have accumulated evidence that social identification was the underlying mechanism of the social transmission of values over time (e.g., Guimond, 2000, Jetten, Postmes & McAuliffe, 2002, Livingstone et al., 2011). Building a bridge between these two literatures, Study 3's findings reveal that the process involved in performance goals socialization is analogous to that of *any value*: Supervisor's performance-approach goals are transferred over time to their subordinates (in their approach or avoidance form), all the more so that they identify to their group. Going even further, Study 4's findings reveal that the antecedents of the socialization of performance-approach goals are *self-enhancement values*: Supervisors' self-enhancement values trigger the emergence over time of their subordinates' performance-approach goals. Taken together, the aforementioned results confirm that individual's performance-approach goals *stem* from specific systems of values (e.g., Dekker, & Fischer, 2008; Pudelko & Boon, 2014; Vansteenkiste, Niemiec, & Soenens, 2010), and show how this emergence could impact their followers' performance-based goals, to the extent that they identify to their group; besides, it advocates for taking an ideological perspective (that is, studying the (goals) dynamics as a function of social norms and cultural values; Doise, 1986; Poortvliet & Darnon, 2010) in understanding those effects.

More generally, these results urge scholars to situate the goal construct in its cultural context in order to comprehend the complex process of performance-based goals formation. While our research provides first evidence of the role of supervisors' endorsement of the dominant Western values (i.e., self-enhancement values) in driving performance goals socialization, and it conceives supervisors as the agent of dominant cultural values and goals (for a similar conception in education, see Harris, 1995), future research should explore in a more systematic way how *culture* precedes performance-based goal formation. Indeed, the culture in which one grows up directly shapes his/her values (Schwartz, 1994) and goals (Plaut & Markus, 2005), and agents of socialization, such as teachers, are themselves

socialized by being immersed in a specific culture (Gordon et al., 2007) and/or by being trained (Zeichner, & Gore, 1989). For instance, a three-level cross-cultural educational study, testing how instructors from different cultures (level 3 variable) tend to adopt different values, and—therefore—different goals (level 2 variables), which in turn would predict their pupils' own values and goals, would be a promising avenue for future research.

Practical Contributions

This research also has an important practical implication: Study 2 shows that performance-approach-oriented supervisors, in addition to triggering the emergence over time of their subordinates' performance goals, elicit—via performance goal socialization—the emergence of a maladaptive pattern of motivation and well being, namely an increase in intention to drop out and dissatisfaction. However, more generally, subordinates' performance goals are not only associated with a maladaptive pattern of *intrapersonal* behaviors (e.g., long-term learning, Murayama & Elliot, 2011), but also with a maladaptive pattern of *interpersonal* behaviors (e.g., dysfunctional conflict regulation, Sommet, Darnon, & Butera, 2014), that is hostile, antisocial, uncooperative conducts (Conroy et al., 2009). Thus, it would seem reasonable to assume supervisors' performance-approach goals to predict—via performance goal socialization—dysfunctional regulation of in-group behaviors. What is the consequence?

Because of performance goals' elevated social cost for groups, such as team adaptation (LePine, 2005) or regulation of emotions (Chi & Huang, 2014), small group researchers have concluded that these goals should be discouraged within teams. In order to do so, they have formulated practical recommendations. Relying on an *individual-level* approach, Dierdorff and Ellington (2012) proposed pre-training interventions aiming at reducing trainees' focus on normative performance (and thus on performance-based goals). Yet, given our results, one might doubt that these trainees could ever be re-socialized, given the permanent presence of their team-leaders' performance-approach goals. Moreover, relying on a *structural-level* approach, Gully and Phillips (2005) recommend leaders to use feedback and focus the reward system on processes rather than outcomes (thus reducing followers' performance-based goals). Yet, again, given our results, one might doubt that performance-approach-oriented leaders would rely on such managing practices, as they could conflict with their own goals, and even with their (self-enhancement) values. For our part, relying on a *cross-level* approach, we suggest that interventions should be framed in such a way as to reduce supervisors' *personal* performance-approach goals, therefore resulting in a more profound change in their managing practices and, by extension, their subordinates' goals.

Skaalvik and Skaalvik's (2013) study—reporting a correlation between teachers' perception of their school performance goals structure (i.e., school emphasizing performance goals) and their personal performance-approach goals—provides an empirical evidence consistent with the analysis that policies based on structural changes might reduce the performance goals of supervisors and, through socialization, that of their subordinates.

Limitation and Conclusions

Some limitations should be noted. First, regarding the general phenomenon of performance goals socialization, the cross-sectional design of our first three studies does not allow us to rule out an alternative explanation: The observed pattern of results might be (partially) explained by a (self-)selection effect, i.e., when having a different level of performance-based goals than his/her supervisors, subordinates could be excluded from (or leave) the group (see Bachman, Sigelman, & Diamond, 1987). However, the longitudinal design of Study 4, associated with a low attrition rate, speak in favor of a *socialization* effect.

Second, regarding the empirical evidence related to the effect of supervisors' performance-approach goals on the emergence of subordinates' performance-avoidance goals, Study 1's findings—where, unexpectedly, a floor and a ceiling temporal effects were found—and Study 4's—where, unexpectedly, the effect was only found when subordinates (pupils) did not know their supervisors (teachers)—were substantially more complex. These findings might reflect the fact that the socialization of performance-avoidance goals operate rather rapidly, to the extent that, in Study 4, subordinates who knew their performance-approach-oriented supervisors before the study might have already been socialized. Hence, we caution scholars willing to investigate the effect of supervisors' goals on their subordinates' performance-avoidance goals that it might be difficult to identify.

Third, regarding the conceptualization of performance-based goals, recent advances in achievement goals research distinguished two forms of performance-approach and -avoidance goals: The first form, “appearance goals”, emphasizes the social demonstration of one's competence (i.e., making a good impression / not making a bad impression), while the second one, “normative goals”, emphasizes the social comparison of one's competence (i.e., being better than others / not being worse than others; Senko, Hulleman, & Harackiewicz, 2011). In our studies, it is worth noting that items related to performance-approach goals included a normative (rather than an appearance) component, while the ones related to performance-avoidance goals did not (see, Elliot, & Murayama, 2008). In developing our understanding of performance goals socialization, future research should rely on the latest self-reported

measures of performance goals (i.e., Elliot, Murayama, & Pekrun, 2011) and take into account their various forms (Hulleman, Schragger Bodmann, & Harackiewicz, 2010).

Fourth, regarding the case of *mastery goals socialization*, Studies 1 and 2's results did not provide any evidence of such a phenomenon: Supervisor's mastery goals did not significantly predict subordinates' mastery goals over time. As mentioned earlier, this might be due to the fact supervisors' mastery goals rely on a self-referenced standard of competence evaluation (Elliot, 1999), therefore being more "intrinsic goals" (Pintrich & Garcia, 1991), and less detectable for subordinates (Eren, 2009). However, one might counter the argument claiming that mastery-oriented-supervisors, because they are more autonomy-supportive, should be associated with the emergence of their subordinates' mastery goals (Retelsdorf, & Günther, 2011). Furthermore, Sarrazin, Legrain and Wild (2010) showed that, in being taught by an instructor presented as a voluntary (vs. paid) worker, trainees tended to be more intrinsically motivated (i.e., a phenomenon labeled social contagion of intrinsic motivation). Given that the groups that we studied were all embedded in sport, academic, or scholastic competitive environments, where performance-approach goals are perceived as socially useful (Dompnier et al., 2013), it is possible that in non-competitive environment (e.g., amateur music lessons, Birch, 2013), where only mastery goals could be perceived are socially useful (Dompnier et al., 2009), mastery goals socialization would be more likely to occur.

In conclusion, revealing a hitherto neglected phenomenon, namely performance goals socialization, as well as its consequences, mechanism, moderator, and antecedents, the present set of studies shed a new light on the process of goals construction. Specifically, unraveling the role of supervisors, as well as the influence of group-identification, perceived competence, and self-enhancement values in explaining the evolutions of subordinates' performance-based goals, this research shows the critical importance of taking into consideration social hierarchy, group dynamics, as well as norms and values, in studying performance goals formation.

Footnotes

¹ Following generations of achievement goals research have additionally differentiated mastery goals in terms of valence—that is mastery-*approach* from mastery *avoidance* goals (a 2 x 2 framework, Elliot & McGregor, 2001)—and in terms standard for evaluating self-competence—that is *task* from *self* goals (a 3 x 2 framework, Elliot, Murayama, & Pekrun, 2011). As in this research we will mostly focus on performance goals, we will not get into the details of these various distinctions.

² For exploratory purposes, the distinction between performance-approach goals toward out-group members (i.e., desire to outperform *opponents*; as described above) and the ones toward in-group members (i.e., desire to outperform *teammates*; 3 items, e.g., “When I play soccer, it is important for me to play better than the players of *my* teams”; $\alpha = .83$, $M = 4.60$, $SD = 1.57$) was introduced in our questionnaire. The former corresponds to performance-approach goals as classically conceptualized in achievement goals research in sport. For instance, Sage, Kavussanu and Duda (2006) measured soccer players’ performance-approach goals using items such as “When playing football I feel most successful when [...] I outperform my opponents” (p. 458). The latter form—to the best of our knowledge—has not been clearly conceptualized in the literature. However, as neither the time spent with the coach, performance-approach goals of the coaches, nor the interaction between the two was significantly associated with performance-approach goals toward in-group members ($ps > .47$), these items were not considered in the present manuscript.

³ The fact that the standard deviation of the variable was superior to its mean indicated a large dispersion of individual responses. Specifically, data showed a highly right-skewed distribution ($sk = 2.99$) increasing the likelihood of outlier(s) being present. Using the interquartile method (Rousseeuw & Croux, 1993), with a conservative cut-off of $Q_1 - 3 * IQR < x_i < Q_3 + 3 * IQR$ (where Q_1 is the first quartile, Q_3 the third one, and IQR the interquartile range; see Berk & Carey, 2009), we detected six potential influential observations. However, as excluding them did not change the patterns of results (*n.b.*, all hypothesized interaction effects remained significant, $ps < .01$), they were retained for the reported analyses.

⁴ We conducted a series of preliminary diagnostic analyses in order to detect potential influential observations. We run regressions analyses with time students spent with their supervisors, thesis supervisors’ performance-approach goals and the interaction between the two as predictors, and students’ achievement goals as outcomes variables. DFFITS values—providing a measure of how deleting a particular observation modifies regression results (Belsley, Kuh, Welsh, 1980)—were calculated. For one observation, they were found to be

above the cutoff point (i.e., $|DFFITS| > 2 * \sqrt{(k / n)}$, where k is the number of regressors, and n the number of observations; Fidell & Tabachnick, 2003) for both performance-approach and -avoidance goals. Respective DFFITS values were of .41 and .43. In keeping the participant, the interaction effects hypothesized in 1a and 1b remained significant ($ps < .045$). This being said, in removing it, they became indubitably clearer ($ps < .026$). We therefore decide not to consider it in further analyses.

⁵ For mastery goals, the low alpha value results from the low variance in participant responses (n.b., less than 8% of the items responses were different than 6 or 7; for similar a problem, see Darnon et al., 2009). Broadly speaking, such a low variance resulted in a moderately left-skewed distribution ($sk = -0.83$). As in Study 1, we addressed this issue by using quasi-maximum likelihood estimators.

⁶ Given the exploratory nature of the present study, two additional variables were measured: i. Seven items assessed the quality of leader-member exchange (e.g., “My working relationship with my thesis supervisor is effective”; $\alpha = .93$, $M = 5.63$, $SD = 1.22$; Janssen & Van Yperen, 2004); ii. Nine items assessed creativity “How often do you create new ideas for improvement in your work?”; $\alpha = .88$, $M = 3.68$, $SD = 0.94$; Janssen, 2000). However, as the interaction effects between time students spent with their supervisors and thesis supervisors’ performance-approach goals on both of these outcomes were non-significant, detailed results were neither presented nor discussed.

⁷ *RSE* stands for Robust Standard Error

⁸ In order to increase the predictive accuracy of our model, interactions between the potential mediators were taken into account. However, as in the present article, we are not interested in the issue of multiple goals (for a literature review on this matter, see Harackiewicz, & Linnenbrink, 2005), the moderation effects were not reported above. For the sake of transparency, interested readers should know that results revealed an interaction between Ph.D students’ mastery and performance-approach goals on both satisfaction, $B = 0.46$, $SE = 0.15$, $Z = 2.97$, $p < .003$, and intention to drop out, $B = -0.64$, $SE = 0.16$, $Z = -3.93$, $p < .001$. No other interaction effect reached significance.

⁹ In the context of multiple mediators (i.e., here Ph.D students’ achievement goals), the reduction of total effect—i.e., the total effect (c) minus the direct effect (c')—has poor diagnostic value. Indeed, mediator variables can interfere with each other (e.g., one of it can work as a suppressor variable, Judd, Muller & Yzerbit, 2014) and, accordingly, Rucker, Preacher, Tormala, and Petty (2011) recommend to “abandon the emphasis on the significance of c and c' [in conducting mediation analyses]” (p. 368).

¹⁰ Confidence intervals were construed using the Monte Carlo simulation (MC; MacKinnon, Lockwood, & Williams, 2004) rather than the bias-corrected bootstrap method (Preacher & Hayes, 2008), as Preacher and Selig (2012) demonstrated that “until one bootstrap method emerges as best in the multilevel context, MC may be the only viable method [to assess indirect effect]” (p. 94).

¹¹ The data reported in this manuscript are part of a larger data collection. Another study, focused on the relationship between performance-approach goals and team performance is submitted for publication. However, it should be noted that the inclusion criteria used to build these two sub-samples were not the same: In the present study, we included teams having a leader and at least one member, while in the other one, we included teams having participated to a specific tournament.

¹² Two elements have to be made clear. First, it should be noted that one team had two Clan Officers. Performance goals of these two players were averaged and—in conducting the analyses—we used this aggregate as the performance-approach goals of the supervisor, i.e., as predictor of the performance goals of the team-members. Second, it should be noted that eight teams having no Clan Officer, we treated their Clan Leader (i.e., the highest remaining rank) as being the supervisor. In assessing the (potential) consequences of such a decision, we entered this variable (coded “-0.5” for members having a “Clan Leader” as a leader and “+0.5” for the ones having a “Clan Officer” as a leader) in our hypothesis-testing models. As it neither produced significant effect on members’ performance-approach ($p = .24$) and -avoidance ($p = .99$), nor changed the pattern of the expected second-order interaction ($ps < .019$), the distinction was not further considered.

GENERAL DISCUSSION

General Discussion

The present dissertation stemmed from the observation that the social groups of most Western societies are mainly structured competitively (e.g., negatively interdependent rewards in traditional education, D. W. Johnson, 1984, organizations, Tjosvold, 1986, or sports, Van Yperen, 1997), and that performance-based goals have drawn the attention of scholars in Psychology for roughly four decades (Elliot, 2005). However, despite the fact that goals are most often pursued in the *social plenum*—that is, in contexts that are *interaction-relevant* (i.e., where one frequently comes to interact with others), *hierarchy-relevant* (i.e., where one frequently comes to interact with more-competent or higher-status others), and *ideology-relevant* (i.e., where one frequently comes to interact with others within social groups having specific norms and values)—most of the relevant research adopted an *intrapersonal* perspective only (i.e., studying the (goal) forces within individuals; i.e., Doise's (1986) first level of analysis).

In the first part of this work—related to the first and second lines of research—we examined *the interpersonal consequences* of performance-approach and -avoidance goals, focusing on the case of socio-cognitive conflict, at an *interpersonal* level (i.e., studying the (goal) forces between individuals; i.e., Doise's (1986) second level of analysis) and a *positional* level (i.e., studying the (goal) forces between individuals having asymmetrical positions i.e., Doise's (1986) third level of analysis).

In the second part of this work—related to the third line of research—we examined the *interpersonal antecedents* of performance-approach and -avoidance goals, focusing on the case of performance goals socialization, at a *positional* level (i.e., Doise's (1986) third level of analysis) and an ideological level (i.e., studying the (goal) forces driven by social norms and values; i.e., Doise's (1986) fourth level of analysis).

In this final part, we will first review the findings of our three lines of research; we will then discuss their contributions to the achievement goal literature, that on socio-cognitive conflict, and that on goal formation. We will finish by acknowledging the limitations, and elaborating on the main practical implications of the present findings.

1. Highlights of the Present Set of Studies

1.1. The Interpersonal Consequences of Performance Goals

1.1.1. Performance Goals as Predictors of Competitive and Protective Regulations

In the first line of research (Studies 1.1. to 1.3), we argued that performance-based goals—as they are generally associated with a focus on social comparison of competence (Elliot, 1999)—relate to an evaluation of interactants as stressors (i.e., the *primary* cognitive appraisal; Lazarus & Folkman, 1984). Specifically, when facing a disagreeing other, we predicted that performance-*approach* goals—as they are specifically associated with *high* competence expectancies—would trigger *highly* agentic interpersonal responses to disagreement, whereas performance-*avoidance* goals—as they are specifically associated with *low* competence expectancies—would trigger *poorly* agentic interpersonal responses to disagreement (i.e., the *secondary* cognitive appraisal; Lazarus & Folkman, 1984).

Thus, we formulated a first set of hypotheses: Performance-approach goals should predict competitive relational regulation (hypothesis 1.1.), whereas performance-avoidance goals should predict protective relational regulation (hypothesis 1.2.). Three studies were designed to test these hypotheses.

In line with hypothesis 1.1., results of Study 1.1. revealed that, in a face-to-face interaction with a disagreeing other, the higher the performance-approach goals, the higher the rating of the graph corresponding to one's original position compared to that of the interactant and other alternatives (i.e., a self-confirmatory behavior). Moreover, in line with hypothesis 1.2., the higher the performance-avoidance goals, the higher the rating of the graph corresponding to the interactant's position compared to the others (i.e., a compliant behavior).

Replicating Study 1.1.'s findings while manipulating conflict (with a bogus partner providing disagreeing answers vs. (mostly) agreeing answers), Study 1.2. revealed that, in the conflict condition, the higher the performance-approach goals, the higher the self-superiority score (more competence is attributed to the self than to the other, i.e., a dominant response); this was not the case in the no-conflict condition. Moreover, in the conflict condition, the higher the performance-avoidance goals, the lower the self-superiority score (a submissive response); here also, this was not the case in the no-conflict condition.

Replicating Study 1.2. findings while manipulating performance goals, Study 1.3. revealed that, in a performance-approach goals condition, the higher the amount of perceived disagreements, the higher the self-reported competitive regulation (e.g., “[did] you try to show you were right?”); this was not the case in the performance-avoidance goals condition.

Moreover, in the performance-avoidance goals condition, the higher the amount of perceived disagreements, the higher the self-reported protective regulation (e.g., “[did] you comply with [the other’s] proposition?”); here also, this was not the case in the performance-approach goals condition.

1.1.2. Performance Goals as Regulators of Conflict with More-Competent Others

In the second line of research (Studies 2.1. to 2.4), we argued that performance-based goals—being associated with the endorsement of social status goals (Hick, 1997)—relate to an evaluation of *more-competent* interactants as stressors (i.e., the *primary* cognitive appraisal; Lazarus & Folkman, 1984). Specifically, when facing a superiorly (vs. similarly) disagreeing other, we predicted that performance-*approach* goals—as they are specifically associated with *high* competence expectancies—would trigger interpersonal responses having *a higher degree of agency*, whereas performance-*avoidance* goals—as they are specifically associated with *low* competence expectancies— would trigger interpersonal responses having *a lower degree of agency* (i.e., the *secondary* cognitive appraisal; Lazarus & Folkman, 1984).

Thus, we formulated a second set of hypotheses: Performance-approach goals should more positively predict competitive conflict regulation when facing a more-competent partner than when facing an equally competent partner (hypothesis 2.1.), whereas performance-avoidance goals should more positively predict protective conflict regulation when facing a more-competent partner than when facing an equally competent partner (hypothesis 2.2.). Four studies were designed to test these hypotheses.

In line with hypothesis 2.1., results of Study 2.1. revealed that, in computer-mediated bogus interactions with a disagreeing other, in a superior-competence partner condition (“partner” presented as having a higher academic level), the higher the performance-approach goals, the higher the self-reported competitive regulation; this was not the case in the same-competence partner condition (“partner” presented as having the same academic level). Moreover, in line with hypothesis 2.2., in the superior-competence partner condition, the higher the performance-avoidance goals, the higher the self-reported protective regulation; this was not the case in the same-competence partner condition.

Replicating Study 2.1.’s findings while manipulating performance goals, Study 2.2. revealed that, in a superior-competence partner condition, performance-approach goals predicted a higher preferential rating of the graph corresponding to one’s original position (i.e., competitive regulation); this was not the case in the same-competence partner condition. Moreover, in the superior-competence partner condition, performance-avoidance goals

predicted a higher preferential rating of the graph corresponding to the other's position (i.e., protective regulation); this was not the case in the same-competence partner condition.

Replicating Studies 2.1. and 2.2.'s findings while adding a control condition for relative competence ("partner" having an undetermined competence), Study 2.3. revealed that, in the superior-competence partner and in the control conditions, the higher the performance-approach goals, the higher the self-reported competitive regulation; this was not the case in the same-competence partner condition. Moreover, in the superior-competence partner and in the control conditions, the higher the performance-avoidance goals, the higher the self-reported protective regulation; this was not the case in the same-competence partner condition.

Replicating Studies 2.1. to 2.3.'s findings in a more ecological context (i.e., face-to-face interactions with a disagreeing other), Study 2.4. revealed that, when partner's competence was superior, the higher the performance-approach goals, the higher the behavioral competitive regulation; this was not the case when partner's competence was equal or inferior. Moreover, when partner's competence was superior, the higher the performance-avoidance goals, the higher the behavioral protective regulation; this was not the case when partner's competence was equal or inferior.

1.1.3. Integrative Summary

As it can be seen in Figure 5.1., taken together, the results of the first part of our work allow us to draw a two-fold conclusion.

First, they enable us to define the conditions under which performance-oriented individuals perceive conflicting interactants as stressors, and the conditions under which they do not (i.e., during what we kept referring to as a "*primary cognitive appraisal*"). On the one hand, in the case of (i) upward social comparison (i.e., counterpart's competence presented as being superior; Studies 2.1.-2.4.) and that of (ii) mere interaction (i.e., counterpart's competence being unspecified; Studies 1.1-1.3; Study 2.3.), performance-based goals are associated with the perception of disagreeing interactants as being stressors; this is implied by the fact that—in such cases—they positively predict relational-based conflict regulation. On the other hand, in the case of (i) horizontal social comparison (i.e., counterpart's competence presented as being equal; Studies 2.1.-2.4.) and that of (ii) downward social comparison (i.e., counterpart's competence presented as being inferior; Study 2.4.), performance-based goals are *not* associated with the perception of disagreeing interactants as being stressors; this is

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implied by the fact that—in such case—they do not significantly predict relational-based conflict.

Second, the results enable us to define the condition under which performance-oriented individuals regulate stress-inducing conflictual interactions in a competitive way, and the condition under which they regulate them in a protective way (i.e., during what we kept referring to as a “*secondary* cognitive appraisal”). On the one hand, performance-*approach*-oriented individuals, as they perceive that they have *sufficient* resources to cope with the stressor (i.e., a superior perceived self-competence; Study 1.2.), tend to display *highly agentic* responses (i.e., *challenge*-appraisal); this is implied by the fact that—in their approach form—performance goals positively predict relational competitive conflict regulation. On the other hand, performance-*avoidance*-oriented individuals, as they perceive that they have *insufficient* resources to cope with the stressor (i.e., an inferior perceived self-competence; Study 1.2.), tend to display *poorly agentic* responses (i.e., *threat*-appraisal); this is implied by the fact that—in their avoidance form—performance goals positively predict relational protective conflict regulation.

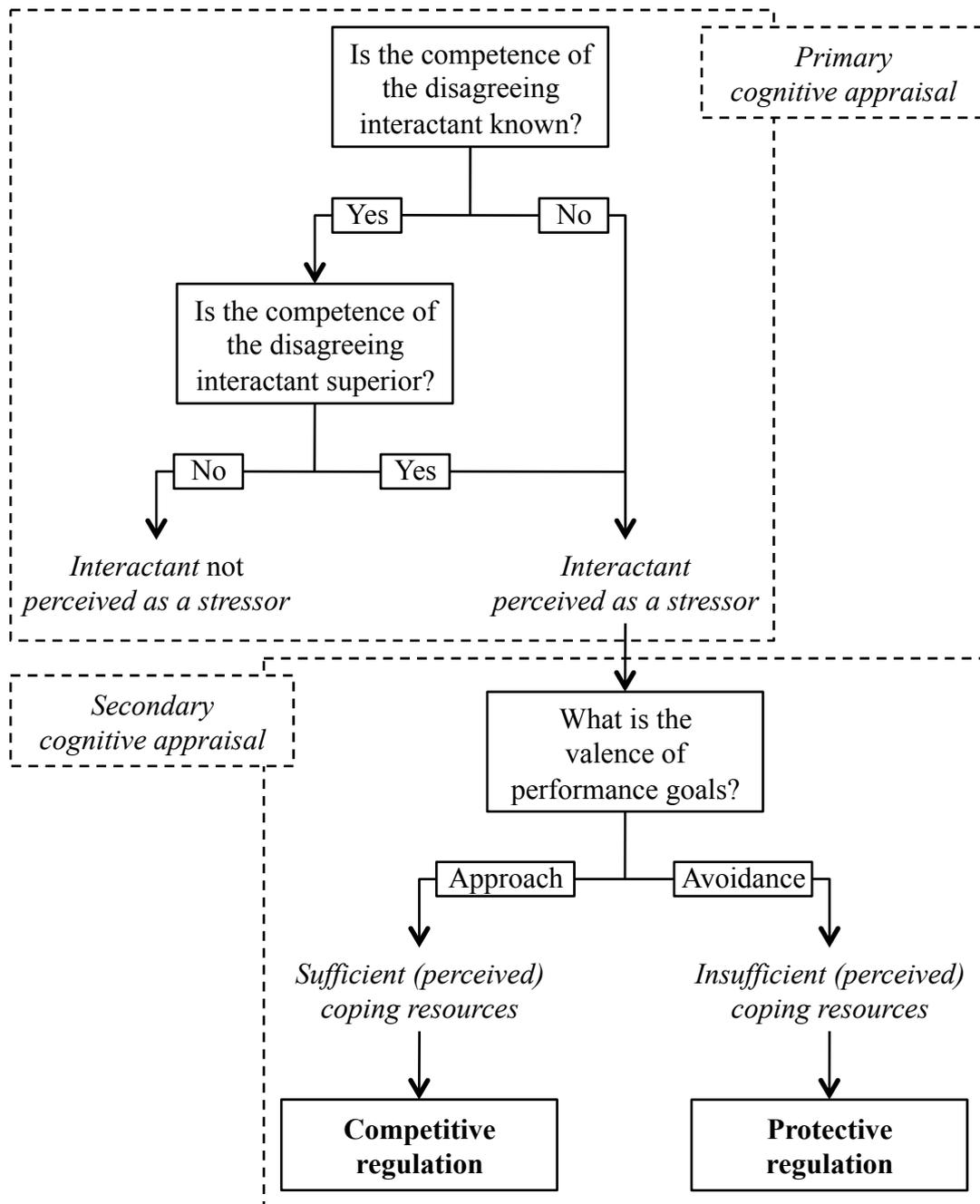


Figure 5.1. Performance-based goals as a regulator of socio-cognitive conflict: (i) the unknown or superior competence of the disagreeing interactant leads performance-oriented individuals to perceive him/her as a stressor (primary cognitive appraisal); (ii) the approach (vs. avoidance) valence of their goals lead them to cope with this stressor using competitive (vs. protective) conflict regulation. In the case where the interactant is not perceived as a stressor, there is no secondary appraisal (e.g., see Broyles, 2006).

1.2. The Interpersonal Antecedents of Performance Goals

1.2.1. Performance Goals Socialization

In the third line of research (Studies 3.1. to 3.4.)—notably drawing on research on group goals structure (Dragoni, 2005; Papaioannou, 1994; Wolter, 2004)—we first argued that supervisors' performance-approach goals could trigger the adjustment of subordinates' performance-based goals over time. Second—notably drawing on research on the relationship between values and performance goals (Pudelko & Boon, 2014; Pulfrey & Butera, 2013; Vansteenkiste, Niemiec, & Soenens, 2010)—we considered self-enhancement values as the ideological *antecedents* of performance goals socialization. Third—notably drawing on research on socialization of supervisors-based value (Guimond, 2000; Jetten et al., 2002; L. G. Smith et al., 2012)—we considered in-group identification as the core underlying *mechanism* of performance goals socialization. Fourth—notably drawing on research on the precursors of the valence of performance goals (Elliot & Church, 1997; Senko & Harackiewicz, 2005, Study 1; Urdan & Schoenfelder, 2006)—we considered perceived self-competence as the *directional moderator* of performance goals socialization.

Specifically, we formulated a third set of (four) hypotheses (and their corollaries): (i) The higher a supervisor's performance-approach goals, the more the time spent under his/her supervision should predict his/her subordinates' performance-approach goals (hypothesis 3.1.1.) and, by extension, his/her performance-avoidance goals (hypothesis 3.1.2.); (ii) the higher a supervisor's self-enhancement values, the more the time spent under his/her supervision should predict—through his/her performance-approach goals—his/her subordinates' performance-approach goals (hypothesis 3.2.2) and, by extension, their performance-avoidance goals (hypothesis 3.2.2); (iii) Over time, the higher the subordinates' group identification, the more their supervisor's performance-approach goals should predict their own performance-approach goals (hypothesis 3.3.1.) and, by extension, their performance-avoidance goals (hypothesis 3.3.2.); (iv) As subordinates' perception of self-competence increases, their supervisor's performance-approach goals should positively predict their performance-approach goals over time (hypothesis 3.4.1) and, by extension, as subordinates' perception of self-competence decreases, their supervisor's performance-approach goals should positively predict their performance-avoidance goals over time (hypothesis 3.4.2). Four studies were designed to test these hypotheses.

In line with our first hypothesis and its corollary, results of Study 3.1. revealed that, the higher soccer coaches' performance-approach goals, the more the time spent under their

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supervision was positively associated with their players' performance-approach (in line with hypothesis 3.1.1.) and -avoidance (in line with hypothesis 3.1.2.) goals.

Replicating Study 2.1.'s finding, Study 2.2. revealed that the higher thesis supervisors' performance-approach goals, the more the time spent under their supervision was positively associated with their Ph.D. students' performance-approach and -avoidance goals. Moreover, supervisors' performance-approach goals respectively predicted direct and indirect (through the emergence of subordinates' performance-approach goals) increase over time in subordinates' intentions to drop out and direct and indirect (through the emergence of subordinates' performance-avoidance goals) decrease over time in subordinates' satisfaction.

In line with our third hypothesis and its corollary, results Study 3.3 revealed that, the higher video game players' in-group identification, the more their leaders' performance-approach goals were positively associated with the emergence over time of their performance-approach (in line with hypothesis 3.3.1.) and -avoidance (in line with hypothesis 3.3.1.) goals.

In line with our fourth hypothesis and its corollary, using a longitudinal design, Study 3.4. revealed that, the higher secondary school pupils' perceived self-competence, the more their teachers' performance-approach goals were positively associated with change in their performance-approach goals over time (in line with hypothesis 3.4.1.); conversely, the lower the pupils' perceived self-competence, the more their teachers' performance-approach goals were positively associated with change in their performance-avoidance goals over time (in line with hypothesis 3.4.2.; N.B., only when pupils did not know their teacher before the beginning of the school year). Moreover, in line with our second hypothesis, teachers' self-enhancement values were positively associated with change in their pupils' performance-approach goals over time; this effect was mediated by supervisors' performance-approach goals (in line with hypothesis 3.2.1.); however, teachers' self-enhancement values were not significantly associated with change in pupils' performance-avoidance goals over time (in contrast to hypothesis 3.2.2).

1.2.2. Integrative Summary

As it can be seen in Figure 5.2., taken together and re-organized in a linear way, the results of the second part of our work allow us to understand the complex nature of the performance goals socialization phenomenon, that is: (i) its ideological antecedents; (ii) its underlying mechanism; (iii) its directional moderator; and (iv) its long-term psychological consequences.

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First, they show that supervisors' adherence to the dominant Western cultural values (i.e., self-enhancement values) predict their endorsement of performance-approach goals (ideological *antecedents*, Study 3.4.). Then, on the one hand, they show that—in turn—supervisors' performance-approach goals, when subordinates are highly identified to their in-group (underlying *mechanism*, Study 3.3.), and perceiving themselves as *competent* (directional *moderator*, Study 3.4.), trigger the emergence over time of performance-approach goals (socialization *phenomenon*, Studies 3.1. and 3.2.). On the other hand, they show that—conversely—supervisors' performance-approach goals, when subordinates are highly identified to their in-group (underlying *mechanism*) and perceiving themselves as *incompetent* (directional *moderator*), trigger the emergence over time of performance-avoidance goals (socialization *phenomenon*). Last, they show that performance goals socialization has detrimental effects over time on subordinates' motivation and well-being (long-term *consequences*, Study 3.2.).

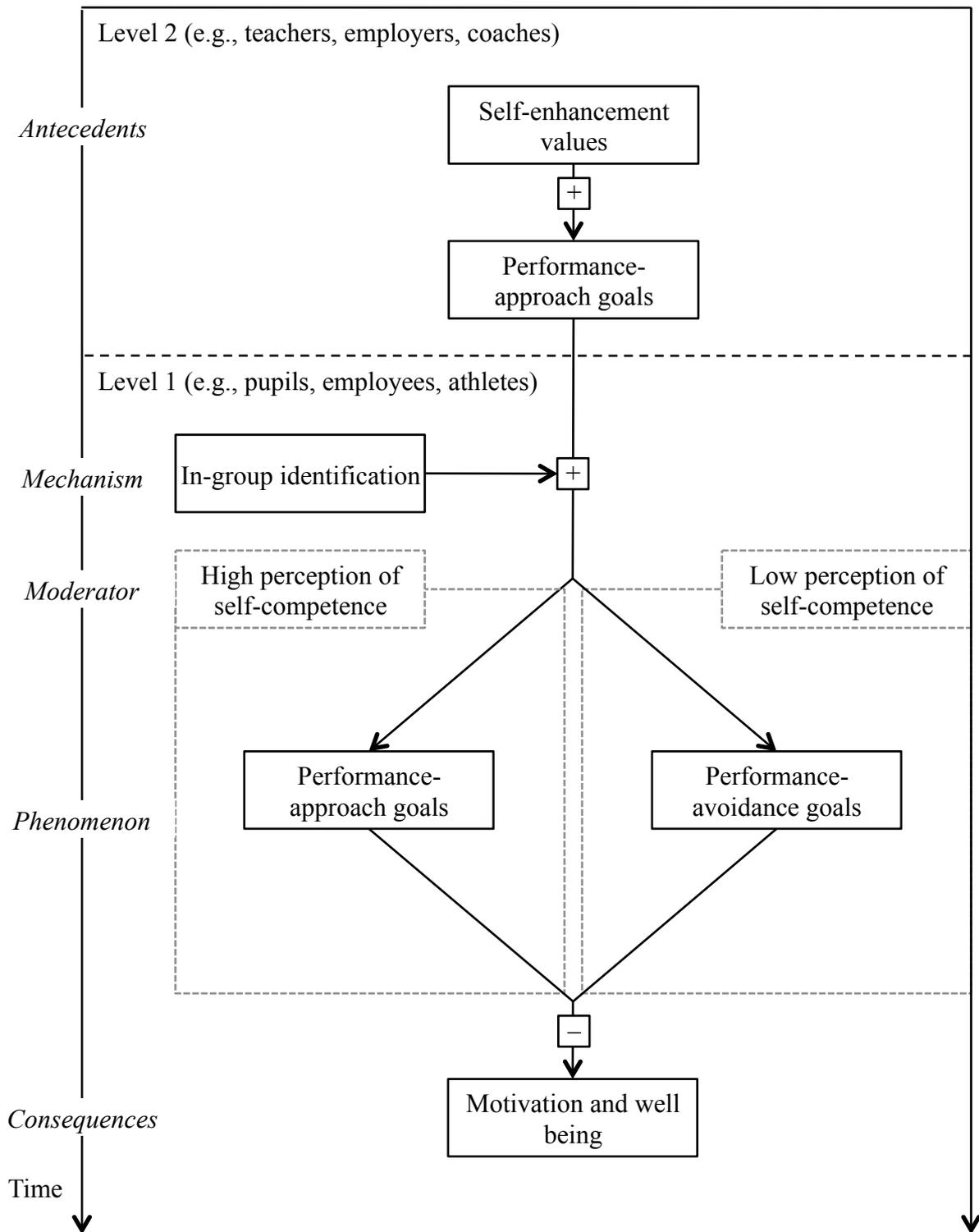


Figure 5.2. Performance goals socialization: Antecedents, mechanism, moderator, phenomenon, and consequences.

2. Contributions of the Present Set of Studies

2.1. The Interpersonal Outlook: Contributions of the First Line of Research

We already came across Dweck and Legget's (1988) quotation urging scholars to determine "the specific ways in which goals may affect social behaviors" (p. 265; for more recent articles where the same point is made, see Conroy et al., 2009; Darnon et al., 2012; Kaplan, 2004; Liem et al., 2008; Poortvliet & Darnon, 2010). Replying to these calls for empirical studies, we adopted, in our first line of research, Doise's (1986) second level of analysis (i.e., a focus on *interpersonal* forces in studying goals). The two main contributions that result from this approach are reported here.

2.1.1. A Contribution to the Literature on Socio-Cognitive Conflict

The first contribution relates to research on socio-cognitive conflict. In other lines of research (e.g., need for closure, Kruglanski, Webster, & Klem, 1993; social power, Nesler et al., 1999; or social influence, Blake & Mouton, 1961; see also Butera, Gardair, Maggi, & Mugny, 1998) the distinction between (self) confirmatory and compliant behaviors is univocal (e.g., termed "resistance" and "openness to persuasion" in Kruglanski et al., 1993; "resistance" and "compliance" in Nesler et al., 1999; "resistance" and "conformity" in Blake & Mouton, 1961). In contrast, in the socio-cognitive literature, the distinction between the validation of one's point of view at the expense of a disagreeing other (akin to self-confirmation) and the invalidation of one's point of view to the benefit of a disagreeing other (akin to compliance) is conceptually more ambiguous. Indeed, both these modes of regulation—in that they focus on a social comparison of competences (rather than on solving the task itself)—have been labeled *relational conflict regulations* (e.g., for self-confirmation, Butera & Mugny, 1995; for compliance, see Mugny, 1984).

Yet, although those two modes of regulation negatively predict learning (Buchs et al., 2004), it does not mean that they are isodynamic (i.e., always predicting the same outcomes); for instance, as far as social judgment is concerned (Beauvois & Dubois, 2009), holding a divergent attitude is perceived as socially undesirable, while holding a convergent one is perceived as socially desirable (Swann, 1997). Thus, importantly, in our first line of research, a Pilot Study, as well as an exploratory principal component analysis (Study 1.3.; see also Studies 2.1. and 2.3.), provided evidence that the self-confirmation form of relational conflict regulation, namely competitive regulation, and its compliance form, namely protective regulation, corresponded to two separate factors. In addition to this distinction, Studies 1.1. to

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1.3. identified the goals acting as precursors of competitive and protective regulations, that is, respectively, performance-approach and -avoidance goals.

In order to refine the typology—and therefore to improve the predictive value of achievement goals in conflictual social interactions—one might wonder whether other forms of conflict regulation exist. Kilmann and Thomas (1974; see also, Thomas and Kilmann, 1977; Thomas, 1992) proposed a two-dimensional taxonomy of organizational conflict-handling mode. This model aims at classifying individuals' behavioral responses to conflicting situations along two orthogonal dimensions: cooperativeness (i.e., the extent to which one tries to satisfy others' concerns) and assertiveness (i.e., the extent to which one tries to satisfy his/her concerns). Cooperativeness involves variability on an uncooperative (i.e., low concern for others) to cooperative (i.e., high concern for others) horizontal axis. Assertiveness involves variability on an unassertive (i.e., low concern for the self) to assertive (i.e., high concern for the self) vertical axis. As seen in Figure 5.3. (upper panel), four modes of conflict-handling are therefore possible: (i) competing (i.e., uncooperative and assertive) is a power-oriented mode where one pursues his/her own concerns at the other's expense; (ii) avoiding (i.e., uncooperative and unassertive) is a withdrawal-oriented mode where one tries to avoid creating unpleasantness for him/herself; (iii) collaborating (i.e., cooperative and assertive) is a co-learning-oriented mode where one tries to involve the other in working out a solution; (iv) accommodating (i.e., cooperative and unassertive) is a compromise-oriented mode when one is over-preoccupied with the other's welfare.

In linking Kilmann & Thomas's (1974) taxonomy with our own (see Figure 5.3.), we could argue that competitive regulation—as underlain by performance-approach goals—involves uncooperativeness (i.e., as associated with the performance definition of the goals; see Conroy et al., 2009) and assertiveness (i.e., as associated with the approach valence of the goals), and would thus be similar to “competing”. Protective regulation—as underlain by performance-avoidance goals—involves uncooperativeness (i.e., as associated with the performance definition of the goals) and unassertiveness (i.e., as associated with the avoidance valence of the goals), and would thus be similar to “avoiding”. Epistemic regulation—as underlay by mastery-approach goals (Darnon et al., 2006)—involves cooperativeness (i.e., as associated with the mastery definition of the goals; see Conroy et al., 2009) and assertiveness (i.e., as associated with the approach valence of the goals), and would thus be similar to “collaborating”. Pursuing the parallel further, we could conceptualize another form of regulation—as underlay by mastery-avoidance goals (i.e., the will not to

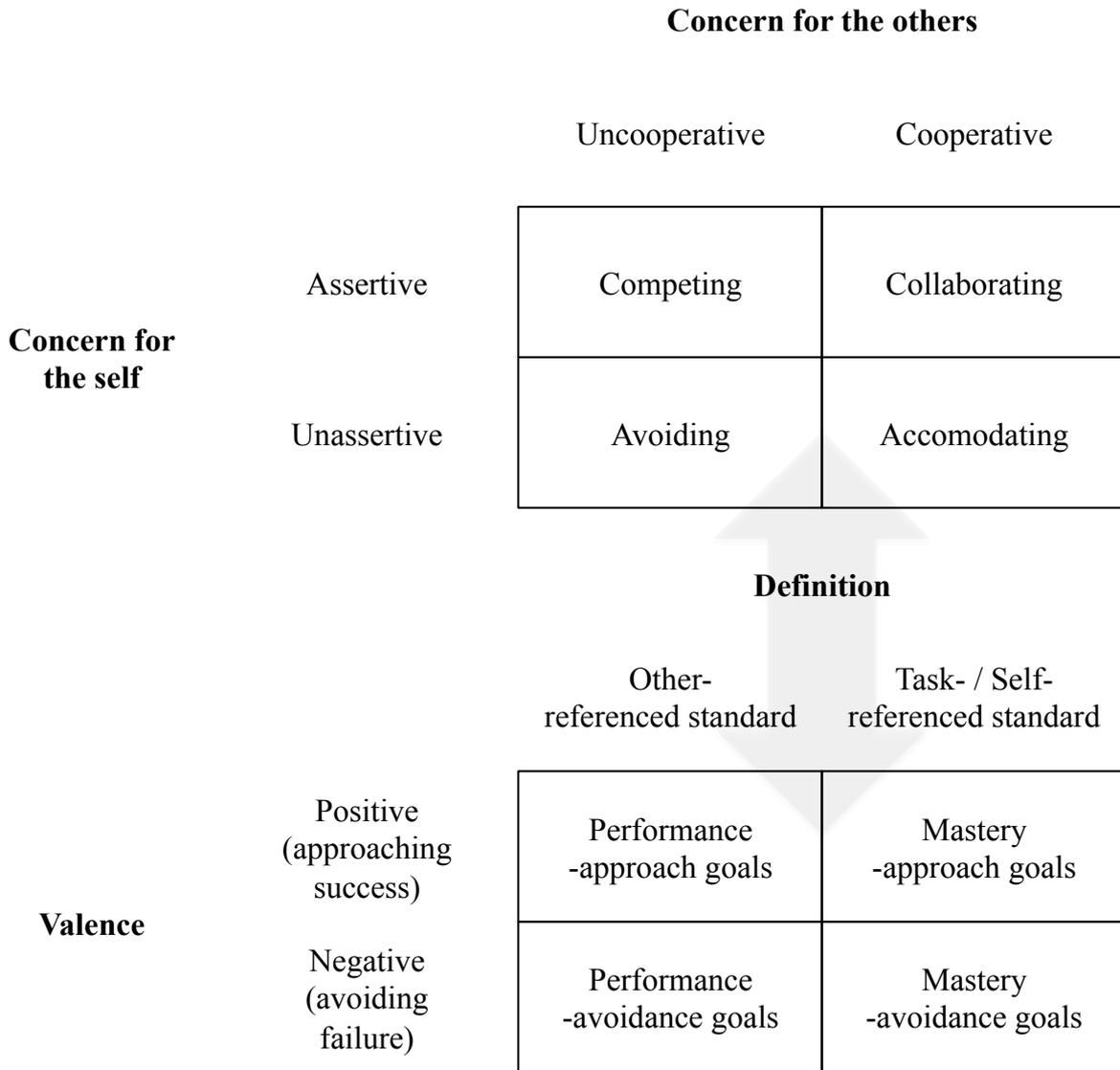


Figure 5.3. Mode of organizational conflict handling, as a function of cooperativeness and assertiveness (upper panel, adapted from Thomas & Kilmann, 1974); associated with the 2 x 2 achievement goals framework (bottom panel, adapted from Elliot & McGregor, 2001).

decline at a task, Elliot & McGregor, 2001, Madjar, Kaplan, & Weinstock, 2011; Van Yperen, Elliot, & Anseel, 2009)—involving cooperativeness (i.e., as associated with the mastery definition of the goals) and unassertiveness (i.e., as associated with the avoidance valence of the goals), that would be similar to “accommodating”.

Let us define what would this fourth mode of regulation be. *Integrative complexity*, a construct associated to the use of dialectal reasoning (i.e., thesis-antithesis) and conceptual integration (Tetlock, Armor, & Peterson, 1994), can be compared to epistemic regulation. Although integrative complexity prevents self-confirmation, attributional biases, and

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overconfidence in one's beliefs (Tetlock, 1983, 1985; Tetlock & Kim, 1987), it has also been found to increase the "dilution effect" (i.e., presenting irrelevant information to integrative thinkers weakens their confidence in the predictive value of diagnostic cues; Tetlock & Boetger, 1989). Does regulating a conflict in an integrative way could sometimes paradoxically lead to a biased information processing? We argue here that mastery-avoidance goals, as associated with cooperative behaviors (i.e., a will to solve the task) and low self-perceived competence (i.e., a will to avoid mistakes; Van Yperen, 2003), could be associated with *consensual* regulation, that is, a task-focused conflict regulation (i.e., as epistemic regulation) associated with a tendency to treat others' information—regardless of their factual foundations—as valid (i.e., an inability to detect others' mistakes). It is worth noting that consensual regulation would be different from protective regulation in the sense that it would imply the use of compliance as a prosocial strategy aiming at valorizing (or not harming) the others (e.g., "white lies"; Jampol & Zayas, 2015) rather than a defensive strategy aiming at coping with the self-competence threat elicited by the disagreeing interactant. Specifically, future research might explore whether mastery-avoidance goals would indeed predict consensual conflict regulation, which would notably result in a decrease in "task-focused self-confirmation", that is, *reasoned* utterances aiming at weakening a disagreeing other's *epistemic* position (i.e., labeled "challenge" by Asterhan & Schwarz, 2009), and *reasoned* utterances aiming at strengthening one's *epistemic* position (i.e., labeled "support" by Asterhan & Schwarz, 2009).

Two elements must be made clear about our expectations on mastery-avoidance goals and consensual regulation. First, contrary to mastery-approach goals, epistemic regulation and learning (see Darnon et al., 2006), we would not expect mastery-avoidance goals to predict learning through consensual regulation. Two arguments would support this idea. On the one hand, as opposed to the other achievement goals, mastery-avoidance goals were found *not* to predict performance improvement (Van Yperen et al., 2009), as they are notably associated with an increase in negative affects as well as in cognitive and somatic anxiety while conducting tasks (Sideridis, 2008). On the other hand, as opposed to epistemic regulation, consensual regulation is theoretically not accompanied by any attempt to challenge other's epistemic position, which is a *sine qua non* condition for socio-cognitive conflict to predict learning (Doise & Mugny, 1979)

Second, just as for performance-based goals, relative competence and relational regulation, we might predict an interaction between mastery-avoidance goals, relative competence and consensual regulation. However, the interaction would be reversed. Indeed,

as mastery-avoidance-oriented individuals would regulate conflict in a consensual way for prosocial reasons (i.e., to give the disagreeing other a sense of worth), this effect might be particularly pronounced when confronted to less-competent others. Generally speaking, reactions to incompetence might include prosocial emotions such as pity or compassion (especially when perceived as linked with uncontrollable deficits; Weiner, 2005). Thus, we might expect mastery-avoidance-oriented individuals to be even more responsive and empathic toward inferiorly competent disagreeing others and to regulate conflict with them in a more consensual manner

2.1.2. A Contribution to the Literature on Achievement Goals

The second contribution relates to research on achievement goals. While performance goals have been repeatedly conceived of as self-regulation tools (e.g., self-regulated learning strategies, Schunk & Zimmerman, 2012), scholars have paid less attention to the idea that they could be conceived as self-*other* regulation tools. We argued that performance-based goals, should predict assertive coping responses when associated with an approach valence and aversive coping responses when associated with an avoidance valence. Specifically, we choose to focus on a particular interpersonal behavior, namely socio-cognitive conflict regulation, in the sense that it allows disentangling assertive (i.e., competitive regulation) from aversive (i.e., protective regulation) responses. On the one hand, Studies 1.1. to 1.3. showed that performance-approach goals are indeed associated with preference for self-confirmatory responses over others, self-superiority tendencies, and higher self-reported competitive regulation; on the other hand, they showed that performance-avoidance goals are associated with preference for compliant responses over others, self-inferiority tendencies, and higher self-reported protective regulation.

In order to propose an extension of these results, let us come back to Wiggins' (1979) circumplex model of interpersonal behaviors. The model aims at classifying individuals' interpersonal behaviors along two orthogonal dimensions: communion (i.e., related to consideration of others) and agency (i.e., related to goal-pursuit of the self; Abele, & Wojciszke, 2007). Communion involves variability on a hostile (i.e., low concern for others) to friendly (i.e., high concern for others) horizontal axis. Agency involves variability on a submissive (i.e., low concern for the self) to dominant (i.e., high concern for the self) vertical axis. As seen in Figure 5.4. (upper panel), four hybrid forms of interpersonal behaviors are therefore possible: (i) Hostile-dominant (poorly communal and highly agentic behaviors); (ii) Hostile-submissive (poorly communal and poorly agentic behaviors); (iii) Friendly-dominant

(highly communal and highly agentic behaviors); (iii) Friendly-submissive (highly communal and poorly agentic behaviors). Conroy and collaborators (2009) already associated mastery-approach goals with friendly-dominant behaviors—such as epistemic conflict regulation (Darnon et al., 2006), prosocial academic behaviors (Gilman & E. M. Anderman, 2006), and cooperative behaviors (Levy et al., 2004)—as well as performance-approach goals with hostile-dominant behaviors—such as withholding of information (Poortvliet et al., 2007), antisocial academic behaviors (Cheung et al., 1998), or unsportsmanlike play (Duda et al., 1991). Our work confirmed the relationship between performance-approach goals with hostile-dominant behaviors—in showing that they predict competitive conflict regulation—and revealed the relationship between performance-avoidance goals and hostile-submissive behaviors—in showing that they predict protective conflict regulation.

Going further, one might view Wiggins' (1979) circumplex model as a comprehensive and heuristic framework in predicting the effects of achievement goals on interpersonal behaviors (see Figure 5.4.). We have seen that—concerning the *definition* of achievement goals—mastery-based goals are associated with interpersonal behaviors having a high degree of communion (i.e., friendly), and performance-based goals with the ones having a low degree of communion (i.e., hostile). Our work shows that—concerning the valence of achievement goals—approach-related goals tend to be associated with interpersonal behaviors having a high degree of agency (i.e., dominant), and avoidance-related goals with the ones having a low degree of agency (i.e., submissive). In testing the model, future research may focus on the relationship between mastery-avoidance goals and friendly-submissive behaviors, such as instrumental help-seeking (Roussel et al., 2011).

2.2. The Positional Outlook: Contributions of the Second and Third Lines of Research

We already came across Dweck and Legget's (1988) quotation urging scholars to determine the relationships “between goals and sociometric status” (p. 265; for more recent articles where the same point is made, see Darnon et al., 2012; Liem et al., 2008). Replying to these calls for empirical studies, we adopted, in our second and third lines of research, Doise's (1986) third level of analysis (i.e., a focus on *positional* forces in studying goals). The two main contributions that result from this approach are reported here.

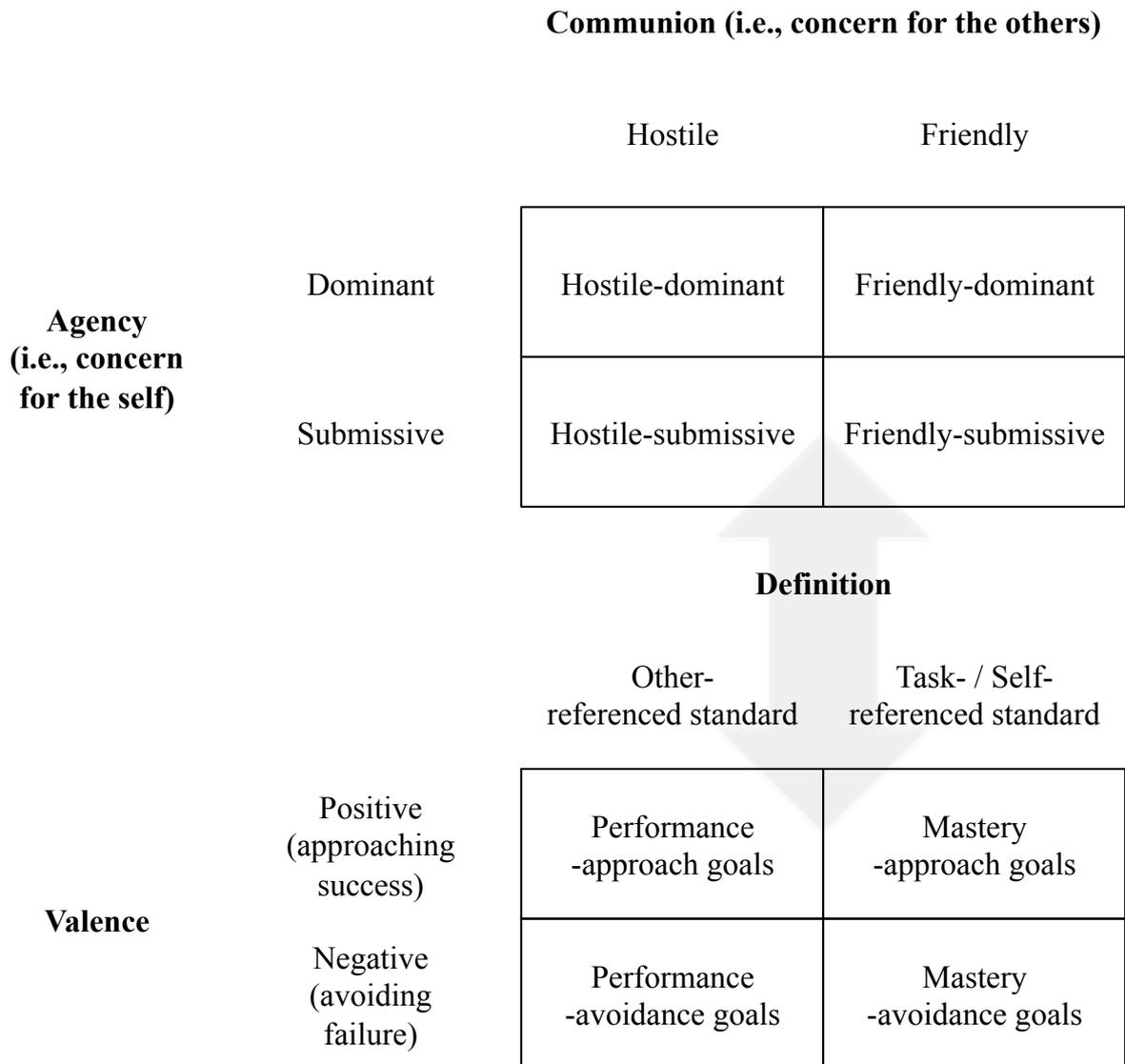


Figure 5.4. Hybrid forms of interpersonal behaviors, as a function of communion and agency (upper panel, adapted from Conroy et al., 2009); associated with the 2 x 2 achievement goals framework (bottom panel, adapted from Elliot & McGregor, 2001).

2.2.1. A Contribution to the Literature on Socio-Cognitive Conflict

The first contribution relates to research on socio-cognitive conflict. In Figure 5.5., we reported a depiction of the dynamics postulated by conflict elaboration theory as far as *aptitude* tasks are concerned, i.e., tasks in which only one (or a limited set of) answer(s) can be correct, and in which the disagreeing interactants are uncertain concerning the correct answer(s). These dynamics are organized in a model of conflict regulation according to a 2 (perceived threat to self-competence: high vs. low) x 2 (perceived self-competence of the

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target: high vs. low) x 2 (perceived competence of the source: high vs. low) design (Quiamzade et al., 2013).

In our second line of research, we more particularly focused on the situation of a low competence target facing a high competence source. Indeed, our participants were Bachelor students in Study 2.1., high-school pupils in Study 2.2., and students who received a (bogus) score slightly above average in Studies 2.3.-2.4.; they were confronted, respectively, with a disagreeing partners who was a Ph.D. student, a student in a higher grade level, and a partner who received a (bogus) score clearly above average. In conflict elaboration theory, such situation, when the more-competent source *does not* constitute a threat for self-competence, is labeled *informational dependence* (Falomir & Tomei, 2001): conflict is regulated in a protective rather than in a relational way, the target is task- rather than social-comparison-focused, and s/he is motivated to integrate the source's views (Mugny, Quiamzade, & Tafani, 2001; Quiamzade, et al., 2000; for a review, see Darnon, Butera, & Mugny, 2008). However, the same situation, when the more-competent source *does* constitute a threat for self-competence, is labeled *informational constraint* (Quiamzade & Mugny, 2001): conflict is regulated in a protective rather than an epistemic way, the target is social-comparison- rather than task-focused, and s/he tends to comply with the source's views without any elaboration (Butera et al., 2000; Mugny, Tafani, Falomir, & Layat, 2000; see Darnon et al., 2008).

In our second line of research, the threat associated with the source (i.e., the disagreeing interactant) was a *continuous* variable rather than a discrete one, namely the level of target's (i.e., the participant) performance-based goals (i.e., determining the perception of the source as being a stressor). In line with conflict elaboration theory, our findings revealed that, when performance-based goals are low (i.e., when self-competence threat is low), relational regulation (i.e., competitive *and* protective regulation; Studies 2.1, 2.3 and 2.4) with a more-competent disagreeing interactant was lower (i.e., corresponding to *informational dependence*¹⁵).

¹⁵ It is worth noting that—as informational dependence is precisely related to elaboration, and as learning was not assessed in Studies 2.1. to 2.4.—we can only *indirectly* conclude that such a situation could indeed be akin to informational dependence. Indeed, having low performance goals being associated with low relational regulation (Darnon et al., 2006), and relational regulation being negatively associated with learning (Buchs et al., 2004), it is reasonable to assume that, when conflicting with another, the lower the performance goals, the more likely the elaboration (for an experimental illustration of the relationship between performance goals and learning as a function of conflict, see Darnon, Butera, & Harackiewicz, 2007).

Comparison	High-competence source		Low-competence source	
	Threatening	Non-threatening	Threatening	Non-threatening
High-competence target	Conflict of competences	Informational interdependence	Challenge	No conflict
Low-competence target	Informational constraint	Informational dependence	Fear of incompetence	Conflict of incompetences

Figure 5.5. Dynamics of conflict regulation, as functions of target’s competence, source’s competence, and threat to self-competence (adapted from Quiamzade et al., 2013).

On the other hand, also in line with conflict elaboration theory, our findings revealed that, when performance-based goals are high (i.e., when self-competence threat is high), and when associated with an *avoidance* valence, protective regulation (Studies 2.1., 2.3. and 2.4.) was higher (i.e., corresponding to *informational constraint*). Moreover, when associated with an approach valence, competitive regulation (Studies 2.1., 2.3. and 2.4.) was higher. In conflict elaboration theory, this latter situation is closer to the one labeled *conflict of competences*, where a highly competent target face a highly competent disagreeing source (Butera et al., 1998): Conflict is regulated in a competitive way, the target is social-comparison- rather than task-focused, and s/he tend to hold his/her position (Butera & Mugny, 2001; Selimbegovic, Quiamzade, Chatard, Mugny, & Fluri, 2007).

Recently, Quiamzade, Mugny and Butera (2014) discussed the modalities of a possible *switch* from *informational constraint* to *conflict of competences*. The authors argued that, as the (perceived) competence of the target of influence increases, “situations of informational constraint [...] change and place the target into situations that may resemble conflict of competences [...] even if the competence differential is not null and that the source remains somewhat superior to the target” (p. 218). We have already mentioned Quiamzade and collaborators’ (2003) experiment showing that, when facing a disagreeing authoritarian epistemic authority (i.e., being a social stressor), first-year bachelor students (n.b., perceiving

themselves in the study as less competent), as compared to fourth-year bachelor students (n.b., perceiving themselves in the study as more competent), tended to be more compliant. In the same vein, Tafani, Mugny, and Bellon (1999) reported that, when facing a disagreeing more-competent *competitor* (with whom one is asked to compare himself/herself in a negatively interdependent way), third-year bachelor students perceiving themselves as incompetent, as compared to students perceiving themselves as competent, tended—here also—to be less resistant. Moreover, it is worth noting that Tafani and Mugny (2002) replicated these findings with students facing a threatening disagreeing other having a higher academic status, relative to a threatening disagreeing other having a similar one. Taken together, these results show that, when facing a more-competent disagreeing source, a target perceiving oneself as being incompetent tend to experience a situation of “informational constraint” (regulating conflict in a protective way, i.e., compliance), whereas a target perceiving oneself as being competent tend to experience a situation of “conflict of competences” (regulating conflict in a more competitive way, i.e., resistance), although the source is still *objectively* superior in terms of competence.

One might argue that this “informational constraint / conflict of competence shift” occurs in our second line of research: when facing a more competent disagreeing other, performance-avoidance-oriented targets (i.e., perceiving themselves as not having sufficient (competence) resources to cope with the threat elicited by the source) tend to display compliance (that is, a situation corresponding to an informational constraint—or what Lazarus & Folkman (1984) would have labeled threat-appraisal), whereas performance-approach oriented targets (i.e., perceiving themselves as having sufficient (competence) resources to cope with the threat elicited by the source) tend to display self-confirmation (that is, a situation corresponding to conflict of competences—or what Lazarus & Folkman (1984) would have labeled challenge-appraisal).

Going further, these findings may explain why, in most studies, conflict with a threatening more-competent other is predictive of protective regulation (for a review, see Quiamzade & Mugny, 2001). Indeed, being placed in an inferiority position triggers the endorsement of performance-avoidance goals—e.g., when receiving negative feedbacks (Senko & Harackiewicz, 2005), being a woman under stereotype threat (Brodish & Devine, 2009), and having low socio-economic status (Jury, Smeding, Court, & Darnon, 2014)—that is, a low perceived self-competence and protective regulation (i.e., informational constraint). Moreover, these findings may explain why, in *some* studies, conflict with a threatening more-competent other is predictive of competitive regulation (e.g., boys (vs. girls) facing more-

competent girls (vs. boys), Psaltis, 2011; fourth years (vs first-year) students facing an authoritarian epistemic source, Quiamzade et al., 2003). Indeed, in specific cases, being placed in an inferiority position might trigger the endorsement of performance-approach goals—e.g., in mixed-sex environment, boys compete more than girls do (Booth & Nolen, 2009, in Dreber, von Essen, & Ranehill, 2009); fourth-year students, having more resources to face the threat, could pursue more approach-related goals compared to their first-year counterparts (Elliot & Church, 1997)—that is, a low perceived self-competence and competitive regulation (i.e., conflict of competences).

2.2.2. A Contribution to the Literature on Achievement Goals

The second contribution relates to research on achievement goals. Although performance-based goals have been found to relate to concerns with one's social status (i.e., will to gain, maintain, or protect one's social status, Levy et al., 2004), most scholars have overlooked the influence of status, power, or competence asymmetries in studying the effects of performance-based goals on interpersonal behaviors. Specifically, in our second line of research, we focused on the *moderating* role of relative competence on the relationship between performance-based goals and the level of agency of relational regulation (see Figure 5.6., left panel): when a partner's relative competence was higher (Studies 2.1-2.4) or unknown (Study 2.3.; see also Studies 1.1.-1.3.), performance-approach were associated with competitive regulation (i.e., increasing the agency of conflict regulation behaviors), while performance-avoidance goals were associated with protective regulation (i.e., decreasing the agency of conflict regulation behaviors); this was not the case when the partner's relative competence was equal.

On the one hand, these findings are congruent with those of Poortvliet and colleagues (2012, Study 3), showing that a partner's competence (i.e., less vs. more competent) positively *moderates* the effect of performance-approach goals on tactical deception in learning dyads (i.e., increasing—here also—the agency of in-group interpersonal behaviors). On the other hand, they are congruent with the results of Schoor and Bannert (2011), showing that partner's competence (i.e., less vs. more competent) negatively *moderates* the effect of performance-avoidance goals on active participation in learning groups (i.e., decreasing—here also—the agency of in-group interpersonal behaviors). Thus, adopting a broader perspective, one might wonder whether the superior competence of interactants might *strengthen* the agency of the interpersonal behaviors classically associated with performance-approach goals (e.g., autocratic behaviors, Yamaguchi, 2001; antisocial behaviors, Boardley

& Kavussanu, 2010; cheating behaviors, E. M. Anderman & Midgley, 2004), and *lessen* the agency of the ones classically associated with performance-avoidance goals (e.g., avoidance of help seeking, Tanaka et al., 2001; social disengagement, Chi & Huang, 2014; shyness, Valentiner et al., 2011).

Let us dwell for a moment on the moderating effect of relative competence on the relationship between performance-*approach* goals and competitive regulation. One might wonder whether (i) the extent of the competence differential (i.e., “is the other slightly or strongly superior than the participant?”), (ii) the social group of the (more-competent) target of comparison (i.e., “is the other member of an in-group or an out-group?”), or (iii) the power of the (more-competent) disagreeing other (i.e., “is the other having power?”), might have influenced the results. In Studies 2.1. and 2.3., participants were bachelor students and the more-competent disagreeing partner was presented as being a Ph.D. student from the same university. In Study 2.2., participants were vocational school students and the more-competent disagreeing partner was presented as being in a higher grade level and as being (originally) from the same school. In Study 2.4., participants were once again students and the more-competent disagreeing partner was presented as having obtained a slightly superior bogus competence score (i.e., 85/100) than the participant (i.e., 65/100) and was—once again—from the same university. Taken together, in these studies, (i) the competence differential could be interpreted as being slightly to moderately in favor of the partner, (ii) the social group of the target of comparison was always an in-group, and (iii) the more-competent other was never hierarchically superior. What would have happened if the disagreeing other had been a highly superior out-group member (e.g., for Study 2.1., an external professor)?

The Competence Differential Between the Individual and the Disagreeing Other

Let us first consider the issue of the competence differential between the individual and the disagreeing other.

In natural group settings, there is a tendency to compare oneself with *slightly* superior others (for a review, see Collins, 1996). Furthermore, slightly upward comparison was not found to be threatening for self-evaluation, but actually beneficial for educational outcomes; for instance ninth-graders (Huguet et al., 2001) and undergraduates (Blanton et al., 1999) comparing themselves with students performing slightly better than themselves are more likely to improve. In his classic work, Festinger (1954) stated that social comparison was more relevant when individuals perceived small (vs. large) distance between themselves and the target. In such situations, upward comparison is underlain by self-improvement motives

(Helgeson & Mickelson, 1995): the target of comparison becomes a (possible) social standard to reach and individuals tend to feel challenged (Latané, 1966). As a matter of fact, Bounoua and her collaborators (2012, Study 2) showed that performance approach goals predicted a preference for slightly upward comparison, and Epstein and Harackiewicz (1992) showed that achievement-oriented individuals in competitive context (akin to performance-approach-oriented individuals) felt aroused when facing a more-competent competitor.

However, especially in experimental settings, comparing oneself to *strongly* superior others might be threatening to self-evaluation (e.g., Muller & Butera, 2007). For instance, Huguet Galvaing, Monteil, and Dumas (1999) showed that strongly (vs. slightly) upward comparison was not beneficial for performance, and Mendes and her collaborators (2001, Study 1)—using physiological measures—showed that participants exhibited a threat responses when interacting with clearly more-competent partners. Such a challenge-to-threat-appraisal shift when differentiating slightly from strongly upward comparison might particularly apply to performance-approach-oriented individuals, as they tend to be very sensitive to normative information (Butler, 1992; Darnon et al., 2010; Levy et al., 2004). If such an idea is true, applying this reasoning for performance-approach-oriented individuals facing a disagreeing other, we should observe a curvilinear relationship between the extent of the competence differential and competitive regulation. In other word, (i) similarly competent others—not being perceived as stressors—should predict poorly agentic behaviors (i.e., low competitive regulation), (ii) *slightly* more competent others—being perceived as stressors and eliciting challenge responses—should predict highly agentic behaviors (i.e., high competitive regulation), whereas (iii) much more competent others—being perceived as stressors and eliciting threat responses—should predict poorly agentic behaviors (i.e., low competitive regulation; see Figure 5.6.)¹⁶.

¹⁶ Given the present hypothesis (i.e., the self/partner competence differential as a moderator of the effect of performance-approach goals on competitive regulation), one might wonder whether using of the self-superiority score (i.e., perceived difference between self- and partner's competence) in Study 1.2. as an outcome variable was not equivocal. Because (i) Darnon and collaborators (2006) employed such a measure as a proxy of conflict regulation, (ii) our Pilot Study showed that the self-superiority score was positively associated with competitive regulation and negatively with protective regulation, and (iii) our procedure included a “no-conflict condition” where classical self-reported conflict regulation measures were not applicable, it was reasonable to use such a score as a dependent variable. However, if the self-superiority score can translate one's self-enhancement motives (e.g. underestimating a superior other's competence might be a strategy to maintain or increase self-evaluation; Tesser, 1988) or self-protective motives (e.g., overestimating the competence of a superior other might be a strategy to protect one's self-image; Alicke, LoSchiavo, Zerbst, & Zhang, 1997)—and therefore being used as a *dependent* variable—it could also pertain to an actual perception of self- and partner's competence differential (e.g., Hatzigeorgiadis & Biddle, 1999)—and therefore being used as a *moderating* variable. Hence, Study 1.2.'s results must be interpreted with caution; moreover, scholars willing to investigate the relationship between goals and socio-cognitive regulation while using the self-superiority score must be aware of its theoretical ambiguity.

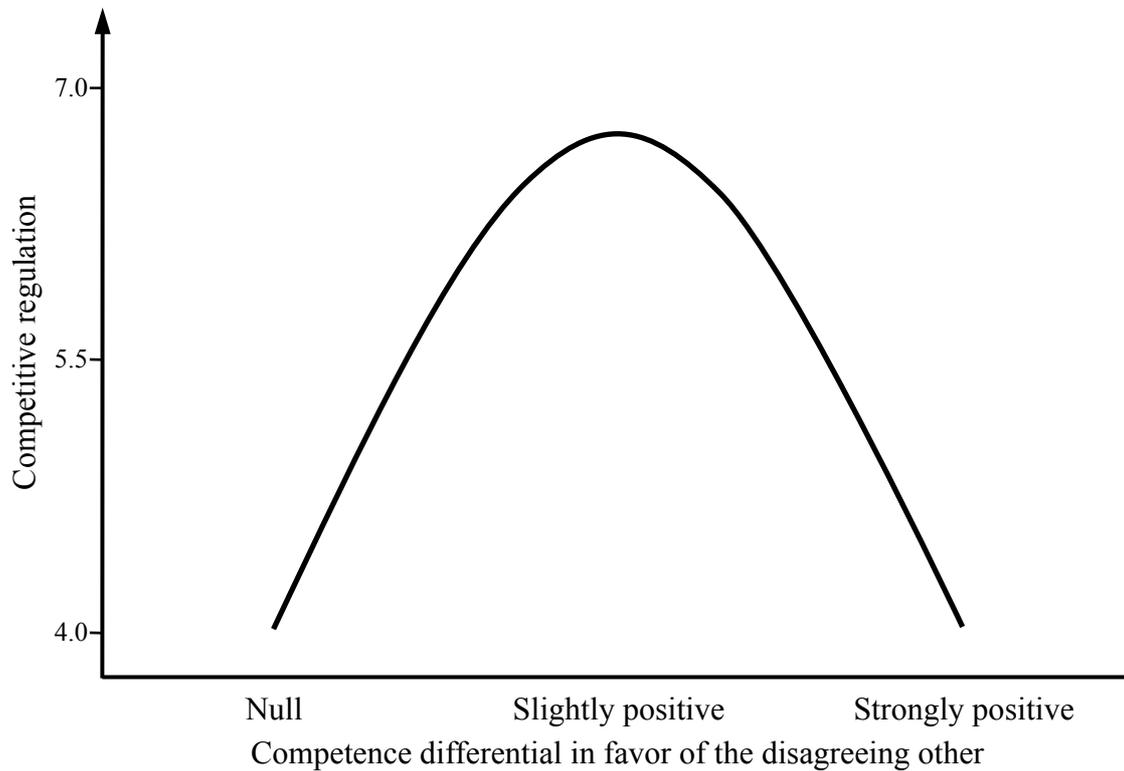


Figure 5.6. Hypothesized curvilinear relationship between the self-/other competence differential and competitive regulation (n.b., arbitrary scale) for *performance-approach oriented* individuals

The Social Group of the More-Competent Disagreeing Other

Let us now consider the social group of the *more-competent* target of comparison. In natural group settings—just as in Studies 2.1. to 2.4—there is a tendency to compare oneself to psychologically close others (i.e., having similar characteristics, e.g., from similar groups; see Mussweiler, Rüter, & Epstude, 2004).

On the one hand, when comparing oneself to an in-group member, expectation of similarity causes an assimilation process (i.e., the self is assimilated toward the target of comparison; Blanton, Crocker, & Miller, 2000), which tends to predict beneficial outcomes (see Collins, 1996). Specifically, *upward comparison* implying an assimilation process results in more pleasant emotions, such as inspiration, admiration or optimism (R. H. Smith, 2000), and in challenge-appraisal (Mendes et al., 2001, Study 2). On the other hand, when comparing oneself to an out-group member, expectation of dissimilarity causes contrast process (i.e., the self is contrasted away from the target of comparison; Blanton et al., 2000), which tends to predict deleterious outcomes (see Collins, 2006). Specifically, *upward comparison* implying

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an assimilation process results in more unpleasant emotions, such as envy, resentment, or shame (Smith 2000), and in threat-appraisal (Mendes et al., 2001, Study 2).

Yet, upward comparisons, when associated with an assimilation process, have been described as particularly challenging for performance-approach-oriented individuals, as they imply the possibility to assimilate oneself to a higher standard (Bounoua et al., 2011), whereas, when associated with a contrast process, they were described—at least—as no longer being challenging; they might actually even be threatening for self-evaluation. Hence, for performance-approach-oriented individuals facing a (slightly) more-competent disagreeing other, we should observe a negative effect of the social group of the more-competent target of comparison (in-group vs. out-group) on competitive regulation. In other words, (i) in-group membership—implying an assimilation process and eliciting challenge responses—should predict highly agentic behaviors (i.e., highly competitive regulation), whereas (ii) out-group membership—implying a contrast process and eliciting threat responses—should predict poorly agentic behaviors (i.e., low competitive regulation).

The Power of the More-Competent Target of Comparison

Let us now consider the degree of power held by the more-competent disagreeing other. In French and Raven's (1959) classical work, power is defined as an asymmetrical control over resources that provides a social agent (i.e., the power-holder) the capacity to influence a person (i.e., the subordinate). The authors described various forms of power, depending on the nature of the resources perceived as being possessed by the social agent: expert power (defined by the perception of the extent of social agent's knowledge), reward power (defined by the perception of the extent of his/her ability to reward the person), coercive power (defined by the perception of the extent of his/her ability to punish the person), and legitimate power (defined by the perception of the extent of his/her power as dictated by the social norms). We will not portray "referent power" in the sense that it is closer to status (positive evaluation of one's attributes producing differences in prominence) than power (Keltner et al., 2003). In Studies 2.1. to 2.4., the more-competent disagreeing other had an elevated expert power (being presented as more knowledgeable than the participant), but had low reward, coercive, or legitimate powers (as there was no hierarchical interdependence with the participant). One might wonder whether performance-approach-oriented individuals would still regulate conflict in a competitive way with a more-competent *and* hierarchically superior other.

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On the one hand, performance-approach goals come along with the desire to achieve so as to gain a particular social status, that is, *social status goals* (L. H. Anderman and E. M. Anderman, 1999). As already mentioned, the endorsement of such social goals might explain why performance-approach goals disrupt collaboration with *more-competent others* (e.g., Gabriele and Montecinos, 2001) which—in our case—resulted in the use of active strategy in coping with more-competent disagreeing partners (i.e., competitive regulation). In other words, in fulfilling their social status goals, performance-approach-oriented individuals might use competitive regulation with others having a high *expert power* as a (suitable) strategy to affirm their superiority in competence.

On the other hand, performance-approach goals also come along with the desire to achieve so as to gain social approval and recognition (notably) by their supervisor (e.g., teacher), that is, *social approval goals* (Mansfield, 2009). The endorsement of such social goals might explain why performance-approach goals predict the perception of relationships with *superior authorities* (i.e., an employer) as being formal and impersonal, and why performance-approach-oriented subordinates (i.e., employees) “may perceive their supervisor as threats” (Janssen and Van Yperen, 2004, p. 372). In the case of a disagreement with a superior authority, one might wonder whether performance-approach-oriented individuals would still regulate conflict in a competitive way; indeed, using competitive regulation with a hierarchical superior might conflict with their social approval goals (and therefore appear as an unsuitable strategy), as interpersonal conflict with supervisors is generally damaging for both parties (Kessler, Bruursema, Rodopman, & Specto, 2013). Moreover, competitive regulation might also conflict with their social status goals, social status being much more fixed between an individual and *a superior authority*, than between an individual and a *more-competent peer* (Janssen and Van Yperen, 2004).

If such an idea is true, performance approach goals should be more positively associated with competitive regulation when facing a more-competent disagreeing peer (i.e., having mere expert power) than when facing a more-competent disagreeing authority (i.e., having expert, coercive, reward, and legitimate power).

Relative Competence: A Moderator or a Mediator?

Going further, one might wonder whether relative competence, instead of being a *moderating* variable could be a *mediating* variable. Scholars are advised to manipulate mediating variables (Bullock, Green, & Ha, 2010), and another way to look at the results would

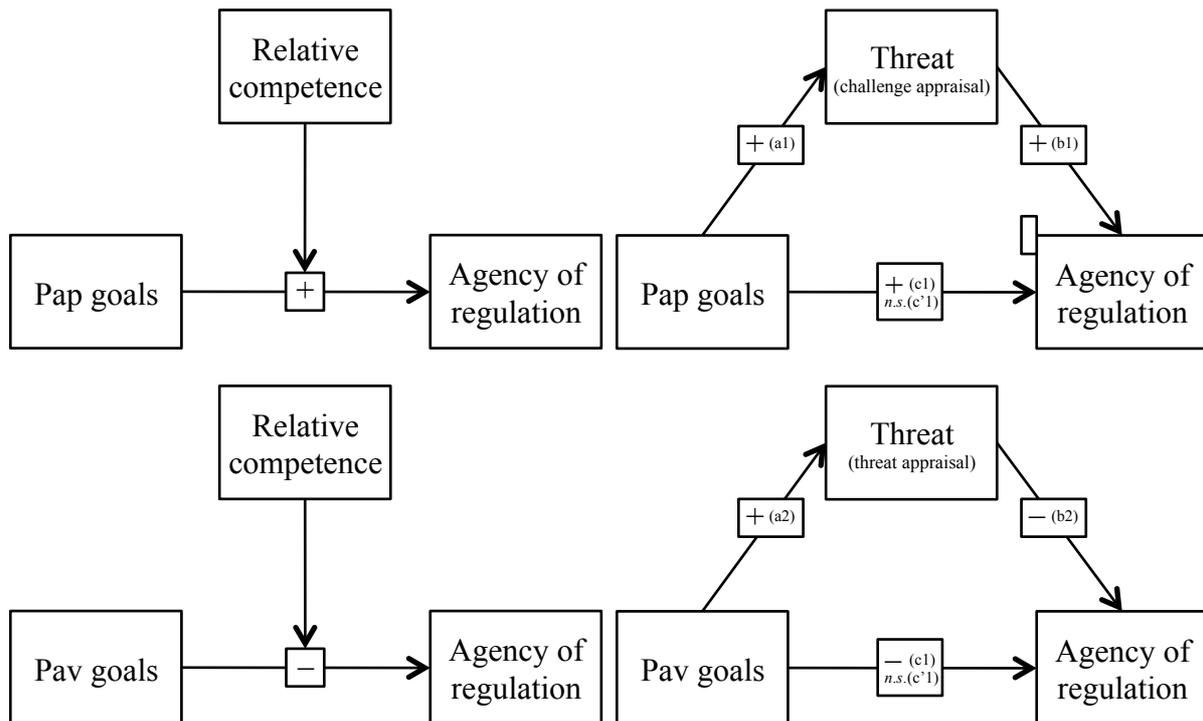


Figure 5.7. Moderating role of relative competence (left panel) vs. mediating role of threat to self-competence (manipulated via relative competence; right panel) on the relationship between performance-based goals and the level of agency of conflict regulation. PAP and PAV respectively stand for performance-approach and performance-avoidance.

be to consider that—unknowingly—we could have done so. Specifically, as performance-oriented individuals perceive more-competent others as threats to their self-competence (Levy et al., 2004), we wonder whether the manipulation of relative competence could have worked as a proxy for self-competence-threat (for a similar conception, see Muller & Butera, 2007). The superior-competence partner condition of Studies 2.1. to 2.4. would therefore correspond to a high-threat condition, whereas the equal-competence partner condition would correspond to a reduced-threat condition. Thus, our results might have revealed the *mediating* role of self-competence threat on the relationship between performance-based goals and relational conflict regulations (see Figure 5.7., right panel): Performance-approach and avoidance goals might predict the extent to which an interactant is perceived as a threat to competence (*a1* and *a2* paths) which, when not reduced (*a1* x *b1* (or *c1* – *c1'*) and *a2* x *b2* (or *c1* – *c1'*) paths) predicts positively (in the case of performance-approach goals; *b1* path) and negatively (in the case of performance-avoidance goals; *b2* path) the agency of conflict regulation.

Generally speaking, future research might address the issue of self-competence threat as the underlying mechanism of the effect of performance-based goals on the level of agency of other interpersonal behaviors. As in the present work, mediation analyses could be performed via the manipulation of relative competence as a proxy of self-competence threat (as just explained). Moreover, they could be performed relying on stress-related physiological measures as cardiac reactivity (i.e., responsiveness of the cardiovascular system positively associated with challenge-appraisal and negatively with threat-appraisal) and vascular reactivity (i.e., responsiveness of the circulatory system (e.g., hypertension) positively associated with threat-appraisal and negatively to challenge-appraisal; Tomaka, Blascovich, Kelsey, & Leitten, 1993).

2.2.3. A Further Contribution to the Literature on Achievement Goals

The third contribution relates to research on achievement goals. Although leaders have been repeatedly shown to be role models, having an influence on their followers' values, attitudes, and goals (Alwin et al., 1991; Grojean et al., 2004; Newcomb, 1943), scholars have overlooked the cross-level effects of the achievement goals of supervisors on that of their subordinates. Specifically, in our third line of research, we focused on performance-based goals: supervisors' performance-approach goals were found to trigger the emergence over time of their subordinates' performance-approach goals (Studies 3.1. and 3.2.)—and all the more so when subordinates' perceived themselves as competent (Study 3.4)—as well as that of their subordinates' performance-avoidance goals (Studies 3.1. and 3.2.)—and all the more so when subordinates' perceived themselves as incompetent (Study 3.4).

On the one hand, these findings are congruent with research on group goal structure, where performance goal structure was found to favor the endorsement of performance-based goals (i.e., approach and -avoidance goals; Wolter, 2004). They are also consistent with research on competition, where structural competition was also found to favor the endorsement of these goals (Murayama & Elliot, 2012a). Generally speaking, these results show that one's social environment (i.e., in our case, competitive) contributes to the *energization* of his/her behaviors (i.e., in our case, motivation related to normative competence; Elliot, 2006). On the other hand, these findings are in line with the theoretical proposal in group goal structure research, where high (vs. low) confidence in one's ability was proposed to favor the endorsement of performance-approach (vs -avoidance) goals, when embedded in performance goal structured contexts (Urduan & Schoenfelder, 2006). They are also consistent with competition research, where the positive (vs. negative) value of perceived

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competence was also proposed to favor the endorsement of performance-approach (vs. -avoidance) goals within competitively structured milieus (Murayama & Elliot, 2012b). Generally speaking, these results show that one's characteristics (i.e., in our case, self-perceived competence) contribute to the *direction* of his/her behaviors (i.e., in our case, toward the attainment of normative competence vs. the avoidance of normative incompetence; Elliot, 2006).

Going further, one might wonder *how* supervisors' performance-approach goals are communicated to their subordinates. There would be (at least) three ways of addressing this issue: (i) supervisors' performance-oriented practices; (ii) group performance goals; (iii) the social value of performance-based goals.

Supervisors' Practices as Mediator of Performance Goals Socialization.

From the supervisors' perspective, it is legitimate to think that instructors' performance-oriented instructional practices (e.g., building negatively interdependent groups; Ames, 1992; Meece et al., 2002) and/or leaders' pattern orientation (e.g., providing normative feedbacks, Dragoni, 2005; Dragoni & Kuenzi, 2012) could *mediate* the relationship between supervisors' performance-approach goals and the emergence over time of their subordinates' performance-approach goals (when perceiving themselves as competent) and performance-avoidance goals (when perceiving themselves as incompetent).

However, from the subordinates' perspective, it is legitimate to think that subordinates' mirroring (mirror neuron functions, involved in the recognition of intentions of others) and mentalizing (theory of mind ability, involved in the attribution of mental states to others) abilities (Eren, 2009) could positively *moderate* these relationships. These lines of research being complementary, future research should *jointly* explore the role of supervisors' practices *and* subordinates' abilities to detect goal-related practices in deepening our understanding of performance goals socialization (for a graphical representation of a proposed moderated mediation model, see Figure 5.8.).

Group Performance Goals as Mediator of Performance Goals Socialization.

Going even further, there would be a second way to address the issue of the variable(s) mediating the relationship between supervisors' and subordinates' performance goals. In doing so, we should first clearly differentiate the following theoretical constructs in terms of their level of abstraction for subordinates: supervisors' (self-enhancement) values, supervisors' personal (performance) goals, and group (performance) goals.

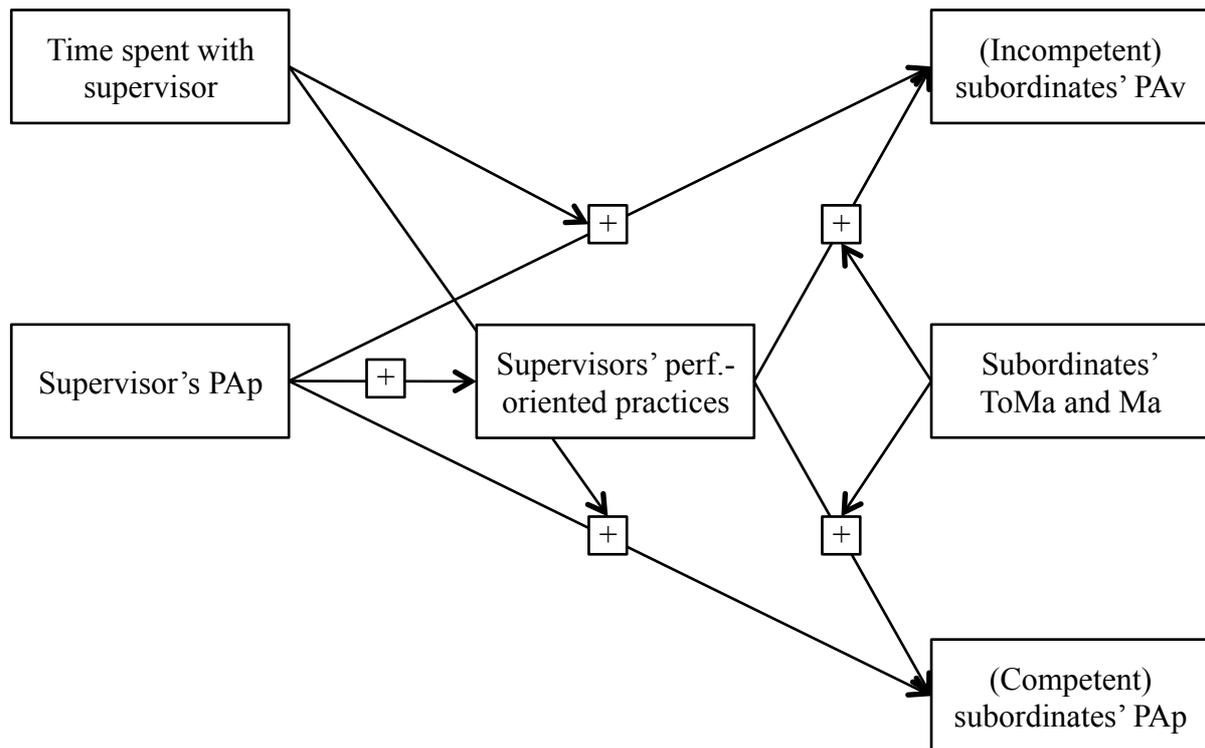


Figure 5.8. Proposal of a model where the mediation by supervisors' performance-oriented practices of the relationship between supervisors' performance-approach goals and the emergence over time of subordinates' performance-approach goals (when perceiving themselves as competent) and performance-avoidance goals (when perceiving themselves as incompetent), would be moderated by subordinates' mirroring and mentalizing abilities. PAp, PAv, ToMa, and Ma respectively stand for performance-approach, performance-avoidance, theory of mind ability, and mirroring ability.

Although they are closely tied, supervisor-based values socialization (i.e., related to the dissemination of a supervisor's ideology) is somehow more *abstract* than supervisor-based achievement goals socialization (i.e., related to the dissemination of supervisor's reasons for achievement striving). As a matter of fact, in their very definition, (supervisors') values are viewed as concepts or beliefs that transcend specific situations (Schwartz & Bilsky, 1990), whereas (supervisors') goals are viewed as being focused on an object and as aiming at directing or guiding behaviors in competence-relevant situations (Hulleman et al., 2010). As a matter of fact, from a methodological point of view, in Study 3.4., more general-focus and abstract items were used to assess supervisors' self-enhancement values (e.g., "It is important to me to be ambitious"), whereas more situation-specific and concrete items were used to assess their performance-approach goals (e.g., "When I am teaching, it is important for me to

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teach better as compared to other teachers”), making the former measure more ideological than the latter one. Thus, as compared to supervisors’ self-enhancement values, supervisors’ performance-approach goals, resulting in more specific and ostensible goal-related behaviors (Eren, 2009), should have a lower level of abstraction for subordinates. Yet, one might wonder whether an even more “concrete” goal construct, that is, more readable than supervisors’ personal performance-approach goals for subordinates, could exist.

We propose that this construct might be the goals that performance-approach-oriented supervisors set for the whole group (i.e., superordinate goals; O’Leary-Kelly, Martocchio, & Frink, 1994). Group performance-approach goals have been defined as the desire of the group—as an entity (i.e., as a shared perception of its group-members)—to outperform other groups (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004). Group performance-approach goals have been described as emerging via a top-down process; they depend on organizational or classroom climate (Gully & Phillips, 2005) and/or team leaders’ management or instructional practices (Dragoni, 2005). For instance, supervisors providing feedback implying intergroup comparison tend to foster the endorsement of group performance goals (G. Park, Spitzmuller, & DeShon, 2013). As we have seen, supervisors’ performance-approach goals are predictive of performance-oriented practices and of the establishment of a group performance goal structures (Retelsdorf et al., 2010). Thus, it is reasonable to contend that performance-approach-oriented supervisors might tend to set group performance-approach goals within their team. Yet, as compared to supervisors’ personal performance-approach goals, group performance-approach goals, applying more directly to subordinates (who are encouraged, as a group, to be better than the relevant out-groups), should have a lower level of abstraction for subordinates.

Hence, group performance-approach goals might appear as the lynchpin between the personal performance-based goals of supervisors and that of their subordinates. Moreover, given the fact individuals tend to maintain behavioral and value consistency (Cialdini, 1988; Staw, 1981), group performance-approach goals might result, over time, in subordinates’ endorsement of personal performance-based goals, and in their adherence to self-enhancement values. In sum, as previously stated, at level 2 (i.e., for supervisors), the adherence to self-enhancement values (high level of abstraction for subordinates) precedes the endorsement of personal performance-approach goals (moderate level of abstraction for subordinates), which itself precedes the setting of group performance-approach goals (low

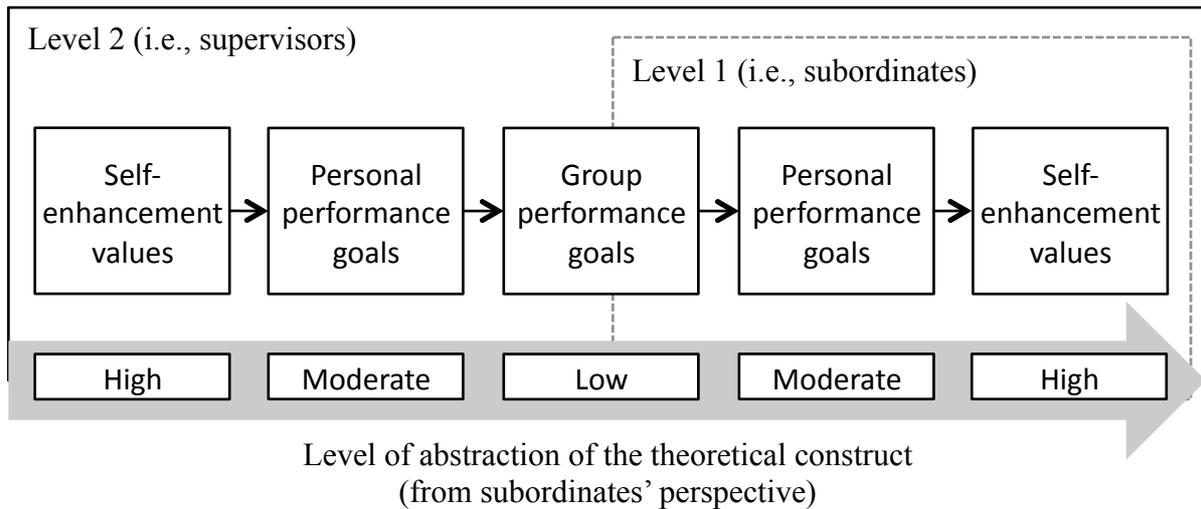


Figure 5.9. Hypothesized sequences of supervisors-to-subordinates goals and values socialization a function of the level of abstraction of each theoretical construct for the subordinates.

level of abstraction for subordinates); at level 1, the endorsement of these group performance-approach goals might predict the endorsement of personal performance-approach goals, which itself might result in the progressive adherence to self-enhancement values (for a graphical representation, see Figure 5.9.).

The Social Value of Goals as Mediator(s) of Performance Goals Socialization.

Finally, there would be a third way to address the issue of the variable(s) mediating the performance goals socialization. In doing so, we should first acknowledge the issue of the social value of the endorsement of performance goals.

Beauvois (2003) showed that the perception of targets (i.e., their social value), be they others or objects, was organized along two orthogonal dimensions: a first component, named “social desirability”, relates to target of evaluation’s (un)likability, whereas a second component, named “social utility”, relates to target of evaluation’s (in)competence (see also, Fiske, Cuddy, Glick, & Xu, 2002; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005; Osgood, 1962). Specifically, from Beauvois’ (2003; see also Dubois & Beauvois, 2005) perspective, social desirability corresponds to target’s (perceived) suitability to the motivations of a given social group, this degree of suitability being mostly defined in relation to the group supervisor (e.g., pupils’ self-reported altruism—a highly socially desirable object—is higher when

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presenting oneself to a teacher than to peers; Esnard & Jouffre, 2008). Moreover, social utility corresponds to target's (perceived) suitability to the social functioning of a given environment, this degree of suitability referring to one's capacity to succeed in the system to which his/her social group belongs (e.g., the likelihood of a pupils to succeed at school; Dubois, 2000). Darnon and collaborators (2009) showed how students pursuing performance-approach goals were perceived by other students as being both socially undesirable (as their group supervisors—i.e., university teachers—encourage learning and individual progress rather than normative performance) and socially useful (as the system to which their group belong—i.e., university system—rewards the best students through grading and/or ranking). But is the social value of goals the same in the groups that we have studied, especially when led by performance-approach-oriented supervisors?

On the one hand, it is not unreasonable to think that, given the fact that supervisors are agents of socialization and that—in being so—they “prescribe” the norm of the group (e.g., Kärreman & Alvesson, 2009), subordinates under the guidance of a performance-approach-oriented supervisor might perceive performance-approach goals as more socially desirable; by extension, performance-avoidance goals might also be perceived—especially for subordinates perceiving themselves as incompetent—as desirable. On the other hand, it is also not unreasonable to think that, given the competitive system to which the groups we studied belong (i.e., be it in sport, at school, or in research, individuals who are better than others are more likely to succeed; e.g., Sommet et al., 2013), subordinates under the guidance of a performance-approach-oriented supervisors might perceive performance-approach goals as particularly socially useful; by extension, performance-avoidance goals might also be perceived—especially for subordinates perceiving themselves as incompetent—as useful. Hence, the perceived social desirability and/or social utility of performance-based goals might both mediate the effects of supervisors' performance-approach goals on subordinates' performance-approach and -avoidance goals. Why such a mediating model would be crucial to test?

If social desirability is the mediator of performance goals socialization, it would mean that subordinates having performance-oriented supervisors are endorsing performance-based goals for self-presentation purposes (i.e., as a strategy to influence supervisors' judgment). In order word, they would “*fake*” the desire to outperform (/not to be outperformed by) others (see Dompnier et al., 2009). This would be consistent with the idea that leaders are described as motivated to secure compliance such as to maintain their authority and legitimacy (Tyler, 2006); in our case, performance-approach-oriented supervisors would behave in such a way

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that their subordinates would be invited to comply with their goals, and performance goals socialization would therefore be *manifest*. However, if social utility is the mediator of performance goals socialization, it would mean that subordinates having performance-oriented supervisors are endorsing performance-based goals because they are aware of their adequacy with the system (i.e., they perceive these goals as an efficacious tool to succeed). In other words, they would be *genuinely* willing to outperform (/not to be outperformed by) others. That would be consistent with the idea that subordinates tend to truly embrace the same values (and goals) of their leaders, especially when identifying to them (Michel, Wallace, & Rawling, 2013); in our case, performance-approach-oriented supervisors would foster the *internalization* of their goals by their subordinates over time, and performance goals socialization would be *latent*.

In order to indirectly test which of these two components of social value is the best candidate for mediation, we might assess the effects of supervisors' performance-approach goals, via the emergence of subordinates' performance-based goals over time, on subordinates' performance. On the one hand, if social desirability is the underlying process, both indirect effects should be non-significant, as subordinates only *pretend* to align their performance goals with those of their supervisors. On the other hand, if social utility is the underlying process, the indirect effects of supervisors' performance-approach goals on performance should be: (i) positive through the emergence of subordinates' performance-approach goals (as these goals are *sincerely* pursued, and as they are positively associated with performance); (ii) negative through the emergence of subordinates' performance-avoidance goals (as these goals—once again—are sincerely pursued, and as they are negatively associated with performance; for similar reasoning, see Dompnier et al., 2013).

One should keep in mind that the two processes could co-exist. When having performance-approach-oriented supervisors, some subordinates might therefore perceive performance-based goals as more socially desirable, while others might perceive them as more socially useful. Hence, if such a research is conducted, social value of performance-based goals should be assessed and actually entered in the model as moderator (for a graphical representation, see Figure 5.10.).

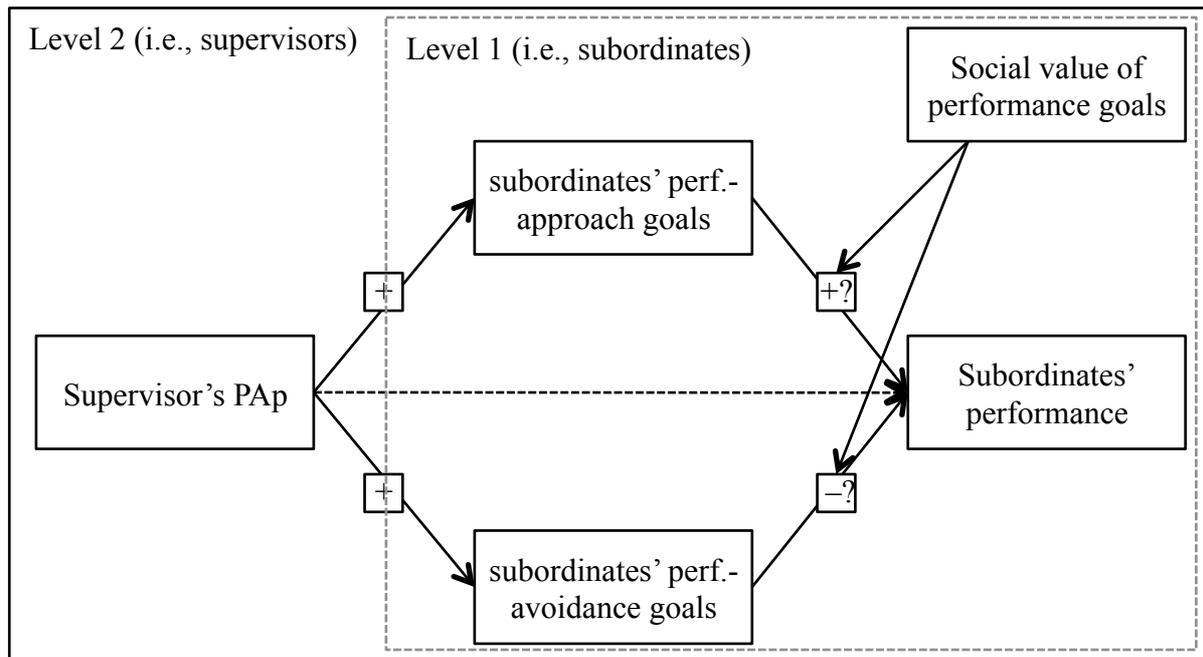


Figure 5.10. Indirect effects of supervisors' performance-approach goals on subordinates' performance through (the emergence of) subordinates' performance-approach and -avoidance goals. Significant *b* paths would indicate that subordinates' goals are genuinely endorsed. The perception of the social values of performance-based goals is included for exploratory purposes.

2.3. The Ideological Outlook: Contributions of the Third Line of Research

We already came across C. Ames and R. Ames (1984) quotation assuming that “there are certain characteristics—salient social norms and the cultural value placed on winning—that tend to contribute to an ability focus [i.e., a performance goal orientation]” (p. 538; for more recent articles where the same point is made, Kasser et al., 2007; Pulfrey & Butera, 2013; Vansteenkiste, Niemiec, & Soenens, 2010). In accordance with this idea, we adopted, in our third line of research, Doise's (1986) fourth level of analysis (i.e., a focus on *in-group norms* and *cultural values* in studying goals).

The two-fold contribution that results from this line of research relates to research on (achievement) goals formation. In studying change in performance goals, most scholars focused on the influence of *individual*-related variables (e.g., emotions as precursors of performance goals endorsement; Linnenbrink & Pintrich, 2002; J. E. Turner, Husman, & Schallert, 2002); for our part, we examined the influence of *group*-related variables, namely social norms and cultural values.

On the one hand, as far as *social norms* are concerned, Terry and Hogg (1996) reported that the higher the in-group identification, the more the social norms are positively associated with to the endorsement of normative *behaviors*. Extending these findings, our results show how in-group identification predicts the endorsement of normative *goals*: the higher the in-group identification, the more supervisors' performance-approach goals (conceived here as the prescribed goals) are positively associated with the emergence of their subordinates' performance-based goals over time (Study 3.3). Although this evidence could appear at odd with Nelson and DeBacker's (2008) study, where *resistance* to norms was a *positive* predictor of performance goals, one must keep in mind that, in education, performance goals—contrary to mastery goals—are socially undesirable (Darnon et al., 2009), while in competitive sport (i.e, the context of Study 3.3), performance goals might be more socially desirable (Dompnier et al., 2013). Future research devoted to goal socialization, taking place in other group settings, should directly assessed subordinate's perceived norms.

On the other hand, as far as *cultural values* are concerned, Kasser and colleagues (2007) argued that dominant cultural values could have an effect on the goals that individuals develop. Extending this theoretical proposal, our results show how supervisors' self-enhancement values are positively associated with their performance-approach goals (Study 3.4.), and how these goals, in turn, are positively associated with the emergence of their subordinates' performance-based goals over time (Studies 3.1. and 3.2.). Going further, one might wonder what *structural* variables could predict supervisors' values and performance-approach goals. Here we advocate the use of a three-level multilevel model and we put forward three candidates: (i) organization performance goals structure; (ii) cultural background; (iii) social inequalities. First, as school performance goals structure (e.g., school policies focusing on grade, competitiveness, and outperforming others schools) was found to predict teachers' performance-approach goals (Skaalvik & Skaalvik, 2013), it is reasonable to expect that the organization's performance goal structure (a level-3 variable) could positively predict—through an increase in supervisors' self-enhancement values and performance-approach goals (level-2 variables)—subordinates' performance-based goals over time (level-1 variable). Second, as belonging to a Western individualistic society was found to trigger individuals' self-enhancement values (e.g., P. B. Smith, Dugan, & Trompenaars, 1996), it is reasonable to expected that one's culture (notably hierarchy and mastery culture, Schwartz, 2006; a level-3 variable) could positively predict—through an increase in supervisors' self-enhancement values and performance-approach goals (level-2 variables)—subordinates' performance-based goals over time (level-1 variable). Third, as economic inequalities

(measured with the Gini coefficient; Gini, 1912) were found to relate to powerful individuals' motivation to engage in corruption (a behavior predicted by self-enhancement values and performance-approach goals, Pulfrey & Butera, 2013; Jong-Sung & Khagram, 2005), it is reasonable to expect that the level of social inequalities of one's nation or region (a level-3 variable) could also positively predict—through an increase in supervisors' self-enhancement values and performance-approach goals (level-2 variables)—subordinates' performance-based goals over time (level-1 variable).

3. Limitations of the Present Set of Studies

Taken together, the present set of studies has some limitations.

3.1. An Exceeding Focus on the “Dark Side” of Performance-Approach Goals

The first limitation of our work concerns its exceeding focus on the “dark side” of performance goals, especially when considering the *maladaptiveness* of their interpersonal (first part) and intrapersonal (second part) consequences.

In a recent article, Duarte and collaborators (2014) warned researchers that the lack of political diversity in social psychology (where self-identified Democrats outnumber Republicans by a ratio of 10.5 to 1.; Rothman & Lichter, 2008) could lead in publication biases. Specifically, they stated that researchers might make both “embedded values biases” (i.e., embedding their personal values into their research, resulting in treating ideological statements as objective truths; Tetlock, 1994) and “confirmation biases” (i.e., concentrating on topics that are congruent with their personal values, and ignoring the ones that could contest them; Ioannidis, 2012) when framing their theoretical framework, building their methodology, or interpreting their results. Duarte and collaborators (2014) demonstrated how political homogeneity in social and political psychology might favor—through researchers' (and reviewers') embedded values and confirmation biases—the publications that validate (vs. contradict) the “liberal narrative”. For instance, Son Hing, Bobocel, Zanna, and McBrid (2007) view workers placing the interest of their company above harms to the environment caused by its actions as behaving *unethically*; but conservative researchers could view these same behaviors as being *ethical* because they imply the respect of authority

Could educational psychologists, and especially achievement goals theorists, suffer from similar biases? As there is a “liberal narrative” in Political Science, is there a “mastery goals narrative” in Educational Psychology? Precisely—just as social psychologists studying politicized objects are biased against the conservative ideology (and in favor of the liberal

one)—could achievement goals theorists be biased against performance-approach goals (and in favor of mastery-approach goals)? Dompnier and collaborators (2008) showed how, in classical achievement goals works (e.g., Ames, 1992; Dweck, 1986; Urdan, 1997), performance-approach goals tended to be portrayed as the “bad goals” (and mastery-approach goals as the “good goals”). For instance, Nicholls (1984) described performance-approach goals as “unfortunate and cynical approaches to academic life” (p. 102) (while considering mastery goals being more *ethical*). As a matter of fact, Darnon and collaborators (2009, Pilot Study 1) showed how psychologists (n.b., university psychology teachers) perceived performance-approach goals as needed to be discouraged (and mastery-approach goals as needed to be encouraged). According to Dompnier and collaborators (2008), such a result might be explained by the fact that performance-approach goals, that is, the goals to “beat the competition”, implies “the acceptance of inequality between individuals, which corresponds to some core aspects of the classical right-wing ideology” (p. 247), and—as we add—conflict with their liberal values. Hidi and Harackiewicz (2000) had already raised such an issue. They argued that the tendency for achievement goals theorists to denounce performance-approach goals might be partially based on ideological premises, and might therefore result in embedded value and confirmation biases (e.g., building research questions and methodologies that exclusively focus on the negative consequences of performance-approach goals). Despite the difficulty of detecting, admitting and avoiding those biases (Lilienfeld, Ammirati, & Landfield, 2009), we are left to wonder whether our work could have been affected by some of them.

In Search of Embedded Values and Confirmation Biases – First Part of Our Work

As far as the first part of our work is concerned, our theoretical rationale was that, performance-approach goals being associated with poorly communal (i.e., low concern for the others) and highly agentic (i.e., high concern for the self) behaviors, they should predict a *maladaptive* achievement-related interpersonal behavioral pattern. Our empirical illustration confirmed that, performance-approach goals predicting relational competitive conflict regulation, that is, a poorly communal (i.e., ignoring others’ point of view) and highly agentic (i.e., sticking to one’s point of view) behavior, these goals were indeed *maladaptive* in terms of interpersonal responses (as competitive regulation negatively predicts learning; Buchs et al., 2004). But one might question the idea that poorly communal and highly agentic interpersonal behaviors are *necessarily* maladaptive. More specifically, we wonder whether

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selecting relational regulation as our object of study might have biased our conclusion regarding the adaptive vs. maladaptive nature of performance-approach goals.

A similar issue exists in the literature on social power. Contemporary research offers a definition of social power as corresponding to both the capacity to *influence others* (and therefore being associated with a low concern for others, perceived as instrument of one's goals) and that of being *uninfluenced by others* (and therefore being associated with a high concern for the self, one's goals being conceived as priorities; see Galinsky et al., 2008). Because of its very nature, social power—just as performance-approach goals—tend to predict poorly communal and highly agentic behaviors. As a matter of fact, research reveals that social power predicts this kind of behaviors, such as violating norms of politeness (for a review, see Brown & Levinson, 1987), low consideration for other's perspectives (Galinsky, Magee, Inesi, & Gruenfeld, 2006), sexual harassment (Kunstman, & Maner, 2011), immorality (Lammers, Stapel, & Galinsky, 2009) and corruption (Kipnis, 1972). In concluding on their literature review on the effects of social power on interpersonal behaviors, Keltner and collaborator (2003) admit that they do “not portrayed power in a flattering light” (p. 277). Given Duarte and collaborator's (2014) arguments, one might wonder whether social psychologists working on power—as most of them embrace the values of autonomy and equality—might select specific behavioral outcomes that make them focused on the *negative* consequences of social power. Yet, in some (rare) research, social power was found to predict interpersonal behaviors that could be considered as *positive* consequences. For instance, leaders are less prone than subordinates to diffusion of responsibility and, in such, are less subject to the bystander effect (i.e., the fact that the likelihood of helping someone is negatively associated with the number of co-actors; Baumeister, Senders, Chesner, & Tice, 1988) or to social loafing (i.e., the fact that the amount of effort exerted to achieve a goal is negatively associated with the number of collaborators; DeWall, Baumeister, Mead, & Vohs, 2010). In the same vein, powerful (vs. powerless) individuals were found to voice their opinion within groups to a greater extent (Islam and Zyphur, 2005).

This last example might be especially relevant for our purpose. Applying it to the case of achievement goals and interpersonal behaviors, we can legitimately predict that performance-approach-oriented (vs. mastery-approach-oriented) individuals—as they are less hampered by group conformity (i.e., low concern for others) and more focus on their own judgments (i.e., high concern for the self)—might more easily voice a deviant opinion within groups. Going further, we can imagine that, in group-contexts, performance-approach-oriented individuals could therefore reduce the detrimental effects of groupthink (i.e.,

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normative desire for intragroup harmony resulting in dysfunctional collective decision-making; Janis, 1972). In addition to be a promising avenue for “unorthodox” research aiming at showing how performance-approach goals—in specific context—might actually be beneficial for the group, such a reasoning reveals that qualifying performance-approach as uniformly predicting maladaptive achievement-related interpersonal behaviors might be questionable.

In Search of Embedded Values and Confirmation Biases – Second Part of Our Work

A comparable tendency to focus on the “dark” side of performance-approach goals might be observed in the second part of our work. As far as it is concerned, our theoretical rationale was that—supervisors’ and subordinates’ performance-approach goals being respectively associated with undesirable temporal *and* cross-level effects on level-1 outcomes—supervisors’ performance-approach goals should be associated to the emergence, through performance goals socialization, of a *maladaptive* pattern of motivation and well-being within subordinates. In Study 2.2., our empirical illustration confirmed that thesis supervisors’ performance-approach goals predicted their Ph.D. students’ satisfaction (negatively) and intention to drop out (positively) over time; hence, supervisors’ performance-approach goals might indeed be *maladaptive*. But, here also, one might question the idea that supervisors’ performance-approach goals are *necessarily* maladaptive. More specifically, we wonder whether having selected satisfaction and intention to drop out as our objects of study, as well as having only studied supervisors’ performance-approach goals’ consequences within research groups, could compromise the generalization of our conclusions regarding the adaptive vs. maladaptive nature of supervisors’ performance-approach goals.

Although performance-approach goals were found to have negative consequences regarding a series of outcomes, such as surface learning (Elliot et al., 1999), academic dishonesty (Pulfrey & Butera, 2013), or withdrawal of information (Poortvliet et al., 2007), they were found to have positive consequences, in predicting—for instance—academic achievement (for a review, see Senko et al., 2011). As a matter of fact, Lambert (2014) showed that, in the specific context of academic research group, Ph.D. students’ perceptions of being in a competitive environment—which is generally associated with the endorsement of performance goals (Murayama & Elliot, 2012)—was found to predict the likelihood of having published an article. It is therefore legitimate to think that thesis supervisors’ performance-approach goals—when associated with the emergence of Ph.D. students’ performance-approach goals—might, despite a series of negative outcomes related to the

academic pressure to perform (i.e., publish or perish), such as the prevalence of publication bias (Fanelli, 2010), occupational stress (Gillespie, Walsh, Winefield, Dua & Stough, 2010), or low creativity and innovation (A. N. Miller, Taylor, & Bedeian, 2011), predict the number of their Ph.D. students' publications.

In investigating the advantages and disadvantages for subordinates to be under the guidance of performance-approach-oriented supervisors while avoiding the “mastery goals narrative”, future research should rely on a multiple goal perspective (Harackiewicz et al., 1998). Specifically, in group-contexts, scholars should explore how supervisors' mastery-approach *and* performance-approach goals might combine to optimize subordinates' motivation, well-being, and performance. In such contexts, the most intuitive and appealing statistical pattern of data that would speak in favor of a *beneficial combination* of those goals would be that of a *specialized* model, in which supervisors' mastery-approach and performance-approach goals would have unique effects on *different* outcomes (Senko et al., 2011). Indeed, at level 1, depending on the outcomes, mastery-approach and performance-approach goals were found to produce both desirable effects (e.g., for mastery goals: positive relationship with intrinsic motivation; Rawsthorne, & Elliot, 1999; for performance goals: positive relationship with achievement; Hulleman et al., 2010) and undesirable effects (e.g., for mastery goals: inconsistent relationship with achievement; Dompnier et al., 2009; for performance goals: positive relationship with mild anxiety; Elliot et al., 1999). At level 2, the combination of supervisors' mastery-approach and performance-approach goals might result in the emergence of a more optimal subordinates' motivational profile (e.g., predicting both intrinsic motivation and achievement). Obviously, researchers willing to take a cross-level multiple goal perspective might expect other statistical patterns of data, such as an *interactive* model (where supervisors' mastery-approach and performance-approach goals would generate a (positive) interaction effect on a given outcome) or an *additive* model (where supervisors' mastery-approach and performance-approach goals would each generate a (positive) main effect on a given outcome; see Barron & Harackiewicz, 2001).

3.2. The A-dynamic Nature of our Dependent Variables

The first limitation concerns the *a-dynamic* nature of our outcome measures. As far as the first part of our work is concerned (i.e., first and second lines of research; notably in face-to-face-interaction Studies 1.1. and 2.4.), the potential influence of the disagreeing others' mode of conflict regulation (e.g., does the disagreeing partner tend to regulate conflict in an epistemic, competitive, or protective way?) on participants' level of relational regulation was

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not considered. Yet, in Organizational Psychology, conflict-handling modes are known not to be static; individuals tend to adapt their strategies in response to the way they perceive that others' strategies evolve (Hanson, 2006). More specifically, in the socio-cognitive conflict literature, individuals tend to regulate conflict in a more assertive, overconfident and self-centered way—that is, in a more competitive manner—when they face a disagreeing other regulating conflict in a competitive rather than an epistemic fashion (Darnon, Doll, & Butera, 2007). Thus, in our experiments, it is possible that conflict was regulated in a dynamic way: the partner's rhetoric might have had an effect on participants' reactions over time. Future research should employ sequential measures of conflict regulation in order to assess the temporal adjustment of mode and intensity of conflict regulation, as a function of that of the other's.

As far as the second part of our work is concerned (i.e., third line of research), the potential influence of other team-members' performance-based goals on participants' own level of performance goals was not considered. Yet, goal endorsement and goal change are known not to be static; individuals tend to adopt and regulate their goals in response to the goals implied by others' behaviors—to the extent that they are perceived as attractive—a phenomenon called goal contagion (Aarts, Gollwitzer, & Hassin, 2004). More specifically, in the literature on achievement goals, others' performance goals have been found to have an impact on group and individual outcomes. For instance, diversity in the level of performance goals—as predicting different task strategies (members having high performance goals will tend to rely on surface processing, while the ones having low performance goals will not)—decreases group efficiency and performance (Pieterse, 2009). Moreover, the perceived congruence in the level of performance goals within teams has been found to increase team-members' satisfaction (Kristof-Brown, & Stevens, 2001). Thus, in our experiments, it is possible that change in performance-based goals was regulated in a dynamic way: team-members' performance goals might have influenced each other over time, and have an incidence on individual outcomes (e.g., intention to drop out, satisfaction). Future research should employ more complex multilevel analyses (e.g., taking into account within-team average of members' goals, as well as an index of dispersion, e.g., Dineen, Noe, Shaw, Duffy, & Wiethoff, 2007; LePine, 2005) in order to assess both the influence of leader's and peers' goals on change in performance-approach and -avoidance goals, and as well as on the pattern of satisfaction and well being, over time.

Also concerning the second part of our work (i.e., third line of research), one might criticize the fact that socialization was not conceived in a bi-directional way, and that the

potential influence of the performance goals of the subordinates on that of their supervisors was not considered. The literature on intergroup influence showed how majorities exercise influence at the *manifest* level (fostering compliance, akin to our idea of a supervisor-to-subordinates socialization), whereas minorities exercise influence at the *latent* level (fostering long-term change, not treated in our theoretical framework; for a review, see Nemeth, 1986). Additionally, the literature on inter-positional influence was criticized for being too “leader-centric”, as it almost exclusively focuses on the (manifest) influence of leaders’ traits and behaviors on followers’ attitudes, and seldom on the (latent) influence of followers on leaders (Meindl, 1995). Yet, the leader-follower relationship is defined as a reciprocal interactional process rather than a unidirectional one, where subordinates play an active role rather than a passive one (Howell & Shamir, 2005). Both supervisor *and* subordinate mutually determine (the quality of) their relationship (for a review of the leader-member exchange approach, see Graen & Uhl-Bien, 1995) and—although a supervisor has certainly more influence on his/her subordinates than the reverse—group socialization is conceived as a mutual influence process (for a review, see D. C. Feldman, 1994), that owes a great deal to the influence of newcomers or low-status members (Levine, Moreland, & Choi, 2001). As a matter of fact, during the recruiting, entrance, and integration of socializing new group-members, agents of socialization tend to focus their perception on discrepant information (e.g, the distance between their and the newcomer’s value); hence, they tend to be influenced by these new members and change their professional values (Mignerey, Rubin, & Gorden, 1995), their attitudes toward the organization (Sutton & Louis, 1987), or their self-perceptions of ethical behaviors (E. Jansen & Von Glinow, 1985). Future research should therefore consider the influence of subordinates’ goals on their supervisors’ behaviors, goals, or values using non-recursive longitudinal model so as to test long-term reciprocal causation (Cortina, 2005).

3.3. The Operationalization of Performance Goals

The second limitation concerns the operationalization of performance-based goals. As far as the assessment of performance-approach goals is concerned (first, second, and third lines of research), our scale used a normative component (i.e., outperforming others, e.g., “It is important for me to do better than other participants”; Elliot & McGregor, 2001) rather than an appearance one (i.e., demonstrating competence, e.g., “One of my goals is to look smart in comparison to the other students in my class”; Midgley et al., 2000). Yet, these “normative” and “appearance” goals have been found to correspond to two distinct factors (Warburton & Spray, 2014). Thus, one might wonder whether the consistent use of normative performance-

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approach goals had an influence on the results of our studies. Despite the fact that “normative” and “appearance” goals were found to produce different effects at the *intrapersonal* level (e.g., performance, self-efficacy and fear of failure; Edward, 2014; Hulleman et al., 2010), they are suspected to produce the same at the *interpersonal* level (e.g., students’ relationship, collaborative learning, cheating; Senko et al., 2011). Thus, concerning our first and second lines of research—although an empirical confirmation of this proposition would be needed—we would not expect these goals to be differently associated with competitive conflict regulation.

More broadly, the “normative” and “appearance” distinction relate to the fact that there are different underlying motivations behind the endorsement of performance-approach goals (Vansteenkiste, Lens, Elliot, Soenens, & Mouratidis, 2014); as such, “appearance” goals might be conceived as an introjected motivation (i.e., earning favorable judgment; Vansteenkiste, Mouratidis, & Lens, 2010) underlying performance-approach goals (i.e., outperforming others; Elliot, 2006). Thus, concerning our third line of research, one might wonder whether, in addition to transmitting over time “mere” performance-approach goals (i.e., “normative goals”, that is, outperforming others), supervisors might transmit the introjected (or other) motivations that underlay their performance-approach goals (e.g., “appearance goals”, that is, outperforming other so as to earn favorable judgments). Future research might explore in a systemic way the role of supervisors’ reasons (e.g., autonomous and controlled motivations) for pursuing performance-approach goals (Vansteenkiste, Smeets, Soenens, Lens, Matos, & Deci, 2010) in the performance goals socialization phenomenon.

As far as the assessment of performance-avoidance goals is concerned (first, second, and third lines of research), we used Elliot and McGregor’s (2001) achievement goals questionnaire. Yet, one of the items of this scale was fear-based (i.e., “My fear of performing poorly in this discipline is what motivates me”), whereas the others did not use a clear normative component (e.g., “I just want to avoid doing poorly in this experiment). This way of operationalization was criticized, as the use of a fear-based item creates an overlap between performance-avoidance goals and (one of) its underlying motivation (i.e., fear of failure), while the use of non-normative items creates a conceptual ambiguity (as performance-avoidance goals and normative comparison are intertwined; Elliot & Murayama, 2008). In order to reduce the conceptual ambiguity, one obvious solution would be not to rely on Elliot and McGregor’s (2001) scale, but on Elliot and collaborators’ (2011) update. In this scale, performance-avoidance goals items (labeled “other-avoidance”)—as well as performance-approach goals (labeled “other-approach”)—indeed include a normative component and avoid

the use of fear-based terms (e.g., “[Do you have the goal t]o avoid doing poorly in comparison to others on the exams in this class[?]”; p. 648). However, this would be problematic for (at least) three reasons. First, at the statistical level, such a scale, as compared to the one that we used, was found to show a high correlation between performance-approach (i.e., other-approach) and -avoidance goals (i.e., other-avoidance) constructs, which can result in several statistical issues (e.g., statistical suppression; Linnenbrink-Garcia et al., 2012). Second, at the methodological level, students were found not to be able to distinguish between non-normative (i.e., corresponding to the scale that we used) and normative (i.e., corresponding to Elliot et al.’s (2011) update) performance-avoidance items (Bong, Woo, & Shin, 2013). Third, at the theoretical level, there is a debate on whether the normative component is an aspect of performance goals that is needed (Elliot, 2005), unnecessary (Grant & Dweck, 2003), or to be removed (Brophy, 2005; for a review, see Hulleman & Senko, 2010). Therefore—although we acknowledge the conceptual issue of performance-avoidance goals measurements—we cautious that using the up-to-date scale can generate more problems than it would solve.

3.4. The Internal and External Validity Issues

The third limitation concerns the internal and external validities of our studies. On the one hand, studies from the first and second lines of research have an elevated degree of *internal* validity, at the expense of that of *external* validity (Onwuegbuzie, 2000). Specifically, relative competence was *always manipulated*. Although such a design allows us to establish a causal link between relative competence and relational regulation, as a function of performance-based goals, it limits the generalizability of the findings. On the other hand, studies from the third line of research have an elevated degree of *external* validity, at the expense of that of *internal* validity (Onwuegbuzie, 2000). Specifically, performance-based goals were *always measured*. Although such a design allows us to generalize the performance goals socialization phenomenon to other situations—all the more so that the effect was replicated within various natural group settings—we cannot formally draw causal conclusion.

In both parts of our work, a reasonable trade-off between internal and external validity, although resource-intensive and time-consuming, would be to conduct two quasi-experiments. As far as the first one is concerned (extending the findings of the first and second lines of research), in a natural classroom environment, participants would be assigned to dyads. First, performance-approach and -avoidance goals would be measured (independent variables 2 and 3). Second, low achievers would be either paired with another low achiever

(i.e., competence symmetry condition) or with a high achiever (i.e., competence asymmetry condition; independent variable 1; see Gabriele & Montecinos, 2001). Third, and finally, participants would experience a socio-cognitive conflict, and relational regulations would be appraised (dependant variable). We would expect the partner's (measured) competence to positively moderate the relationships between performance-approach goals, performance-avoidance goals and, respectively, competitive and protective regulations. As far as the second quasi-experiment is concerned (extending the findings of the third line of research), in a natural organization setting, teams of workers would be followed during a six-month period. First, managers' performance-approach goals would be manipulated (low vs. high)—for an example of achievement goal manipulation on the field, see Meece and S. D. Miller's (1999, 2001) longitudinal intervention studies. Then, workers' performance-approach and -avoidance goals would be measured monthly. We would expect managers' (manipulated) performance-approach goals to predict an increase of their subordinates' performance-approach and -avoidance goals over time.

3.5. The Absence of Mastery Goal Socialization

A last limitation, related to the second part of our work (i.e., empirical part II: second line of research), is the null effect of supervisors' mastery goals on the emergence of subordinates' mastery goals over time. Three reasons that might explain such a non-significant relationship, from the most pragmatic to the most theoretical, are set out below.

First, the fact that we do not observe (vs. observe) a mastery goals socialization (vs. a performance goals socialization) phenomenon might be explained by *social desirability*. As outlined earlier, endorsing mastery goals is more socially desirable than endorsing performance goals (Dompnier et al., 2009). In the literature, it results in higher self-reported level of mastery-approach goals as compared to that of performance-based goals (for a similar argument, see Darnon et al., 2009). As a matter of fact, in Studies 3.1. and 3.2., the distribution of subordinates' mastery-approach goals—contrary to that of their performance-based goals—was found to be negatively (left) skewed, that is, characterized by a ceiling effect. If the social desirability that is specifically associated with the mastery-approach goals construct accounts for the aforementioned lack of results, we should observe mastery goals socialization—in a future research—in an environment where learning is less socially valued (e.g., within organizations insisting that success requires a (fixed) talent-mindset, Dweck, 2006).

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Second, the fact that we do not observe (vs. observe) a mastery goals socialization (vs. a performance goals socialization) phenomenon might be explained by a *perceptual bias*. As outlined earlier, the endorsement of supervisors' mastery-approach goals might be more difficult to perceive (by subordinates) as compared to that of supervisors' performance-approach goals (Eren, 2009). Generally speaking, in explaining why the competition in the animal kingdom is (wrongly) perceived as being much more prevalent than cooperation, Kohn (1992)—quoting Allee (1951)—argued that “cooperation is not always plain in the eyes, whereas competition [...] can be readily observed” (p. 22). More specifically, in the prisoner's dilemma game, Maki, Thorngate, and McClintock (1979) reported that individuals perceived more accurately a (bogus) partner's competitive social motives (i.e., making decisions in a positively self-interested manner) than partner's prosocial motives (i.e., making decisions in a negatively self-interested manner). In our case, this would mean that subordinates could be less accurate in detecting supervisors' personal mastery-approach goals—as these goals are more “intrapersonal”, relying on an evaluation of competence according to a self-/task-referenced standard—than their performance-approach goals—as they are more “interpersonal”, relying on an evaluation of competence according to an other-referenced standard (Elliot et al., 2011). If a perceptual bias that is specifically associated with an underestimation of supervisors' mastery-approach goals accounts for the aforementioned lack of results, we should observe mastery goals socialization—in a future research—with a much larger sample size, or when the interaction explicitly focuses on the acquisition of cooperative skills (Gillies & Ashman, 1996).

Third, the fact that we do not observe (vs. observe) a mastery goals socialization (vs. a performance goals socialization) phenomenon might be explained by “personal goals / instructional practices” *discrepancies*. In the recent literature on achievement goals for teaching, there exists some inconsistencies concerning the relationship between teachers' mastery-approach goals and their mastery-oriented practices; indeed, some scholars reported a positive relationship (Retelsdorf and Günther, 2011) while others reported a null relationship (Paulick et al., 2013). This might be due to the fact that, although mastery-approach goals are central features of teacher's *discourse* (e.g., emphasis on progress), performance-oriented practices are central features of teachers' *practices* (e.g., normative grading), as they are embedded in a selective environment (Darnon et al., 2009); thus, apparently mastery-approach-oriented teachers might paradoxically use performance-oriented practices. Yet, in Studies 3.1. and 3.2., the groups we studied (i.e., soccer teams and research groups) were all embedded in competitive systems (i.e., sport and research). Hence, here also, although the

supervisors of those groups might pursue, or declare pursuing personal mastery-approach goals, the system in which they belong requires them to use performance-oriented practices and set group performance-approach goals for their teams (e.g., the aim of a soccer team is to outperform other team in tournaments; Porter, 2008). Subsequently, as compared to performance-approach-oriented supervisors who would *consistently* use performance-oriented practices and set group performance-approach goals (Park et al., 2013), mastery-approach-oriented supervisors could *inconsistently* use those same practices and set those same goals in order to meet systemic requirement; such inconsistencies might impair mastery goals socialization. If “personal goals / management practices and group goals setting” inconsistencies that are specifically associated with mastery-oriented supervisors account for the aforementioned lack of results, we should observe mastery goals socialization—in a future research—in groups that are not embedded in a competitive environment, such as groups sharing non-competitive superordinate goals (e.g., Sherif, 1961).

4. Joint Implication of the Present Set of Studies and Conclusion

Despite the aforementioned limitations, the present set of results has a major practical implication for group supervision. While the second part of our work shows that supervisors’ performance-approach goals are positively associated with an increase over time in their subordinates’ performance-approach and -avoidance goals, the first part shows how, when facing more-competent others, individuals’ performance-approach and -avoidance goals respectively predict competitive and protective regulations. Yet, disagreements are frequent within groups, and this especially with group-supervisors, be they professors (Quiamzade et al., 2003), managers (Drory and Ritov, 1997), or teachers (Almasi, 1995); Furthermore group-supervisors are epitomic examples of potentially threatening more-competent others, as they not only possess expert power, but also reward, coercive and legitimate power (French & Raven, 1959). Taken together, the results of the two parts of our work allow us to legitimately anticipate a backlash effect: supervisors’ performance-approach goals, in addition to foster the emergence of their subordinates’ performance-based goals, might lead their subordinates to regulate conflict with them in a more relational way (most probably in a protective way, see “*The Power of the More-Competent Target of Comparison*”, pp. 207-209). Yet, in regulating conflict with one’s supervisors in relational way, individuals cannot progress (Buchs et al., 2004). Generally speaking, in having performance-approach goals, leaders might not only cause their followers to suffer from the consequences of their performance-approach goals (e.g., reduced investment, enjoyment and commitment; Barić, 2007; Franklin

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et al., 2013), but could additionally and ironically suffer *themselves* from the consequences of the performance-based goals they induced within their followers (i.e., relational regulations, but also maladaptive forms of help-seeking behaviors, Newmann & Schwager, 1995; reduced quality of the leader-member exchange, Janssen & Van Yperen, 2004; or free-riding behaviors, Schoor and Bannert, 2011).

Before concluding, let us go back to what we argued in the opening paragraph. We live in competitive societies (i.e., the state of competition at the macro-level), where the endorsement of performance goals (i.e., the state of competition at the micro-level) is encouraged. In the present work, we opted for a comprehensive quantitative approach in studying the consequences and antecedents of performance-based goals in the social plenum. On the one hand, we examined their *interpersonal consequences*, notably with individuals from higher positions (i.e., more-competent interactants), while on the other hand, we investigated their *interpersonal antecedents*, notably driven by individuals from higher positions (i.e., group-supervisors), as well as by group norms and cultural values. In sum, we believe that the present set of results illustrated both the social cost of performance-based goals and (one of) the manner in which they socially reproduce in Western societies. Finally, in responding to Henry Ford's (2007) opening citation, according to which "time spent in fighting competition is wasted", we hope that the present work demonstrate that time spent in *understanding* competition is not wasted.

SUPPLEMENTARY MATERIAL

1. Performance Goals and Conflict Regulation: A Dominant Goal Approach

One might want to see what would have happened if the analyses of our first line of research had been conducted using a dominant goal approach (Van Yperen, 2006). Such an approach (see Lange & Van Yperen, 2010; Van Yperen et al., 2011; Van Yperen & Renkema, 2008) implies that individuals—although generally having multiple goals—tend to have a dominant achievement goal; in a given context, a specific goal is indeed generally favored over the others.

Van Yperen (2006) has developed a specific tool for assessing individuals' dominant achievement goals consisting in forced-choice items opposing achievement goals in a pairwise manner. As such a measure was not included in our studies, we relied on a different technique to compute individuals' dominant *performance* goals. Concretely, we subtracted individual's mean of performance-avoidance goals from that of performance-approach goals; with such a method, a negative value (that we coded -0.5) indicates that one's performance-avoidance goals dominated performance-approach goals, whereas a positive value (that we coded +0.5) indicates that one's performance-approach goals dominated performance-avoidance goals. A null value (that we did not code) indicates no preference.

Below we presented two sets of results aiming at testing the effects hypothesized in our first and second lines of research using a dominant goal approach.

1.1. First Line of Research

As far as the first line of research is concerned, we carried out similar analyses as that of the article (i.e., Sommet, Darnon, Mugny, et al., 2014) with the sole exception that we used a dominant achievement goals approach. Analyses were only conducted for Studies 1.1. and 1.2. (as in Study 1.3. performance goals were manipulated and not measured). A summary of the analyses is presented in Table 6.1.

Dominant performance goals (= performance-approach goals – performance-avoidance goals) were computed for both Studies ($M_{S1.1.} = -0.46$; $SD_{S1.1.} = 1.65$; $M_{S1.2.} = -0.18$; $SD_{S1.2.} = 1.50$). In Study 1.1., 20 (i.e., 55.6%) individuals had dominant performance-approach goals (coded +0.5), and 16 (44.4%) individuals had dominant performance-avoidance goals (coded -0.5). In Study 1.2., 42 (56.8%) individuals were in the former case and 32 (i.e., 43.2%) were in the latter one.

Table 6.1.

Effects of dominant performance goals (and conflict) on relational conflict regulation (confirmation, compliance, and self-superiority score; first line of research).

	Study 2.1.		Study 2.2.
	Confirmation	Compliance	Self-superiority score
Intercept	0.61**	-0.08	0.02
Dominant performance goals (-0.5 = avoidance ; +0.5 = -approach)	0.11**	-0.08**	0.26
Conflict (-0.5 = no-conflict ; +0.5 = conflict)	n/a	n/a	1.16**
Dominant goals x Conflict	n/a	n/a	1.16*
Initial performance	0.01*	0.01*	n/a

Note ** $p < .01$, * $p < .05$

In Study 1.1., individuals having dominant performance-approach goals, as compared to the ones having dominant performance-avoidance goals, were found to display more self-confirmation, $B = 0.11$, $SE = 0.03$, $F(1, 29) = 8.58$, $p < .007$, and less compliance, $B = -0.08$., $SE = 0.03$, $F(1, 29) = 8.57$, $p < .007$.

In Study 1.2., dominant performance goals were found to significantly interact with the condition (conflict vs. no conflict) in predicting the self-superiority score, $B = 1.16$, $SE = 0.56$, $F(1, 69) = 4.24$, $p < .05$. As seen in Figure 6.1., conflict was associated with a higher self-superiority score for individuals having dominant performance-approach goals, $B = 1.74$., $SE = 0.37$, $F(1, 69) = 21.27$, $p < .001$; the relationship was not significant for individuals having dominant performance-avoidance goals, $B = 0.58$., $SE = 0.44$, $F(1, 69) = 1.77$, $p = .18$.

In line with the conclusions of the article, these results show that dominant performance-approach goals and dominant performance-avoidance goals are positively associated, respectively, with competitive and protective regulation; the effects of dominant performance-approach goals was clearly more pronounced in a conflict (vs. no-conflict) condition. Although our operationalization of dominant performance goals implies the dichotomization of two continuous variables, which should increase measurement error (Brauer & McClelland, 2005), the results are astoundingly clear, which speaks in favor of both the robustness of our effects and the potential of such a method.

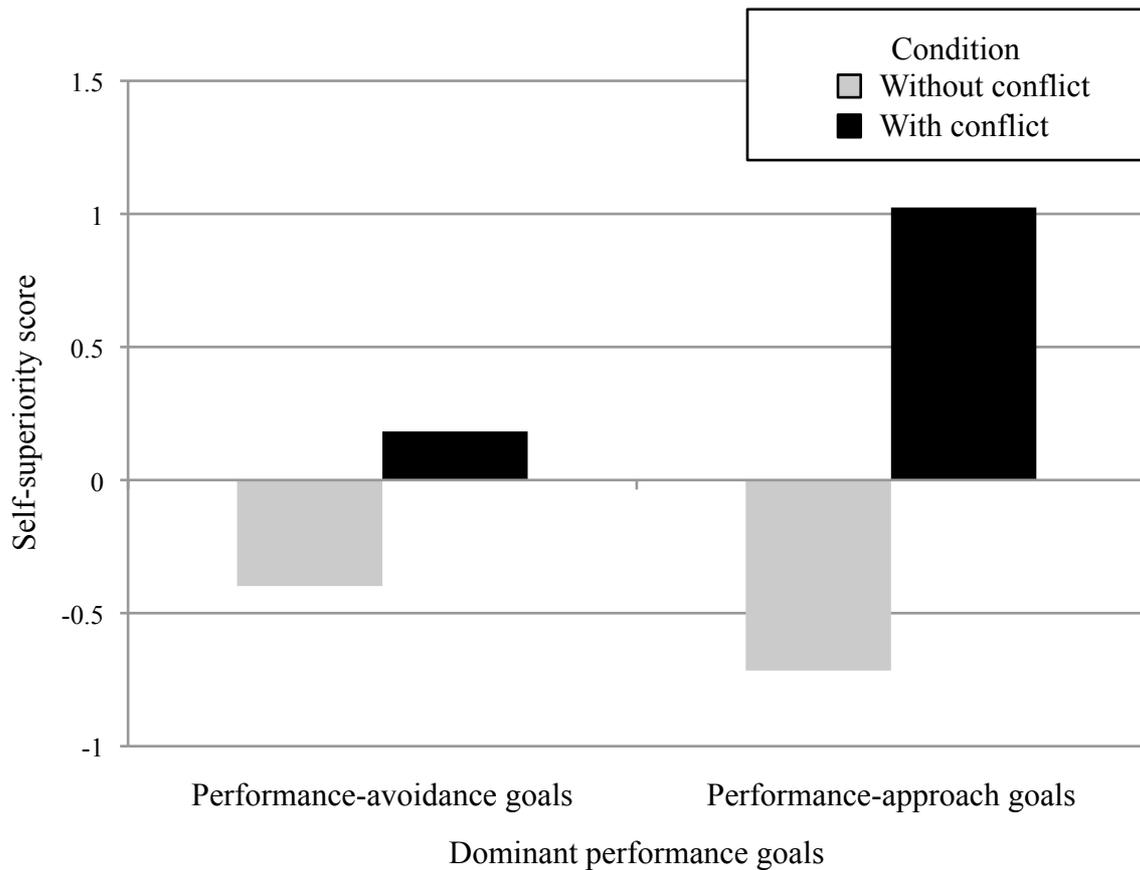


Figure 6.1. Effects of dominant performance goals on self-superiority score, as moderated by conflict (Study 1.2.).

1.2. Second Line of Research

As far as the second line of research is concerned, we carried out similar analyses as those of the article (i.e., Sommet, Darnon, & Butera, 2014) but using, here also, a dominant achievement goals approach. Analyses were only conducted for Studies 2.1. and 2.3. (as in Study 2.2. performance goals were manipulated, and as in Study 2.4., more complex analytical strategy were originally used).

Once again, dominant performance goals (= performance-approach goals – performance-avoidance goals) were computed for both Studies ($M_{S2.1.} = 0.32$; $SD_{S2.1.} = 1.55$; $M_{S2.2.} = 0.22$; $SD_{S2.2.} = 1.36$). In Study 2.1., 72 (51.8%) individuals had dominant performance-approach goals (coded +0.5), and 45 (i.e., 32.4%) individuals had dominant performance-avoidance goals (coded -0.5). In Study 2.3., 136 (46.7%) individuals were in the former case and 97 (i.e., 33.3%) were in the latter one (n.b., in both studies, the remaining percents relate to participants having no dominant performance goals). A summary of the analyses is presented in Table 6.2.

Supplementary Material

Table 6.2.

Effects of dominant performance goals and other's competence on relational conflict regulation (self-reported competitive and protective regulation as well as self-confirmation, and compliance; second line of research).

	Study 2.1.		Study 2.3.	
	Competitive	Protective	Competitive	Protective
Intercept	-0.02	0.00	0.09	0.04
Dominant performance goals (-0.5 = avoidance ; +0.5 = -approach)	0.41*	0.40	-0.02	-0.08
Other's competence (-0.5 = equal; +0.5 = superior; S.2.1) (Contrast of interest; S2.2.)	-0.22	-0.02	-0.02	0.03
Dominant goals x competence	0.88*	-0.62	0.18†	-0.12
Age	-0.05	-0.04	n/a	n/a
Age x competence	0.02	-0.02	n/a	n/a
Other's competence (Orthogonal contrast; S2.2.)	n/a	n/a	0.3	0.03
Dominant goals x competence (Orthogonal contrast; S2.2.)	n/a	n/a	0.18	-0.13

Note * $p < .05$, † $p < .1$

In Study 2.1., dominant performance goals were found to significantly interact with the condition (equally vs. more-competent other) in predicting competitive regulation, $B = 0.88$, $SE = 0.38$, $F(1, 111) = 5.23$, $p < .03$. As seen in Figure 6.2., when facing a more-competent other, individuals having dominant performance-approach (vs. -avoidance) goals regulated conflict in a more competitive way, $B = 0.85.$, $SE = 0.27$, $F(1, 111) = 9.74$, $p < .003$; the effect was not significant when facing an equally competent other, $B = -0.03.$, $SE = 0.27$, $F(1, 111) < 1$, $p = .92$. However, the valence of the dominant performance goals (approach vs. avoidance) was not found to significantly interact with the condition (equally vs. more-competent other), $B = -0.62$, $SE = 0.40$, $F(1, 111) = 2.43$, $p > .1$.

In Study 2.3., dominant performance goals were only found to marginally interact with the condition (undefined vs. equally vs. more-competent other) on competitive regulation, $B = 0.85.$, $SE = 0.27$, $F(1, 225) = 3.36$, $p < .07$; the effect was not-significant on protective regulation, $B = -0.12.$, $SE = 0.10$, $F(1, 225) = 1.40$, $p = .24$.

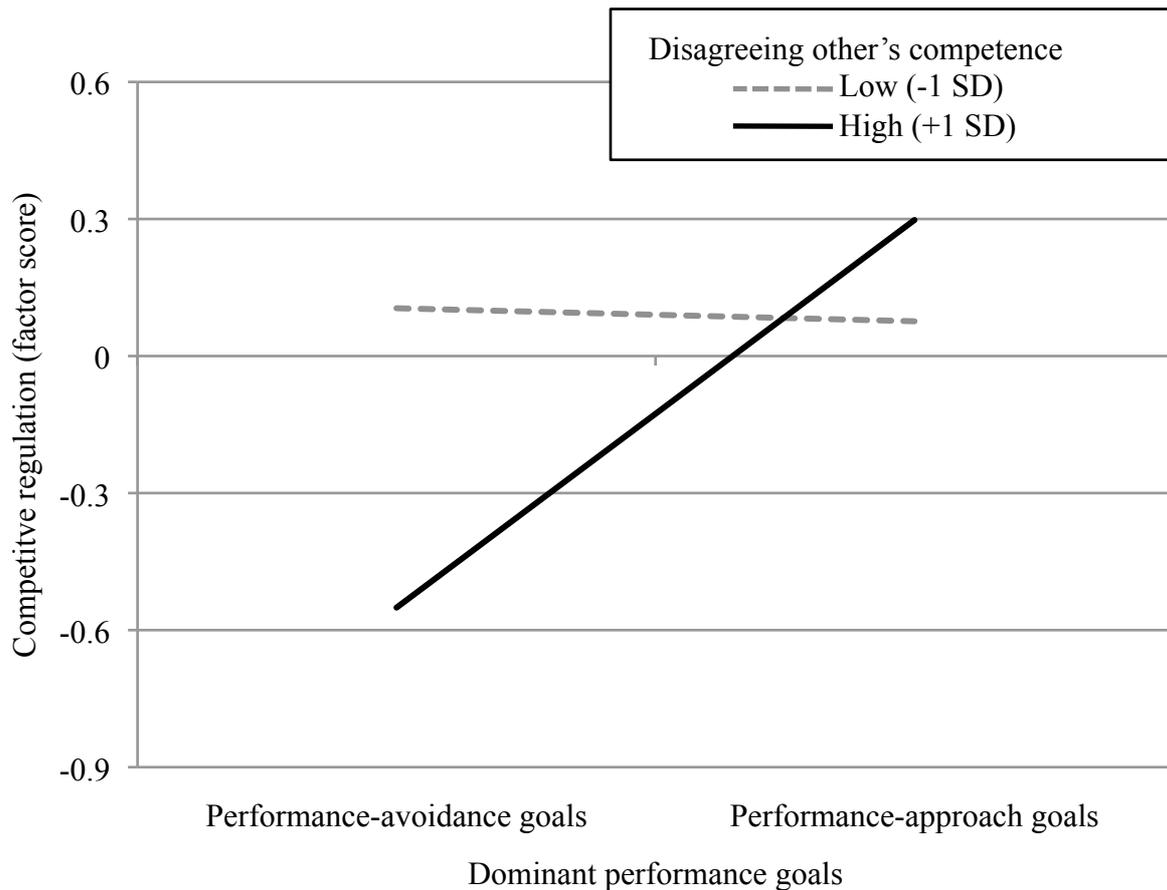


Figure 6.2. Interaction between the valence of dominant performance goals and disagreeing other's competence on competitive regulation (Study 2.3.).

In line with the conclusions of the article, these results show that dominant performance-approach goals tend to be positively associated with more competitive regulation when facing a more-competent (vs. equally or less-competent) others. However, no effects were found on protective regulation. This might be due to the fact that our operationalization of dominant performance goals implies interdependence between two constructs that are measured independently (the new independent variable is computed by subtracting performance-avoidance goals from the performance-approach goals), which can make the detection of complex interaction effects more difficult.

2. Behavioral Measures of Relational Conflict Regulation (Study 2.4.)

Below are some methodological and statistical details concerning the behavioral measures of relational conflict regulation used in Study 2.4..

2.1. Methodological Details

In addition to the 39 files of the videotaped conflictual interactions (i.e., $N = 78$), the independent judges were provided with coding sheets containing: (i) the text given to the participant sat at the left of the table (i.e., favoring a biological explanation of Alzheimer's disease) as well as the one given to the participant sat at the right of the table (i.e., favoring an environmental explanation of Alzheimer's disease); and (ii) the definitions of the dialogical behaviors (items) that they needed to count (adapted from Asterhan and Schwarz, 2009). The name of these items, their definition, and the examples associated to each of them, as presented to the judges, are displayed in Table 6.3..

Two elements should be made clear. On the one hand, it is worth noting that, given the conceptual proximity between Item 7 (Unreasoned disagreement) and Item 8 (Denigration), and given the very low occurrence of Item 8 (Denigration, i.e., two occurrences in the whole database), the two items were merged during the process of resolving judges' disagreements and labeled "opposition" (i.e., "overt verbal utterances of unreasoned disagreement"). Hence, in the article, behavioral competitive regulation consists of the sum of Item 3 (Unreasoned support), Item 7 (Unreasoned disagreement), and Item 8 (Denigration).

On the other hand, it is also worth noting that, given the conceptual proximity between Item 5 (Unreasoned agreement) and Item 9 (Concession), and given—here also—the very low occurrence of Item 9 (Concession, i.e., four occurrences in the whole database), the two items were also merged during the process of resolving judges' disagreement and labeled "compliance" (i.e., unreasoned support of the position of participant's text). Hence, in the article, behavioral protective regulation consists of the sum of Item 5 (Unreasoned agreement) and Item 9 (Concession).

2.2. Empirical Details

2.2.1. On the Low Occurrence of the Relational Conflict Regulation Behaviors

One might wonder the reasons of the low occurrence of both behavioral competitive regulation ($M = 0.62$, $SD = 0.96$) and behavioral protective regulation ($M = 0.38$, $SD = 0.63$). Analyses of their frequencies show that, indeed, most participants exhibited no behavioral

Table 6.3.
Names, definitions, and examples of the dialogical behaviors that the judges were asked to code (Study 2.4).

	Name	Definition	Example
Item 1	Element from the text	Number of times an element of one's text is used during the conversation.	Number of times the participant sat at the left mentioned the gene coding for Apolipoprotein E.
Item 2	Reasoned support	Number of times the participant provides a reasoned support in favor of his/her position.	Arguments from the text, scientific arguments, significant personal experiences...
Item 3	Unreasoned support	Number of times the participant provides an unreasoned support in favor of his/her position.	Authoritative arguments, beliefs or personal convictions...
Item 4	Reasoned agreement	Number of times the participant expresses his/her agreement with other's position using a reasoned argument.	Number of times the participant sat at the left give an argument supporting the other's position.
Item 5	Unreasoned agreement	Number of times the participant expresses his/her agreement with other's position without using a reasoned argument.	"I agree with you", "you are right", "your text seems right" ...
Item 6	Reasoned disagreement	Number of times the participant expresses his/her disagreement with other's position using a reasoned argument.	Number of times the participant gives a relevant argument "challenging" the other's position.
Item 7	Unreasoned disagreement	Number of times the participant expresses his/her disagreement with other's position without using a reasoned argument.	"I disagree with you", "you are wrong", "your text seems wrong" ...
Item 8	Denigration	Number of time the participants denigrates his/her partner.	Rhetorical questions, sarcastic remarks, ostensible sighs...
Item 9	Concession	Number of times the participant expresses his/her agreement with other's position in an unreasoned way following a disagreement.	Number of times the participant sat at the left agrees with an arguments he disagreed with.

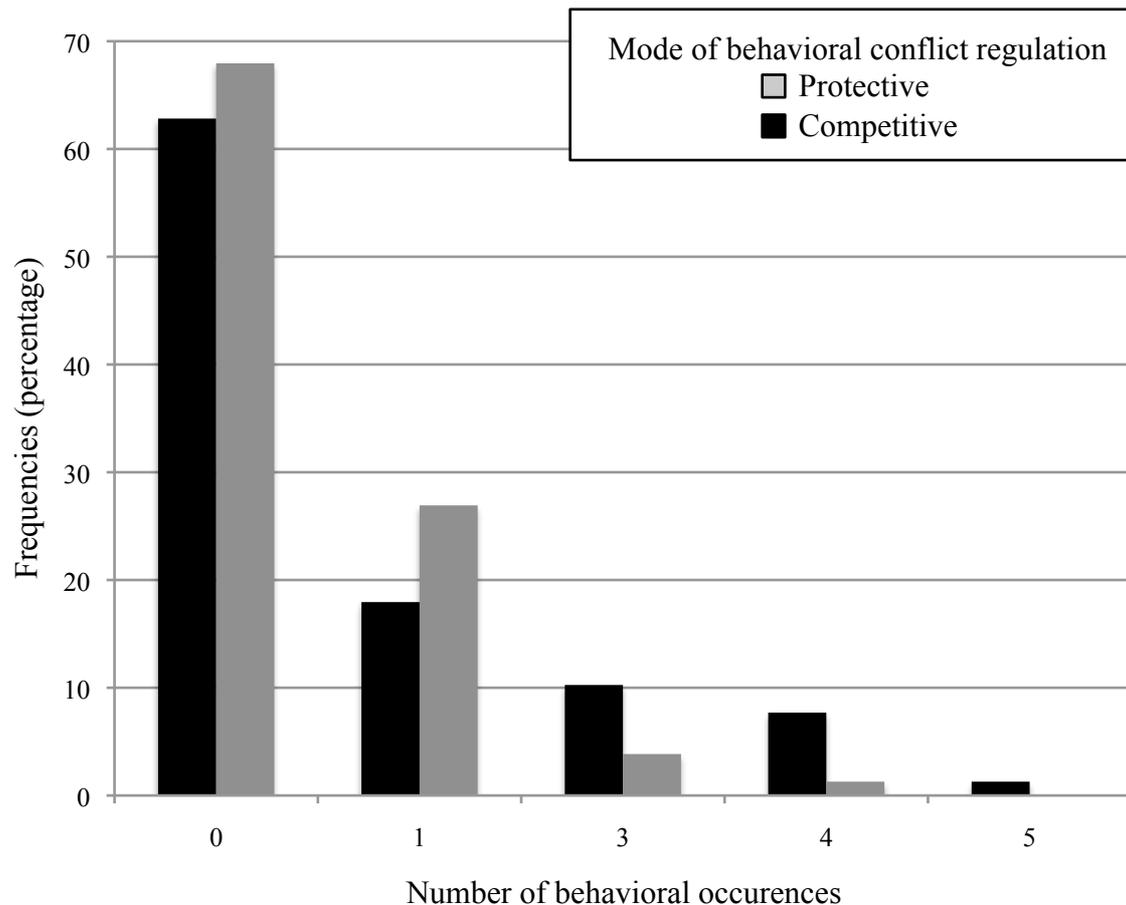


Figure 6.3. Behavioral protective and competitive occurrences frequencies (Study 2.4).

competitive regulation (i.e., 62.8%), or no behavioral protective regulation (67.9%; see Figure 6.3.).

This might pertain to two different phenomena. On the one hand, there exist norms of politeness (Dillard et al., 1997) and individuals generally avoid voicing disagreeing opinions for self-presentation purposes, especially with individuals that they just met (R. S. Feldman, Forrest, & Happ, 2002); therefore, competitive regulation might be perceived as socially undesirable and the direct behaviors that are associated with it should be harder to detect.

On the other hand, there exist strong motives to achieve closure (Kruglanski & Freund, 1983) and individuals are generally concerned with avoiding controversy, tending not to treat contradictory information (DeBacker & Crownson, 2009); therefore, protective regulation might be perceived by most individuals as socially useless and the direct behaviors that are associated with it should also be harder to detect.

2.2.2. Additional Results

Below are presented two sets of results obtained using the same predictors as those of the article: (i) the effects of performance-based goals, as moderated by partners' competence (equal vs. lower vs. higher), on behavioral “*reasoned*” competitive regulation (Items 2 and 6); (ii) these same effects on behavioral “*reasoned*” protective regulation (Item 4).

“Reasoned” Competitive Regulation

First, we computed the sum of item 2 (i.e., “*reasoned* support of the position of participant’s text”) and item 6 (i.e., “overt verbal utterances of *reasoned* disagreement”) corresponding to a “reasoned form” of behavioral competitive regulation.

As judges did not enter in the process of resolving their disagreements on these items, the mean of judges' evaluations was used as the outcome variable ($M = 1.84$, $SD = 1.74$). Thus, as the dependent variable included non-integer values, we relied on linear regression analyses (n.b., conducting Poisson regression analyses while excluding non integer values lead to similar results).

The analyses did not reveal significant effects (see Table 6.4.)

“Reasoned” Protective Regulation

Second, we used the number of occurrences related to item 4 (i.e., “*reasoned* support of the position of partner’s text”) corresponding to a “reasoned form” of behavioral protective regulation.

As judges did not enter in the process of resolving their disagreements on this item, the mean of judges' evaluations was used as the outcome variable ($M = 1.22$, $SD = 1.44$). Here also, as the dependent variable included non-integer values, we relied on linear regression analyses (n.b., Poisson regression analyses lead to similar results).

No effect reached significance (see Table 6.4.).

Discussion of the Results.

Taken together, these (null) results are not surprising as the reasoned forms of behavioral competitive and protective regulation could be respectively conceived as a critical treatment of other’s and one’s information, that is, as epistemic regulation. Yet, such regulation was found to be unrelated to the endorsement of performance goals (Darnon et al., 2006, Study 1). Scholars willing to investigate behavioral epistemic regulation might rely on these measures, or—alternatively—on more direct behavioral assessment of elaboration.

Supplementary Material

Table 6.4.

Coefficients of the regression analyses conducting with performance-based goals and partners' competence on reasoned competitive and protective regulations (Study 2.4.).

	Unstandardized coefficient	
	Competitive	Protective
Intercept	1.86**	0.90**
Performance-approach goals	-0.09	0.05
Performance-avoidance goals	-0.11	-0.11
Contrast of interest	0.24	-0.08
Orthogonal contrast	0.37	0.17
Performance-approach goals x contrast of interest	-0.09†	0.12
Performance-approach goals x orthogonal contrast	-0.26†	0.13
Performance-avoidance goals x contrast of interest	0.48	0.00
Performance-avoidance goals x orthogonal contrast	0.24	-0.10
Performance-approach x -avoidance x contrast of interest	-0.08	0.19
Performance-approach x -avoidance x orthogonal contrast	0.06	-0.01
Gender	-0.01	0.17
Gender x contrast of interest	-0.26	0.14
Gender x orthogonal contrast	0.57	-0.31

Note ** $p < .01$, † $p < .1$

3. Alternative Decompositions of Study 3.3.'s Second-Order Interactions

One might argue that the second-order interactions between team-leaders' performance-approach goals (IV), team-members' identification with their team (Mod. 1), and the time that they spent under the supervision of their leader (Mod. 2) on their performance-based goals could have been decomposed in another way. Precisely, in order to facilitate the comparison with the other studies of the article, instead of testing the simple first-order interactions "IV x Mod. 2" (i.e., when Mod. 1 = +1SD vs. -1SD; as in the article), we could have tested the simple first-order interactions "IV x Mod. 1" (i.e., when Mod. 2 = +1SD vs. -1SD). Although these two types of decomposition are somehow similar, we have preferred to rely on the first one in order to make the results more comprehensible. However, below are some details concerning the alternative way to decompose the interaction.

3.1. Team-Members' Performance-Approach Goals

The same analyses as the ones from the article were carried out (see Table 6.5. for a full presentation of the results). The hypothesized second-order interaction between leaders' performance-approach goals, time members spent in the team, and members' identification with their teams was significant, $B = 0.04$, $SE = 0.01$, $Z = 2.87$, $p < .005$.

Decomposed using the alternative way (to that of the article, see Figure 6.4., upper panel), this interaction indicated that, when team-members' identification was high (+1 *SD*), the interaction between team-leaders' performance-approach goals and the time that team-members spent under the supervision of their leader was positive and significant, $B = 0.05$, $SE = 0.02$, $Z = 2.63$, $p < .009$, whereas it was not the case when it was low (-1 *SD*), $B = -0.03$, $SE = 0.02$, $Z = -1.43$, $p = .15$.

3.2. Team-Members' Performance-Avoidance Goals

The same analyses as the ones from the article were carried on (see Table 6.5. for a full presentation of the results). The hypothesized second-order interaction between leaders' performance-approach goals, time members spent in the team, and members' identification with their teams was significant, $B = 0.64$, $SE = 0.03$, $Z = 2.41$, $p < .016$.

Decomposed using the alternative way (see Figure 6.4., lower panel), this interaction indicated that, when team-members' identification was high (+1 *SD*), the interaction between team-leaders' performance-approach goals and the time that team-members spent under the supervision of their leader was more positive, $B = 0.04$, $SE = 0.05$, $Z = 0.72$, $p = .47$, than when it was low (-1 *SD*), $B = -0.10$, $SE = 0.05$, $Z = -2.25$, $p < .03$.

Supplementary Material

Table 6.5.

Coefficients of the multivariate model testing the effects of team-leaders' performance-approach goals, team-members' identification, and the time that they spent under the supervision of the leader on team-members' performance-based goals (Study 3.3.).

	Unstandardized coefficients	
	Performance-approach	Performance-avoidance
Intercept	5.28	4.82
Leaders' performance-approach goals (level 2)	-0.22	0.19
Team-members' identification (level 1)	0.01	-0.10
Time spent under the supervision of the leader (level 1)	-0.02	0.04
Leaders' perf.-approach goals x identification	0.13	0.34*
Leaders' perf.-approach goals x time	0.01	-0.03
Identification x time	-0.04**	-0.01
Leaders' perf.-approach goals x identification x time	0.04**	0.06*
Initial performance	-0.03	-0.10**

Note ** $p < .01$, * $p < .05$

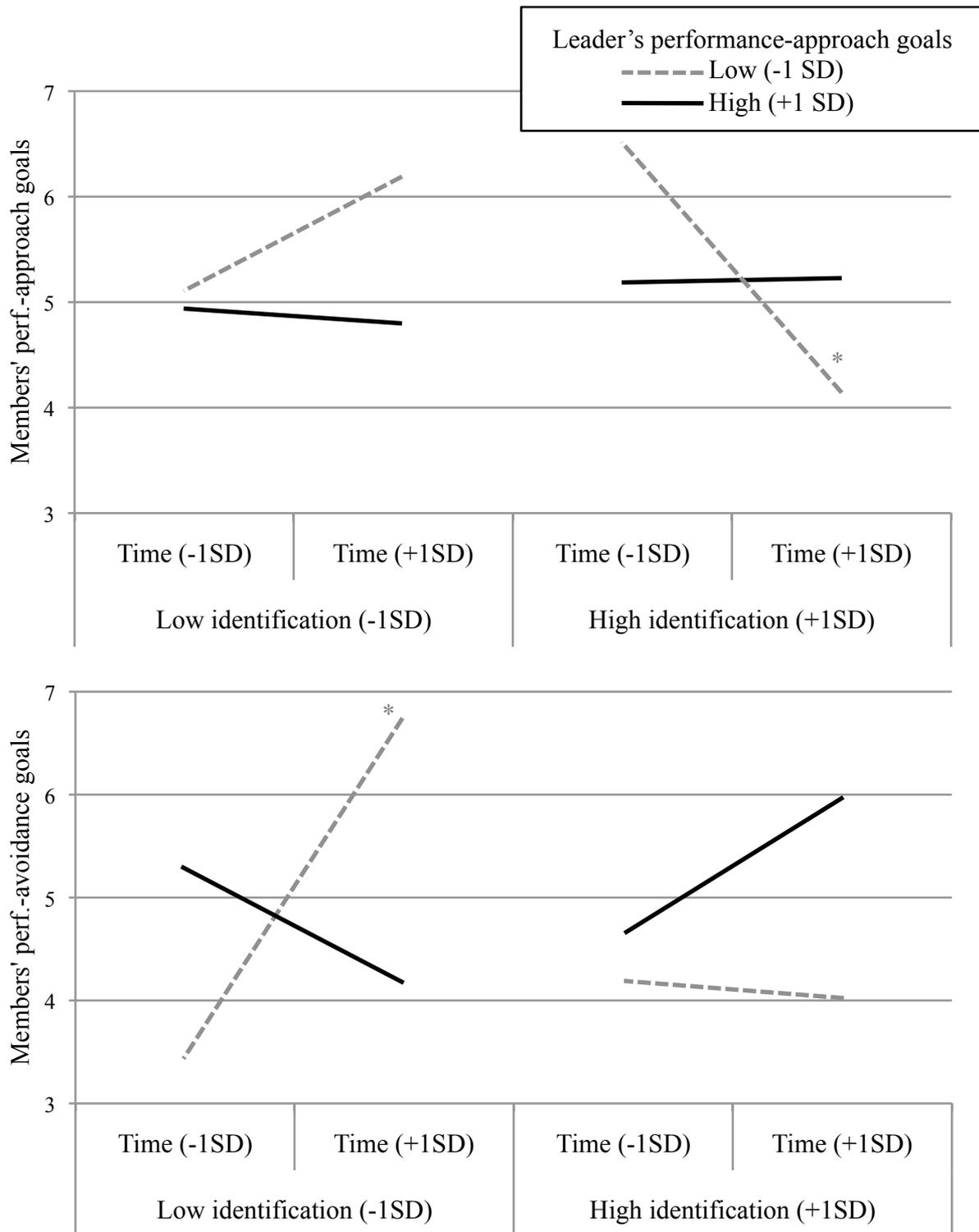


Figure 6.4. Moderation effects of team-leaders' performance-approach goals and time spent by the team-members under their supervision on team-members' performance-approach and -avoidance goals, as moderated by team-members' identification to their team (Study 3.3. – alternative decomposition).

REFERENCES

References

- Aarts, H., Gollwitzer, P. M., & Hassin, R. R. (2004). Goal contagion: perceiving is for pursuing. *Journal of Personality and Social Psychology, 87*, 23-37.
- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology, 93*, 751-763.
- Ahmet, A. An investigation of the relationships between achievement goals, self-deception, and submissive behavior. *The International Journal of Research in Teacher Education, 2*, 9-27.
- Aguinis, H., Gottfredson, R. K., & Culpepper, S. A. (2013). Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management, 39*, 1490-1528.
- Alicke, M. D., LoSchiavo, F. M., Zerbst, J., & Zhang, S. (1997). The person who outperforms me is a genius: Maintaining perceived competence in upward social comparison. *Journal of Personality and Social Psychology, 73*, 781-789.
- Allee, W. C. (1951). *Cooperation among animals, with human implications*. New York, NY: Henry Schuman.
- Allport, G. W. (1943). The ego in contemporary psychology. *Psychological Review, 50*, 451-478.
- Almasi, J. F. (1995). The nature of fourth graders' sociocognitive conflicts in peer-led and teacher-led discussions of literature. *Reading Research Quarterly, 30*, 314-351.
- Alwin, D. R., Cohen, R. L. & Newcomb, T. M. (1991). *Aging, personality, and social change: Attitude persistence and change over the life-span*. Madison, WI: University of Wisconsin Press.
- Ames, C. (1984). Competitive, cooperative, and individualistic goal structures: A cognitive-motivational analysis. In C. Ames & R. Ames (Eds.), *Research on on motivation in education, Vol. 3* (pp. 177-207). New York, NY: Academic Press.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.
- Ames, C., & Ames, R. (1984). Systems of student and teacher motivation: Toward a qualitative definition. *Journal of Educational Psychology, 76*, 535-55.
- Ames, G. J., & Murray, F. B. (1982). When two wrongs make a right: Promoting cognitive change by social conflict. *Developmental Psychology, 18*, 894-897.
- Anderman, L. H., & Anderman, E. M. (1999). Social predictors of changes in students' achievement goal orientations. *Contemporary Educational Psychology, 24*, 21-37.

References

- Anderman, E. M., & Midgley, C. (1996, March). *Changes in Achievement Goal Orientations after the Transition to Middle School*. Paper presented at the biennial meeting of the Society for Research on Adolescence, Boston, MA
- Anderman, E. M., & Midgley, C. (2004). Changes in self-reported academic cheating across the transition from middle school to high school. *Contemporary Educational Psychology, 29*, 499-517.
- Anderson, C., John, O. P., Keltner, D., & Krings, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology, 81*, 116-132.
- Anthropos (Revista de documentacion cientifica de la cultura) (1991). *W. Doise y G. Mugny. Psicologia social experimental: Investigaciones de la Escuela de Ginebra*. [W. Doise y G. Mugny. Experimental Social Psychology: Investigations of the School of Geneva]: Barcelona, Spain: Anthropos Thematic Issue, n°124.
- Aronson, E. (1978). *The jigsaw classroom*. Beverly Hills, CA: Sage.
- Asterhan, C. S. C. (2013). Epistemic and interpersonal dimensions of peer argumentation: Conceptualization and quantitative assessment. In M. Baker, J. Andriessen & S. Jarvela (Eds.), *Affective learning together* (pp. 251-272). New York, NY: Routledge.
- Asterhan, C. S. C., & Schwarz, B. B. (2007). The effects of monological and dialogical argumentation on concept learning in evolutionary theory. *Journal of Educational Psychology, 99*, 626-639.
- Asterhan, C. S. C., Schwarz, B. B., & Butler, R. (2009). Inhibitors and facilitators of peer interaction that supports conceptual learning: The role of achievement goal orientations. In: N. A. Taatgen & H. van Rijn (Eds), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 1633-1638). Mahaw, N.J.: Erlbaum
- Asterhan, C. S. C. & Schwarz, B. B. (2009), Argumentation and explanation in conceptual change: Indications from protocol analyses of peer-to-peer dialogue. *Cognitive Science, 33*, 374-400.
- Astington, J. W., Pelletier, J., & Homer, B. (2002). Theory of mind and epistemological development: The relation between children's second-order false belief understanding and their ability to reason about evidence. *New Ideas in Psychology, 20*, 131-144.
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review, 64*, 359-372.
- Atkinson, J. W. (1964). *An introduction to motivation*. Princeton, N.J.: Van Nostrand.

References

- Bacharach, S. B., Bamberger, P., & Conley, S. (1991). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior, 12*, 39-53.
- Bachman, J. G., Sigelman, L., & Diamond, G. (1987). Self-selection, socialization, and distinctive military values: Attitudes of high school seniors. *Armed Forces & Society, 13*, 169-187.
- Bandura, A. (1971). *Social learning theory*. New York, NY: General Learning Press.
- Barron, B. (2003). When smart groups fail. *Journal of the Learning Sciences, 12*, 307-359.
- Bardel, M. H., Fontayne, P., Colombel, F., & Schiphof, L. (2010). Effects of match result and social comparison on sport state self-esteem fluctuations. *Psychology of Sport and Exercise, 11*, 171-176.
- Bargh, J. A. (1990). Auto-motives: Preconscious determinants of social interaction. In E. T. Higgins, & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition* (pp. 93-130). New York, NY: Guilford Press.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology, 81*, 1014-1027.
- Barić, R. (2007). *The relationship of coach's leadership behaviour and his motivational structure with athletes' motivational tendencies* (Unpublished doctoral dissertation). University of Ljubljana, Ljubljana, Slovenia.
- Barron, B. (2003). When smart groups fail. *The journal of the learning sciences, 12*, 307-359.
- Barron, K. E., & Harackiewicz, J. M. (2000). Achievement goals and optimal motivation: A multiple goals approach. In C. Sansone & J. M. Harackiewicz (Eds), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 229-254). San Diego, CA, US: Academic Press.
- Barron, K. E., & Harackiewicz, J. M. (2001). Achievement goals and optimal motivation: testing multiple goal models. *Journal of Personality and Social Psychology, 80*, 706-722.
- Baumeister, R. F., Chesner, S. P., Senders, P. S., & Tice, D. M. (1988). Who's in charge here? Group leaders do lend help in emergencies. *Personality and Social Psychology Bulletin, 14*, 17-22.
- Beauvois, J.L. (2003). Judgment norms, social utility and individualism. In N. Dubois (Ed.), *A sociocognitive approach to social norms* (pp. 123-148). London, England: Routledge.

References

- Beauvois, J. L., & Dubois, N. (2009). À propos d'une critique critiquable: quelques précisions sur la théorie de la norme d'internalité "[Of a questionable criticism: Some precesions on the internality-norm theory. *International Review of Social Psychology / Revue Internationale de Psychologie Sociale*, 2, 117-135.
- Belsey, D. A., Kuh, E., & Welsch, R. E. (1980). *Regression diagnostics: Identifying influential data and sources of collinearity*. New York: John Wiley.
- Berk, K., & Carey, P. (2009). *Data Analysis with Microsoft Excel: Updated for Office 2007*. Cengage Learning.
- Bigot, J., Pichot, N., & Testé, B. (2004). Is there a drop in normative clearheadedness in sixth grade? Study of internality and normative clearheadedness in fourth to seventh graders. *European Journal of Psychology of Education*, 19, 335-347.
- Bipp, T., Steinmayr, R., & Spinath, B. (2008). Personality and achievement motivation: Relationship among Big Five domain and facet scales, achievement goals, and intelligence. *Personality and Individual Differences*, 44, 1454-1464.
- Birch, H. (2013). Motivational Effects of Gamification of Piano Instruction and Practice (Unpublished doctoral dissertation). University of Toronto).
- Bjørnebekk, G. (2007). Reinforcement sensitivity theory and major motivational and self-regulatory processes in children. *Personality and Individual Differences*, 43, 1980-1990.
- Bjørnebekk, G., & Diseth, Å. (2010). Approach and avoidance temperaments and achievement goals among children. *Personality and Individual Differences*, 49, 938-943.
- Blake, R. R., Mouton, J. S. (1961). *Conformity, resistance, and conversion*. In I. A. Berg B. M. Bass (Eds.), *Conformity and deviation*. New York, NY: Harper.
- Blanton, H., Buunk, B. P., Gibbons, F. X., & Kuyper, H. (1999). When better-than-others compare upward: Choice of comparison and comparative evaluation as independent predictors of academic performance. *Journal of Personality and Social Psychology*, 76, 420-430.
- Blanton, H., Crocker, J., & Miller, D. T. (2000). The effects of in-group versus out-group social comparison on self-esteem in the context of a negative stereotype. *Journal of Experimental Social Psychology*, 36, 519-530.
- Bloom, G. A., Durand-Bush, N., Schinke, R. J., & Salmela, J. H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology*, 29, 267-281.

References

- Boardley, I. D., & Jackson, B. (2012). When teammates are viewed as rivals: A cross-national investigation of achievement goals and intrateam moral behavior. *Journal of Sport and Exercise Psychology, 34*, 503-524.
- Boardley, I. D., & Kavussanu, M. (2010). Effects of goal orientation and perceived value of toughness on antisocial behavior in soccer: The mediating role of moral disengagement. *Journal of Sport and Exercise Psychology, 32*, 176-192.
- Boissicat, N., Pansu, P., Bouffard, T., & Cottin, F. (2012). Relation between perceived scholastic competence and social comparison mechanisms among elementary school children. *Social Psychology of Education, 15*, 603-614.
- Bong, M. (2009). Age-related differences in achievement goal differentiation. *Journal of Educational Psychology, 101*, 879-896.
- Bong, M., Woo, Y., & Shin, J. (2013). Do Students Distinguish Between Different Types of Performance Goals?. *The Journal of Experimental Education, 81*, 464-489.
- Booth, A., & Nolen P. (2009). *Choosing to compete: The role of single-sex education*. Mimeo.
- Bounoua, L., Cury, F., Regner, I., Huguet, P., Barron, K. E., & Elliot, A. J. (2012). Motivated use of information about others: Linking the 2× 2 achievement goal model to social comparison propensities and processes. *British Journal of Social Psychology, 51*, 626-641.
- Boyd, C. M., Bakker, A. B., Pignata, S., Winefield, A. H., Gillespie, N., & Stough, C. (2011). A Longitudinal Test of the Job Demands-Resources Model among Australian University Academics. *Applied Psychology, 60*, 112-140.
- Brauer, M., & McClelland, G. (2005). L'utilisation des contrastes dans l'analyse des données: comment tester des hypothèses spécifiques dans la recherche en psychologie? [The use of contrasts in data analysis: How to test specific hypotheses in psychological research?]. *L'année Psychologique, 105*, 273-305.
- Brodish, A. B., & Devine, P. G. (2009). The role of performance-avoidance goals and worry in mediating the relationship between stereotype threat and performance. *Journal of Experimental Social Psychology, 45*, 180-185.
- Bronckart, J. P., Clemence, A., Schneuwly, B., & Schurmans, M.-N. (1996). Manifesto. Reshaping humanities and social sciences: A Vygotskian perspective. *Swiss journal of psychology, 55*, 74-83.
- Brophy, J. (2005). Goal theorists should move on from performance goals. *Educational Psychologist, 40*, 167-176.

References

- Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*. Cambridge, England: Cambridge University Press.
- Broyles, T. B. (2006). *Facing Down Death and Moving Beyond: Strategies Utilized by Female Survivors of Childhood Maltreatment* (Unpublished doctoral dissertation). University of Tennessee, Knoxville, TN.
- Buchs, C., & Butera, F. (2004). Socio-cognitive conflict and the role of student interaction in learning. *New Review of Social Psychology*, 3, 80-87.
- Buchs, C., & Butera, F. (2009). Is a partner's competence threatening during dyadic cooperative work? It depends on resource interdependence. *European Journal of Psychology of Education*, 24, 145-154.
- Buchs, C., Butera, F., Mugny, G., & Darnon, C. (2004). Conflict elaboration and cognitive outcomes. *Theory Into Practice*, 43, 23-30.
- Buchs, C., Gilles, I., Dutrévis, M., & Butera, F. (2011). Pressure to cooperate: Is positive reward interdependence really needed in cooperative learning? *British Journal of Educational Psychology*, 81, 135-146.
- Bullock, J. G., Green, D. P., & Ha, S. E. (2010). Yes, but what's the mechanism? (don't expect an easy answer). *Journal of Personality and Social Psychology*, 98, 550-558.
- Butera, F., Darnon, C., & Mugny, G. (2010). Learning from conflict. In J. Jetten & M. Hornsey (Eds.), *Rebels in Groups: Dissent, deviance, difference and defiance* (pp. 36-53). Oxford, United Kingdom: Wiley-Blackwell.
- Butera F., Gardair E., Maggi J., & Mugny G. (1998). Les paradoxes de l'expertise: influence sociale et (in)compétence de soi et d'autrui [Paradoxes of expertise: Social influence and self and other's (in)competence]. In J. Py, A. Somat & J. Baillé (éd.), *Psychologie sociale et formation professionnelle: propositions et regards critiques* (pp. 111-123). Rennes, France: Presses Universitaires de Rennes.
- Butera F., Huguet P., Mugny G. & Pérez J.-A. (1994). Socio-epistemic conflict and constructivism. *Swiss Journal of Psychology*, 53, 229-239.
- Butera, F., Legrenzi, P., & Mugny, G. (1993). De l'imitation à la validation: Études sur le raisonnement. [From imitation to validation: Studies on reasoning.] In J. A. Pérez & G. Mugny (Eds.), *Influence sociales: La théorie de l'élaboration du conflit* (pp. 99-120). Neuchâtel, Switzerland: Delachaux & Niestlé.
- Butera, F., & Mugny, G. (1992). Influence minoritaire et falsification [Minority influence and falsification]. *International Review of Social Psychology / Revue Internationale de Psychologie Sociale*, 5, 115-132.

References

- Butera, F., & Mugny, G. (1995). Conflict between incompetences and influence of a low-expertise source in hypothesis testing. *European Journal of Social Psychology, 25*, 457-462.
- Butera, F., & Mugny, G. (2001). Conflicts and social influences in hypothesis testing. In C. K. W. De Dreu & N. K. De Vries (Eds.), *Group consensus and minority influence. Implications for innovation* (pp. 161-182). Oxford, United Kingdom: Blackwell.
- Butera, F., Mugny, G., Legrenzi, P., & Pérez, J. A. (1996). Majority and minority influence, task representation and inductive reasoning. *British Journal of Social Psychology, 35*, 123-136.
- Butera, F., Mugny, G., & Tomei, A. (2000). Incertitudes et enjeux identitaires dans linfluence sociale [Uncertainty and identity stakes in social influence]. In In: J.L. Beauvois, R.V. Joule, J.M. Monteil (Eds), *Perspectives cognitives et conduites sociales, Vol. 7* (pp. 205-229), Neuchâtel, Switzerland: Delachaux et Niestlé.
- Butler, R. (1992). What young people want to know when: Effects of mastery and ability goals on interest in different kinds of social comparisons. *Journal of Personality and Social Psychology, 62*, 934-943.
- Butler, R. (1993). Effects of task-and ego-achievement goals on information seeking during task engagement. *Journal of Personality and Social Psychology, 65*, 18-31.
- Butler, R. (1995). Motivational and informational functions and consequences of children's attention to peers' work. *Journal of Educational Psychology, 87*, 347-360.
- Butler, R. (2000). What learners want to know: The role of achievement goals in shaping information seeking, learning, and interest. In C. Sansone & J. W. Harackiewicz (Ed.), *Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance* (pp. 161-194). San Diego, CA, US: Academic Press.
- Butler, R. (2007). Teachers' achievement goal orientations and associations with teachers' help seeking: Examination of a novel approach to teacher motivation. *Journal of Educational Psychology, 99*, 241-252.
- Butler, R. (2012). Striving to connect: Extending an achievement goal approach to teacher motivation to include relational goals for teaching. *Journal of educational psychology, 104*, 726-742.
- Butler, R., & Shibaz, L. (2008). Achievement goals for teaching as predictors of students' perceptions of instructional practices and students' help seeking and cheating. *Learning and Instruction, 18*, 453-467.

References

- Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational behavior and human decision processes*, 67, 26-48.
- Campbell, D.J., & Pritchard, R. (1976). Motivation theory in industrial and organizational psychology. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 63-130). Chicago, IL: Rand McNally.
- Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using stata* (Vol. 5). College Station, TX: Stata Press.
- Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. (1983). Michigan organizational assessment questionnaire. In S. E. Seashore, E. E. Lawler, P. H. Mirvis, & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71-138). New York, NY: Wiley.
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of management Review*, 32, 946-967.
- Carson, P. P., Carson, K. D., & Heady, R. B. (1994). Cecil Alec Mace: The man who discovered goal-setting. *International Journal of Public Administration*, 17, 1679-1708.
- Carugati, F., De Paolis, P., & Mugny, G. (1980-1981). Conflit de centrations et progrès cognitif, III: Régulations cognitives et relationnelles du conflit socio-cognitif [Conflict of centrations and cognitive progress III: Cognitive and relational socio-cognitive conflict regulation]. *Bulletin de Psychologie*, 34, 843-851.
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: the BIS/BAS scales. *Journal of Personality and Social Psychology*, 67, 319-333.
- Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson & C. P. Herman (Eds.), *Social influence: the Ontario symposium, Vol. 3* (pp. 3-39). Hillsdale, NJ: Erlbaum.
- Chaiklin, S. (2003). The Zone of Proximal Development in Vygotsky's analysis of learning and instruction. In A. Kozulin, B. Gindis, V. Ageyev, & S. Miller (Eds.), *Vygotsky's educational theory in cultural context* (pp. 39-64). Cambridge, United Kingdom: Cambridge University Press.
- Cheryan, S. (2012). Understanding the paradox in math-related fields: Why do some gender gaps remain while others do not? *Sex Roles*, 66, 184-190.

References

- Cheung, P. C., Ma, H. K., & Shek, D. T. (1998). Conceptions of success: Their correlates with prosocial orientation and behaviour in Chinese adolescents. *Journal of Adolescence, 21*, 31-42.
- Chi, N. W., & Huang, J. C. (2014). Mechanisms Linking Transformational Leadership and Team Performance: The Mediating Roles of Team Goal Orientation and Group Affective Tone. *Group & Organization Management*. In press.
- Cialdini, R. (1988). *Influence*. New York, NY: Harper Collins
- Ciaramidaro, A., Adenzato, M., Enrici, I., Erk, S., Pia, L., Bara, B. G., & Walter, H. (2007). The intentional network: How the brain reads varieties of intentions. *Neuropsychologia, 45*, 3105-3113.
- Cohen, E. G., & Lotan, R. A. (1995). Producing equal-status interaction in the heterogeneous classroom. *American Educational Research Journal, 32*, 99-120.
- Cohen, F., & Lazarus, R. S. (1979). Coping with the stresses of illness. In G. C. Stone, F. Cohen & N. E. Adler (Eds.), *Health Psychology: A handbook* (pp. 217-254). San Francisco: Jossey-Bass.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Cohen, J. (1994). The earth is round ($p < .05$). *American Psychologist, 49*, 997-1003.
- Coles, T. (2009). Negotiating the field of masculinity: The production and reproduction of multiple dominant masculinities. *Men and Masculinity, 12*, 30-44
- Colker, D. (1996, June 1). 60's drug guru Timothy Leary dies at 75. *The Los Angeles Times*, June 1, 1996. Retrieved from http://articles.latimes.com/1996-06-01/news/mn-10774_1_timothy-leary
- Collins, R. L. (1996). For better or worse: The impact of upward social comparison on self-evaluations. *Psychological Bulletin, 119*, 51-69.
- Corker, K. S., Donnellan, M. B., & Bowles, R. P. (2013). The Development of Achievement Goals Throughout College Modeling Stability and Change. *Personality and Social Psychology Bulletin, 39*, 1404-1417.
- Cortina, L.M. (2005). Recursive models. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Statistics in Behavioral Science* (Vol. 4, pp. 1722-1723). New York, NY: Wiley.
- Conroy, D. E., Elliot, A. J., & Thrash, T. M. (2009). Achievement motivation. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 382-399). New York, NY: Guilford Press.

References

- Conte, H. R., & Plutchik, R. (1981). A circumplex model for interpersonal personality traits. *Journal of Personality and Social Psychology, 40*, 701-711.
- Corker, K. S., Donnellan, M. B., & Bowles, R. P. (2013). The Development of Achievement Goals Throughout College Modeling Stability and Change. *Personality and Social Psychology Bulletin*. Available online.
- Costa, P. T. Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Covington, M. V. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. New York, NY: Cambridge University Press.
- Crowston, K., & Kammerer, E. (1998). Communicative style and gender differences in computer-mediated communication. In E. Bosah (Ed.), *Cyberghetto or cybertopia? Race, class, and gender on the Internet* (pp. 185-203). Westport, CT: Praeger
- Cury, F., Elliot, A. J., Da Fonseca, D., & Moller, A. C. (2006). The social-cognitive model of achievement motivation and the 2× 2 achievement goal framework. *Journal of Personality and Social Psychology, 90*, 666-679.
- Cury, F., Elliot, A. J., Sarrazin, P., Da Fonseca, D., & Ruffo, M. (2002). The trichotomous achievement goal model and intrinsic motivation: A sequential mediational analysis. *Journal of Experimental Social Psychology, 38*, 473-481.
- Daniels H. (2005). *An Introduction to Vygotsky, 2nd edition*. Hove. United Kingdom: Routledge.
- Darnon, C., Buchs, C., & Butera, F. (2002). Epistemic and relational conflicts in sharing identical vs. complementary information during cooperative learning. *Swiss Journal of Psychology, 61*, 139-151.
- Darnon, C., Buchs, C., & Butera, F. (2006). Apprendre ensemble: but de performance et but de maîtrise au sein d'interactions sociales entre étudiants [Learning together: performance and mastery goals in social interaction within students]. In B. Galand & E. Bourgeois (Eds.), *(Se) Motiver à apprendre* (pp. 125-135). Paris: Presses Universitaires de France.
- Darnon, C., Buchs, C., & Desbar, D. (2012). The jigsaw technique and self-efficacy of vocational training students: A practice report. *European Journal of Psychology of Education, 27*, 439-449.
- Darnon, C., & Butera, F. (2005). Buts d'accomplissement, stratégies d'étude, et motivation intrinsèque: Présentation d'un domaine de recherche et validation française de

References

- l'échelle d'Elliot et McGregor (2001) [Achievement goals, study strategies, and intrinsic motivation: Presenting a research field and the French validation of Elliot and McGregor's scale (2001)]. *L'Année Psychologique*, *105*, 105-131.
- Darnon, C., & Butera, F. (2007). Learning or succeeding? Conflict regulation within mastery and performance goals. *Swiss Journal of Psychology*, *66*, 145-152.
- Darnon, C., Butera, F., & Harackiewicz, J. M. (2007). Achievement goals in social interactions: Learning with mastery vs. performance goals. *Motivation and Emotion*, *31*, 61-70.
- Darnon, C., Butera, F., & Mugny, G. (2008). *Des conflits pour apprendre* [Conflicts to learn]. Grenoble, France: Presses Universitaires de Grenoble.
- Darnon, C., Doll, S., & Butera, F. (2007). Dealing with a disagreeing partner: Relational and epistemic conflict elaboration. *European Journal of Psychology of Education*, *22*, 227-242.
- Darnon, C., Dompnier, B., Delmas, F., Pulfrey, C., & Butera, F. (2009). Achievement goal promotion at university: social desirability and social utility of mastery and performance goals. *Journal of Personality and Social Psychology*, *96*, 119-134.
- Darnon, C., Dompnier, B., Gilliéron, O., & Butera, F. (2010). The interplay of mastery and performance goals in social comparison: A multiple-goal perspective. *Journal of Educational Psychology*, *102*, 212-222.
- Darnon, C., Dompnier, B., & Poortvliet, M. P. (2012). Achievement goals in educational contexts: A social psychology perspective. *Social and Personality Psychology Compass*, *6*, 760-771.
- Darnon, C., Harackiewicz, J. M., Butera, F., Mugny, G., & Quiamzade, A. (2007). Performance-approach and performance-avoidance goals: When uncertainty makes a difference. *Personality and Social Psychology Bulletin*, *33*, 813-827.
- Darnon, C., Muller, D., Schragger, S. M., Pannuzzo, N., & Butera, F. (2006). Mastery and performance goals predict epistemic and relational conflict regulation. *Journal of Educational Psychology*, *98*, 766-776.
- Davis, J. B. (2006). *Statistics using SAS enterprise guide*. Cary, NC: SAS Press
- Dekker, S., & Fischer, R. (2008). Cultural differences in academic motivation goals: A meta-analysis across 13 societies. *The Journal of Educational Research*, *102*, 99-110.
- De Dreu, C. K. W. (1997). Productive conflict: The importance of conflict issue and conflict management. In C. K. W. De Dreu & E. Van de Vliert (Eds.), *Using conflict in organizations* (pp. 9-22). London, United Kingdom: Sage.

References

- De Dreu, C. K. W. (2008). The virtue and vice of workplace conflict: Food for (pessimistic) thought. *Journal of Organizational Behavior, 29*, 5-18.
- De Dreu, C. K. W., & Beersma, B. (2005). Conflict in organizations: Beyond effectiveness and performance. *European Journal of Work and Organizational Psychology, 14*, 105-117.
- De Dreu, C. K. W., & Van Vianen, A. E. (2001). Managing relationship conflict and the effectiveness of organizational teams. *Journal of Organizational Behavior, 22*, 309-328.
- De Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology, 97*, 360-390.
- DeBacker, T. K., & Crowson, H. M. (2009). The influence of need for closure on learning and teaching. *Educational Psychology Review, 21*, 303-323.
- De Lange, A. H., Van Yperen, N. W., Van der Heijden, B. I., & Bal, P. M. (2010). Dominant achievement goals of older workers and their relationship with motivation-related outcomes. *Journal of Vocational Behavior, 77*, 118-125.
- DeShon, R. P., Kozlowski, S. W., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology, 89*, 1035-1056.
- Devonis, D. (2012). Timothy Leary's mid-career shift: Clean break or inflection point? *Journal of the History of the Behavioral Sciences, 48*, 16-39.
- DeWall, C. N., Baumeister, R. F., Mead, N. L., & Vohs, K. D. (2011). How leaders self-regulate their task performance: evidence that power promotes diligence, depletion, and disdain. *Journal of Personality and Social Psychology, 100*, 47-65.
- Dineen, B. R., Noe, R. A., Shaw, J. D., Duffy, M. K., & Wiethoff, C. (2007). Level and dispersion of satisfaction in teams: Using foci and social context to explain the satisfaction-absenteeism relationship. *Academy of Management Journal, 50*, 623-643.
- Dierdorff, E. C., & Ellington, J. K. (2012). Members matter in team training: Multilevel and longitudinal relationships between goal orientation, self-regulation, and team outcomes. *Personnel Psychology, 65*, 661-703.
- Dillard, J. P., Wilson, S. R., Tusing, K. J., & Kinney, T. A. (1997). Politeness judgments in personal relationships. *Journal of Language and Social Psychology, 16*, 297-325.
- Dinger, F. C., Dickhäuser, O., Spinath, B., & Steinmayr, R. (2013). Antecedents and consequences of students' achievement goals: A mediation analysis. *Learning and Individual Differences, 28*, 90-101.

References

- Diseth, Å., & Samdal, O. (2014). Autonomy support and achievement goals as predictors of perceived school performance and life satisfaction in the transition between lower and upper secondary school. *Social Psychology of Education, 17*, 1-23.
- Doise, W. (1986). *Levels of Explanation in Social Psychology*. Cambridge, United Kingdom: Cambridge University Press.
- Doise, W., Christian S., & Alain C. Vygotsky in the East and the West. *Journal of Russian and East European Psychology, 34*, 67-96.
- Doise, W., & Mapstone, E. T. (1986). *Levels of explanation in social psychology*. Cambridge University Press.
- Doise, W., & Mugny, G. (1981). *Le développement social de l'intelligence* [The social development of intelligence]. Paris, France: Interéditions.
- Doise, W., & Mugny, G. (1984). The social development of the intellect. Oxford: Pergamon Press.
- Doise, W., Mugny, G., & Perret-Clermont, A. N. (1975). Social interaction and the development of cognitive operations. *European Journal of Social Psychology, 5*, 367-383.
- Dompnier, B., Darnon, C., & Butera, F. (2013). When performance-approach goals predict academic achievement and when they do not: A social value approach. *British Journal of Social Psychology, 52*, 587-596.
- Dompnier, B., Darnon, C., & Butera, F. (2009). Faking the Desire to Learn A Clarification of the Link Between Mastery Goals and Academic Achievement. *Psychological Science, 20*, 939-943.
- Dompnier, B., Darnon, C., Delmas, F., & Butera, F. (2008). Achievement goals and social judgment: The performance-approach goals paradox. *International Review of Social Psychology / Revue Internationale de Psychologie Sociale, 21*, 247-271.
- Dovidio, J. F., Brown, C. E., Heltman, K., Ellyson, S. L., & Keating, C. F. (1988). Power displays between women and men in discussions of gender-linked tasks: A multichannel study. *Journal of Personality and Social Psychology, 55*, 580-587.
- Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: the role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*, 1084-1095.
- Dragoni, L., & Kuenzi, M. (2012). Better understanding work unit goal orientation: Its emergence and impact under different types of work unit structure. *Journal of Applied Psychology, 97*, 1032-1048.

References

- Dreber, A., von Essen, E., & Ranehill, E. (2009). Outrunning the gender gap: Boys and girls compete equally. *SSE/EFI Working Paper Series in Economics and Finance*, 709, 1-20.
- Drory, A., & Ritov, I. (1997). Effects of work experience and opponent's power on conflict management styles. *International Journal of Conflict Management*, 8, 148-161.
- Duarte, J. L., Crawford, J. T., Stern, C., Haidt, J., Jussim, L., & Tetlock, P. E. (in press). Political diversity will improve social psychological science. *Behavioral and Brain Sciences*. In Press.
- Dubet, F., & Duru-Bellat, M. (2004). Qu'est-ce qu'une école juste? [What is a fair school?] *Revue Française de Pédagogie*, 146, 105-114.
- Dubois, N. (2000). Self-presentation strategies and social judgments-desirability and social utility of causal explanations. *Swiss Journal of Psychology*, 59, 170-182.
- Dubois, N., & Beauvois, J. L. (2005). Normativeness and individualism. *European Journal of Social Psychology*, 35, 123-146.
- Duchesne, S., Ratelle, C. F., & Roy, A. (2012). Worries about the middle school transition and subsequent adjustment: The role of classroom goal structure. *Journal of Early Adolescence*, 32, 681-710.
- Duda, J. L. (1983). Goals and achievement orientations of Anglo and Mexican-American adolescents in sport and the classroom. *International Review for the Sociology of Sport*, 18, 63-80.
- Duda, J. L. (1988). The relationship between goal perspectives, persistence and behavioral intensity among male and female recreational sport participants. *Leisure Sciences*, 10, 95-106.
- Duda, J. L. (1989). Goal perspectives, participation and persistence in sport. *International Journal of Sport Psychology*, 20, 42-56.
- Duda, J. L., Olson, L. K., & Templin, T. J. (1991). The relationship of task and ego orientation to sportsmanship attitudes and the perceived legitimacy of injurious acts. *Research Quarterly for Exercise and Sport*, 62, 79-87.
- Dumas, F., Huguet, P., Monteil, J. M., Rastoul, C., & Nezlek, J. B. (2005). Social comparison in the classroom: Is there a tendency to compare upward in elementary school. *Current Research in Social Psychology*, 10, 166-187.
- Dunn, J. G. H., & Causgrove-Dunn, J. C. (1999). Goal orientations, perceptions of aggression, and sports personship in elitemale youth ice hockey players. *The Sport Psychologist*, 13, 183-200.

References

- Duveen, G., & Psaltis, C. (2013). The constructive role of asymmetry in social interaction. In S. Moscovici, S. Jovchelovitch, & B. Wagoner (Eds.), *Development as a social process: Contributions of Gerard Duveen* (pp. 133-154). London, United Kingdom: Routledge.
- Duveen, G., & Psaltis, C. (2008). The constructive role of asymmetries in social interaction. In U. Mueller, J. Carpendale, N. Budwig & B. Sokol (Eds.), *Social life and social knowledge: Toward a process account of development* (pp. 183-204). Mahwah, NJ: Lawrence Erlbaum.
- Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology*, 31, 674-685.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048.
- Dweck, C. S. (1992). The study of goals in human behavior. *Psychological Science*, 3, 165-167.
- Dweck, C. (2006). *Mindset: The New Psychology of Success*. New York, NY: Random House.
- Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. An experimental analysis. *Developmental Psychology*, 14, 268-276.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256-273.
- Dweck, C. S., & Elliott, E. S. (1983). Achievement motivation. In P. Mussen & E. M. Hetherington (Eds.), *Handbook of child psychology: Socialization, personality, and social development, Vol. 4* (pp. 643-691). New York, NY: Wiley.
- Edwards, O. V. (2014). Differentiating Performance Approach Goals and Their Unique Effects. *Universal Journal of Educational Research*, 2, 134-145.
- Elliott, A. J. (1994). *Approach and avoidance achievement goals: An intrinsic motivation analysis* (Unpublished doctoral dissertation). University of Wisconsin-Madison, Madison, WI.
- Elliott, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist*, 34, 169-189.
- Elliott, A. J. (2005). A conceptual history of the achievement goal construct. In A. J. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 52-72). New York, NY: The Guilford Press.

References

- Elliot, A. J. (2006). The hierarchical model of approach-avoidance motivation. *Motivation and Emotion, 30*, 111-116.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218-232.
- Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70*, 968-980.
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501-519.
- Elliot, A. J., & McGregor, H. A. (1999). Test anxiety and the hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 76*, 628-644.
- Elliot, A. J., McGregor, H. A., & Gable, S. (1999). Achievement goals, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology, 91*, 549-563.
- Elliot, A. J., & Moller, A. C. (2003). Performance-approach goals: Good or bad forms of regulation?. *International Journal of Educational Research, 39*, 339-356.
- Elliot, A. J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*, 613-628.
- Elliot, A. J., Murayama, K., & Pekrun, R. (2011). A 3 × 2 achievement goal model. *Journal of Educational Psychology, 103*, 632-648.
- Elliot, A. J., & Thrash, T. M. (2001). Achievement goals and the hierarchical model of achievement motivation. *Educational Psychology Review, 13*, 139-156.
- Elliot, A. J., & Thrash, T. M. (2002). Approach-avoidance motivation in personality: approach and avoidance temperaments and goals. *Journal of personality and social psychology, 82*, 804-818.
- Elliot, A. J., & Thrash, T. M. (2004). The intergenerational transmission of fear of failure. *Personality and Social Psychology Bulletin, 30*, 957-971.
- Elliot, A. J., & Thrash, T. M. (2010). Approach and avoidance temperament as basic dimensions of personality. *Journal of personality, 78*, 865-906.
- Elliott, E. S., & Dweck, C. S. (1988). Goals: an approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5-12.

References

- Ensergueix, P. J., & Lafont, L. (2010). Reciprocal peer tutoring in a physical education setting: Influence of peer tutor training and gender on motor performance and self-efficacy outcomes. *European Journal of Psychology of Education, 25*, 222-242.
- Epstein, J.A., & Harackiewicz, J.M. (1992). Winning is not enough: The effects of competition and opponent information on intrinsic motivation. *Personality and Social Psychology Bulletin, 18*, 128-138.
- Eren, A. (2009). Exploring the relationships among mirror neurons, theory of mind, and achievement goals: Towards a model of achievement goal contagion in educational settings. *Educational Research Review, 4*, 233-247.
- Esnard, C., & Jouffre, S. (2008). Organizational citizenship behavior: Social valorization among pupils and the effect on teachers' judgments. *European Journal of Psychology of Education, 23*, 255-274.
- Falomir-Pichastor, J. M., Mugny, G., Invernizzi, F., Di Palma, A., & Estrada, M. M. (2007). Does the campaign against tobacco use necessarily reduce the attractions of smoking for young people? Identity issues surrounding initiation into tobacco consumption. *Revue Européenne de Psychologie Appliquée / European Review of Applied Psychology, 57*, 257-265.
- Falomir-Pichastor, J. M. & Tomei, A. (2001). A social influence contribution to the understanding of smoking cessation: Smoker's identity and influence relationship. In: F. Butera & G. Mugny. *Social influence in social reality: promoting individual and social change*. Bern, Switzerland: Hogrefe & Huber Publishers.
- Fanelli, D. (2010) Do Pressures to Publish Increase Scientists' Bias? An Empirical Support from US States Data. *PloS one, 5*, e10271.
- Fawcett, L. M., & Garton, A. F. (2005). The effect of peer collaboration on children's problem-solving ability. *British Journal of Educational Psychology, 75*, 157-169.
- Feldman, D. C. (1994). Who's socializing whom? The impact of socializing newcomers on insiders, work groups, and organizations. *Human Resource Management Review, 4*(3), 213-233.
- Feldman, R. S., Forrest, J. A., & Happ, B. R. (2002). Self-presentation and verbal deception: Do self-presenters lie more?. *Basic and Applied Social Psychology, 24*, 163-170.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140.
- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*, 878-902.

References

- Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*, 150-170.
- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.
- Ford, H. (2007). *My life and work*. New York, NY: Cosimo, Inc..
- Foster, C. (2012). Creationism as a misconception: Socio-cognitive conflict in the teaching of evolution. *International Journal of Science Education, 34*, 2171-2180.
- Francis, G. (2012). The psychology of replication and replication in psychology. *Perspectives on Psychological Science, 7*, 585-594.
- Franklin, D. A., Porter, C. O. L. H., & Swider, B. W. (2013). The Interactive Effects of Team Content Goals and Leader Goal Orientation. *Academy of Management Proceedings, 1*, 10671.
- Fraser, B. J., & Fisher, D. L. (1982). Predicting students' outcomes from their perceptions of classroom psychosocial environment. *American Educational Research Journal, 19*, 498-518.
- Fraser, J., & Yasnitsky, A. (2012). Deconstructing Vygotsky's Victimization Narrative. *Psychology, 50*, 3-9.
- Frank, R. H., Gilovich, T., & Regan, D. T. (2000). Does studying economics inhibit cooperation? In T. Connolly, H.R. Arkes, and K. R. Hammond (Eds.), *Judgment and decision making: An interdisciplinary reader, 2nd edition* (pp. 183-195). New York, NY: Cambridge University Press.
- French, J. R., & Raven, B. (1959). *The bases of social power*. In D. Cartwright (Ed.), *Studies in social power* (pp. 150-167). Ann Arbor, MI: Institute for Social Research.
- Freund, R. J., & Littell, R. C. (1991). *SAS system for regression* (2nd ed.). Cary, NC: SAS Institute.
- Fryer, J. W., & Elliot, A. J. (2007). Stability and change in achievement goals. *Journal of Educational Psychology, 99*, 700-714.
- Gabriele, A. J. (2007). The influence of achievement goals on the constructive activity of low achievers during collaborative problem solving. *British Journal of Educational Psychology, 77*, 121-141.
- Gabriele, A. J., & Montecinos, C. (2001). Collaborating with a skilled peer: The influence of achievement goals and perceptions of partners' competence on the participation and

References

- learning of low-achieving students. *The Journal of Experimental Education*, 69, 152-178.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331-362.
- Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. (2008). Power reduces the press of the situation: implications for creativity, conformity, and dissonance. *Journal of Personality and Social Psychology*, 95, 1450-1466.
- Galinsky, A. D., Magee, J. C., Inesi, M. E., & Gruenfeld, D. H. (2006). Power and perspectives not taken. *Psychological Science*, 17, 1068-1074.
- Gelfand, M. J., Leslie, L. M., Keller, K., & de Dreu, C. (2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *Journal of Applied Psychology*, 97, 1131-1147.
- Gessner, M. J. (1992). *An interpersonal attraction approach to leader-member exchange: Predicting the predictor* (Unpublished doctoral dissertation). University of Maryland, College Park, MD.
- Gibbons, F. X., & Buunk, B. P. (1999). Individual differences in social comparison: development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, 76, 129-142.
- Gilbert, P., & Allan, S. (1994). Assertiveness, submissive behavior, and social comparison. *British Journal of Clinical Psychology*, 33, 295-306.
- Gill, S. (1998) European governance and new constitutionalism: Economic and Monetary Union and alternatives to disciplinary Neoliberalism in Europe, *New Political Economy*, 3, 5-26.
- Gillies, R. M., & Ashman, A. F. (1996). Teaching collaborative skills to primary school children in classroom-based work groups. *Learning and Instruction*, 6, 187-200.
- Gilman, R., & Anderman, E. M. (2006). The relationship between relative levels of motivation and intrapersonal, interpersonal, and academic functioning among older adolescents. *Journal of School Psychology*, 44, 375-391.
- Gini, C. (1912). Variabilità e mutabilità [Variability and Mutability]. In E. Pizetti & T. Salvemini (eds.), *Memorie di metodologica statistica*. Rome, Italy: Virgilio Veschi.
- Gneezy, U., Meier, S., & Rey-Biel, P. (2011). When and why incentives (don't) work to modify behavior. *The Journal of Economic Perspectives*, 25, 191-209.

References

- Gordon, S. C., Dembo, M. H., & Hocevar, D. (2007). Do teachers' own learning behaviors influence their classroom goal orientation and control ideology?. *Teaching and Teacher Education, 23*, 36-46.
- Gorozidis, G., & Papaioannou, A. (2011). Teachers' self-efficacy, achievement goals, attitudes and intentions to implement the new Greek physical education curriculum. *European Physical Education Review, 17*, 231-253.
- Gould, D., Collins, K., Lauer, L., & Chung, Y. (2007). Coaching life skills through football: A study of award winning high school coaches. *Journal of Applied Sport Psychology, 19*, 16-37.
- Gould, D., & Rolo, C. (2004). Competition in sports. In C. Spielberger (ed.), *Encyclopedia of Applied Psychology* (pp.441-445). Oxford, United Kingdom: Elsevier, Inc.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly, 6*, 219-247.
- Graham, S., & Weiner, B. (1996). Theories and principles of motivation. In D. C. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 63-84). New York, NY: Macmillan.
- Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology, 85*, 541-553.
- Gray, J. A. (1970). The psychophysiological basis of introversion-extraversion. *Behaviour Research and Therapy, 8*, 249-266.
- Greenberg, J., Ashton-James, C. E., & Ashkanasy, N. M. (2007). Social comparison processes in organizations. *Organizational Behavior and Human Decision Processes, 102*, 22-41.
- Green, S. G., & Bauer, T. N. (1995). Supervisory mentoring by advisers: Relationships with doctoral student potential, productivity, and commitment. *Personnel Psychology, 48*, 537-562.
- Grehaigine, J. F., Godbout, P., & Bouthier, D. (1997). Performance assessment in team sports. *Journal of Teaching in Physical Education, 16*, 500-516.
- Grojean, M. W., Resick, C. J., Dickson, M. W., & Smith, D. B. (2004). Leaders, values, and organizational climate: Examining leadership strategies for establishing an organizational climate regarding ethics. *Journal of Business Ethics, 55*, 223-241.

References

- Guimond, S. (1998). L'enseignement supérieur et la diffusion des croyances concernant la cause des inégalités intergroupes [Higher education and the spread of beliefs related to the cause of intergroup inequalities]. In J.-L. Beauvois, R.-V. Joule & J.-M. Monteil (Eds.). *Perspectives cognitives et conduites sociales*, VI (pp 185-207). Lausanne, Switzerland: Delachaux et Niestlé.
- Guimond, S. (2000). Group socialization and prejudice: The social transmission of intergroup attitudes and beliefs. *European Journal of Social Psychology*, 30, 335-354.
- Guinote, A. (2007). Power and goal pursuit. *Personality and Social Psychology Bulletin*, 33, 1076-1087.
- Gurtman, M. B., & Balakrishnan, J. D. (1998). Circular measurement redux: The analysis and interpretation of interpersonal circle profiles. *Clinical Psychology: Science and Practice*, 5, 344-360.
- Gully, S. M., & Phillips, J. M. (2005). A multilevel application of learning and performance orientations to individual, group, and organizational outcomes. *Research in Personnel and Human Resources Management*, 24, 1-51.
- Halvari, H., & Kjørmo, O. (1999). A structural model of achievement motives, performance approach and avoidance goals, and performance among Norwegian Olympic athletes. *Perceptual and Motor Skills*, 89, 997-1022.
- Hamstra, M. R., Van Yperen, N. W., Wisse, B., & Sassenberg, K. (2013). Transformational and transactional leadership and followers' achievement goals. *Journal of Business and Psychology*, 3, 413-425.
- Hanson, M. P. (2006). Make-or-break roles in collaboration leadership. In S. Schuman (Ed.), *Creating a culture of collaboration: The International Association of Facilitators handbook* (pp. 129-148). San Francisco, CA: Jossey-Bass.
- Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., & Elliot, A. J. (1997). Predictors and consequences of achievement goals in the college classroom: Maintaining interest and making the grade. *Journal of Personality and Social Psychology*, 73, 1284-1295.
- Harackiewicz, J. M., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why?. *Educational psychologist*, 33, 1-21.
- Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology*, 94, 638-645.

References

- Harackiewicz, J. M., & Linnenbrink, E. A. (2005). Multiple achievement goals and multiple pathways for learning: The agenda and impact of Paul R. Pintrich. *Educational Psychologist, 40*, 75-84.
- Harris, J. R. (1995). Where is the child's environment? a group socialization theory of development. *Psychological Review, 102*, 458-489.
- Hatzigeorgiadis, A., & Biddle, S. (1999). The effects of goal orientation and perceived competence on cognitive interference during tennis and snooker performance. *Journal of Sport Behavior, 22*, 479-501
- Helgeson, V. S., & Mickelson, K. D. (1995). Motives for social comparison. *Personality and Social Psychology Bulletin, 21*, 1200-1209.
- Hendricks, J. W., & Payne, S. C. (2007). Beyond the Big Five: Leader goal orientation as a predictor of leadership effectiveness. *Human Performance, 20*, 317-343.
- Hesiod (1991). *The Works and Days* (R. Lattimore, Trans). Ann Arbor, MI: University of Michigan Press.
- Hicks, L. (1997). Academic motivation and peer relationships-how do they mix in an adolescent's world? *Middle School Journal, 28*, 18-22.
- Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of Educational Research, 70*, 151-179.
- Higgins, E. T. (2006). Value from hedonic experience and engagement. *Psychological Review, 113*, 439-460.
- Hiltz, S. R., & Turoff, M. (1993). *The network nation*. Cambridge, MA: MIT Press.
- Hirsch, J. E. (2005). An index to quantify an individual's scientific research output. *Proceedings of the National academy of Sciences of the United States of America, 102*, 16569-16572.
- Holt, J. L., & DeVore, C. J. (2005). Culture, gender, organizational role, and styles of conflict resolution: A meta-analysis. *International Journal of Intercultural Relations, 29*, 165-196.
- Holton, E. F., & Russell, C. J. (1997). The relationship of anticipation to newcomer socialization processes and outcomes: A pilot study. *Journal of Occupational and Organizational Psychology, 70*, 163-172.
- Hornsey, M. J. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass, 2*, 204-222.

References

- Horowitz, L. M. (2004). *Interpersonal foundations of psychopathology*. Washington, DC: American Psychological Association.
- Horowitz, L. M., Wilson, K. R., Turan, B., Zolotsev, P., Constantino, M. J., & Henderson, L. (2006). How interpersonal motives clarify the meaning of interpersonal behavior: A revised circumplex model. *Personality and Social Psychology Review, 10*, 67-86.
- Hox, J. J. (2002). *Multilevel analysis: Techniques and applications*. Mahwah, NJ: Erlbaum.
- Howell, J. M., & Shamir, B. (2005). The role of followers in the charismatic leadership process: Relationships and their consequences. *Academy of Management Review, 30*, 96-112.
- Huang, C. (2011). Achievement goals and achievement emotions: A meta-analysis. *Educational Psychology Review, 23*, 359-388.
- Huguet, P., Dumas, F., Monteil, J. M., & Genestoux, N. (2001). Social comparison choices in the classroom: Further evidence for students' upward comparison tendency and its beneficial impact on performance. *European Journal of Social Psychology, 31*, 557-578.
- Huguet, P., Galvaing, M. P., Monteil, J. M., & Dumas, F. (1999). Social presence effects in the Stroop task: further evidence for an attentional view of social facilitation. *Journal of Personality and Social Psychology, 77*, 1011-1025.
- Husén, T. (1994). Research paradigms in education. In T. Husén & T. N. Postlethwaite (Eds.), *The international encyclopedia of education* (2nd ed., Vol. 9, pp. 5051-5056). Oxford, United Kingdom: Pergamon Press.
- Hull, C. (1943). *Principles of behavior*. New York, NY: Appleton-Century-Crofts
- Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels?. *Psychological Bulletin, 136*, 422-449.
- Hulleman, C. S., & Senko, C. (2010). Up around the bend: Forecasts for achievement goal theory and research in 2020. In Urdan & Karabenick (Eds.), *Advances in Motivation and Achievement, Vol. 16* (pp. 71-104). Bingley, United Kingdom: Emerald Group Publishing, LTD.
- Impett, E. A., Le, B. M., Asyabi-Eshghi, B., Day, L. C., & Kogan, A. (2013). To give or not to give? Sacrificing for avoidance goals is not costly for the highly interdependent. *Social Psychological and Personality Science, 4*, 649-657.
- Ioannidis, J. P. (2012). Why science is not necessarily self-correcting. *Perspectives on Psychological Science, 7*, 645-654.

References

- Islam, G., & Zyphur, M. J. (2005). Power, Voice, and Hierarchy: Exploring the Antecedents of Speaking Up in Groups. *Group Dynamics: Theory, Research, and Practice*, 9, 93-103.
- Jagacinski, C. M., Kumar, S., Boe, J. L., Lam, H., & Miller, S. A. (2010). Changes in achievement goals and competence perceptions across the college semester. *Motivation and Emotion*, 34, 191-204.
- Jagacinski, C. M., & Nicholls, J. G. (1987). Competence and affect in task involvement and ego involvement: The impact of social comparison information. *Journal of Educational Psychology*, 79, 107-114.
- Jampol, L. & Zayas, V. (2014, July). *The dark side of white lies? Biased performance feedback and equality in the workplace*. Poster presented at the 14th annual meeting of the European Association of Social Psychology, Amsterdam, Netherland.
- Janis, I.L. (1972). *Victims of groupthink: A psychological study of foreign policy. decisions and fiascoes*. Boston, MA: Houghton Mifflin Company.
- Jansen, A. (2006). Seventh Graders' Motivations for Participating in Two Discussion-Oriented Mathematics Classrooms. *The Elementary School Journal*, 106, 409-428.
- Jansen, E., & Von Glinow, M. A. (1985). Ethical ambivalence and organizational reward systems. *Academy of Management Review*, 10, 814-822.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73, 287-302.
- Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of management journal*, 47, 368-384.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40, 256-282.
- Jennings, M. K., & Niemi, R. G. (1981). *Generations and politics: A panel study of young adults and their parents*. Princeton, NJ: Princeton University Press.
- Jennings, M. K., Stoker, L., & Bowers, J. (2009). Politics across generations: Family transmission reexamined. *The Journal of Politics*, 71, 782-799.
- Jetten, J., Postmes, T., & McAuliffe, B. J. (2002). 'We're all individuals': group norms of individualism and collectivism, levels of identification and identity threat. *European Journal of Social Psychology*, 32, 189-207.

References

- Johnson, D. W. (1984). *Circles of learning: Cooperation in the classroom*. Alexandria, Va: Association for Supervision and Curriculum Development.
- Johnson, D. W., & Johnson, R. T. (2005). New developments in social interdependence theory. *Genetic, Social, and General Psychology Monographs*, *131*, 285-358.
- Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, *38*, 365-379.
- Johnson, D. W., Johnson, R. T., & Roseth, C. J. (2012). Competition and performance: More facts, more understanding? Comment on Murayama and Elliot (2012). *Psychological Bulletin*, *138*, 1071-1078.
- Johnson, D. W., Johnson, R. T., & Tjosvold, D. (2000). Constructive controversy: The value of intellectual opposition. In M. Deutsch & P. T. Coleman (Eds.), *The handbook of conflict resolution: Theory and practice* (pp. 65-85). San Francisco, CA: Jossey-Bass Inc. Publishers.
- Jong-Sung, Y., & Khagram, S. (2005). A comparative study of inequality and corruption. *American Sociological Review*, *70*, 136-157.
- Judd, C. M., James-Hawkins, L., Yzerbyt, V., & Kashima, Y. (2005). Fundamental dimensions of social judgment: understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology*, *89*, 899-913.
- Judd, C. M., & McClelland, G. H. (1989). *Data analysis: A model comparison approach*. San Diego, CA: Harcourt, Brace, Jovanovich.
- Judd, C. M., Yzerbyt, V. Y., & Muller, D. (2014). Mediation and moderation. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (2nd edition, pp. 653-676). Cambridge, United Kingdom: Cambridge University Press.
- Jury, M., Smeding, A., Court, M., & Darnon, C. (2013, January). *Performance-avoidance goals endorsement: Interaction between previous performance and socio-economic status*. Poster presented at the 14th annual meeting of the Society for Personal and Social Psychology, New Orleans, LA.
- Jury, M., Smeding, A., Court, M., & Darnon, C. (2014). When first-generation students succeed at university: On the link between social class, academic performance, and performance-avoidance goals. *Contemporary Educational Psychology*. In press.
- Kaplan, A. (2004). Achievement goals and intergroup relations. In P. R. Pintrich & M. L. Maehr (Eds.), *Advances in research on motivation and achievement: Vol. 13*.

References

- Motivating students, improving schools: The legacy of Carol Midgley* (pp. 97-136). Amsterdam, Netherlands: Elsevier.
- Kaplan, A., & Flum, H. (2010). Achievement goal orientations and identity formation styles. *Educational Research Review, 5*, 50-67.
- Kaplan, A., Gheen, M., & Midgley, C. (2002). Classroom goal structure and student disruptive behaviour. *British Journal of Educational Psychology, 72*, 191-211.
- Kaplan A., Middleton M. J., Urdan T., Midgley C. (2002). Achievement goals and goal structures. In C Midgley (Ed.), *Goals, Goal Structures, and Patterns of Adaptive Learning* (pp. 21-55). Hillsdale, NJ: Erlbaum.
- Karabenick, S. A., & Knapp, J. R. (1991). Relationship of academic help seeking to the use of learning strategies and other instrumental achievement behavior in college students. *Journal of Educational Psychology, 83*, 221-230.
- Karabenick, S. A., & Newman, R. S. (Eds.). (2013). *Help seeking in academic settings: Goals, groups, and contexts*. New York, NY: Routledge.
- Kärreman, D., & Alvesson, M. (2009). Resisting resistance: Counter-resistance, consent and compliance in a consultancy firm. *Human Relations, 62*, 1115-1144.
- Kasser, T., Cohn, S., Kanner, A. D., & Ryan, R. M. (2007). Some costs of American corporate capitalism: A psychological exploration of value and goal conflicts. *Psychological Inquiry, 18*, 1-22.
- Kavussanu, M. (2006). Motivational predictors of prosocial and antisocial behaviour in football. *Journal of Sports Sciences, 24*, 575-588.
- Keefer, M. W., Zeitz, C. M. & Resnick, L. B. (2000). Judging the quality of peer-led student dialogues. *Cognition & Instruction, 18*, 53-81.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological review, 110*, 265-284.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY: Guilford Press.
- Kessler, S. R., Bruursema, K., Rodopman, B., & Spector, P. E. (2013). Leadership, Interpersonal Conflict, and Counterproductive Work Behavior: An Examination of the Stressor–Strain Process. *Negotiation and Conflict Management Research, 6*, 180-190.
- Kiesler, S., Siegel, J., & McGuire, T. W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist, 39*, 1123-1134

References

- Kilmann, R. H., & Thomas, K. W. (1977). Developing a forced-choice measure of conflict-handling behavior: The "MODE" instrument. *Educational and Psychological Measurement, 37*, 309-325.
- King, G. (1988). Statistical models for political science event counts: Bias in conventional procedures and evidence for the exponential Poisson regression model. *American Journal of Political Science, 32*, 838-863.
- King, R. B., & Watkins, D. A. (2012). "Socializing" Achievement Goal Theory: The Need for Social Goals. *Psychological Studies, 57*, 112-116.
- Kipnis, D. (1972). Does power corrupt?. *Journal of personality and Social Psychology, 24*, 33-41.
- Kohn, A. (1992). *No contest: The case against competition (Revised Edition)*. Boston, MA: Houghton Mills.
- Kowalski, R. M. (2007). The Bennington college study. In K. Vohs & R. F. Baumeister (Eds.), *The encyclopedia of social psychology*. London, United Kingdom: Sage.
- Kozlowski, S. W., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Kline & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 3-90). San Francisco, CA: Jossey-Bass.
- Kristof-Brown, A. L., & Stevens, C. K. (2001). Goal congruence in project teams: does the fit between members' personal mastery and performance goals matter?. *Journal of Applied Psychology, 86*, 1083-1095.
- Kruger, A. C. (1993). Peer collaboration: Conflict, cooperation, or both? *Social Development, 2*, 165-182.
- Kruglanski, A. W., & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impression primacy, ethnic stereotyping, and numerical anchoring. *Journal of Experimental Social Psychology, 19*, 448-468.
- Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology, 65*, 861-876..
- Kumar, S., & Jagacinski, C. M. (2011). Confronting task difficulty in ego involvement: Change in performance goals. *Journal of Educational Psychology, 103*, 664-682.
- Kunstman, J. W., & Maner, J. K. (2011). Sexual overperception: power, mating motives, and biases in social judgment. *Journal of Personality and Social Psychology, 100*, 282-294.

References

- Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2004). *Applied linear statistical models*. New York, NY: McGraw-Hill.
- Lafont, L. (2012). Cooperative learning and tutoring in sports and physical activities. In B. Dyson & A. Casey (Eds.), *Cooperative learning in physical education: A research based approach* (pp. 136-149). London, United Kingdom: Routledge.
- Lambert, M. (2014, May). How do teaching assistants develop professionally in teaching and research? In N. Van der Linden (Chair), *Persistence and success in doctoral studies*. Symposium conducted at the BAPS meeting 2014 (Belgian Association for Psychological Science), Leuven, Belgium.
- Lammers, J., Stapel, D. A., & Galinsky, A. D. (2010). Power increases hypocrisy moralizing in reasoning, immorality in behavior. *Psychological Science, 21*, 737-744.
- Landis, J. R., & Koch, G. G. (1977). An application of hierarchical kappa-type statistics in the assessment of majority agreement among multiple observers. *Biometrics, 33*, 363-374.
- Latané, B. (1966). Studies in social comparison—Introduction and overview. *Journal of Experimental Social Psychology, 1*, 1-5.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, United Kingdom: Cambridge university press.
- Law, W., Elliot, A. J., & Murayama, K. (2012). Perceived competence moderates the relation between performance-approach and performance-avoidance goals. *Journal of Educational Psychology, 104*, 806-819.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York, NY: Springer.
- Lazarus, R. S. (2006). *Stress and emotion: A new synthesis*. New York, NY: Springer.
- Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L., Pennekamp, S. F., Doosje, B., ... & Spears, R. (2008). Group-level self-definition and self-investment: a hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology, 95*, 144-165.
- Leary, T. F. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. New York, NY: Ronald Press.
- Legrenzi, P., Butera, F., Mugny, G., & Pérez, J. (1991). Majority and minority influence in inductive reasoning: A preliminary study. *European Journal of Social Psychology, 21*, 359-363.
- Leman, P. J. & Duveen, G. (1999). Representations of authority and children's moral reasoning. *European Journal of Social Psychology, 29*, 557-575.

References

- LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*, 1153-1167.
- Leube, M. G. (1999). Ethnology as a Play: A Comparison of Two Schools of Thought at the Turn of the Century. *Collegium Antropologicum, 23*, 255-264.
- Levine, J. M., Moreland, R. L., & Choi, H-S. (2001). Group socialization and newcomer innovation. In M. Hogg & S. Tindale (Eds.), *Blackwell handbook in social psychology (Vol. 3): Group processes (pp. 86-106)*. Oxford: Blackwell Publishers Limited.
- Levine, J. M., Resnick, L. B., & Higgins, E. T. (1993). Social foundations of cognition. *Annual Review of Psychology, 44*, 585-612.
- Levy, I., Kaplan, A., & Patrick, H. (2004). Early adolescents' achievement goals, social status, and attitudes towards cooperation with peers. *Social Psychology of Education, 7*, 127-159.
- Lewandowski, R. G. (2014). *Beyond Lean Production: Emphasizing Speed and Innovation to Beat the Competition*. Boca Raton, FL: CRC Press.
- Lantz, C. D., & Schroeder, P. J. (1999). Endorsement of masculine and feminine gender roles: Differences between participation in and identification with the athletic role. *Journal of Sport Behavior, 22*, 545-557.
- Liem, A. D., Lau, S., & Nie, Y. (2008). The role of self-efficacy, task value, and achievement goals in predicting learning strategies, task disengagement, peer relationship, and achievement outcome. *Contemporary Educational Psychology, 33*, 486-512.
- Lilienfeld, S. O., Ammirati, R., & Landfield, K. (2009). Giving debiasing away: Can psychological research on correcting cognitive errors promote human welfare?. *Perspectives on Psychological Science, 4*, 390-398.
- Linnenbrink-Garcia, L., Middleton, M. J., Ciani, K. D., Easter, M. A., O'Keefe, P. A., & Zusho, A. (2012). The strength of the relation between performance-approach and performance-avoidance goal orientations: Theoretical, methodological, and instructional implications. *Educational Psychologist, 47*, 281-301.
- Linnenbrink, E. A., & Pintrich, P. R. (2002). Achievement goal theory and affect: An asymmetrical bidirectional model. *Educational Psychologist, 37*, 69-78.
- Livingstone, A. G., Haslam, S. A., Postmes, T., & Jetten, J. (2011). "We Are, Therefore We Should": Evidence That In-Group Identification Mediates the Acquisition of In-Group Norms. *Journal of Applied Social Psychology, 41*, 1857-1876.

References

- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance*, 3, 157-189.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, 57, 705-717.
- Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969-1980. *Psychological Bulletin*, 90, 125-152.
- Luzadis, R. & Gerhardt, M. (2012). An exploration of the relationship between ethical orientation and goal orientation. *Journal of Academic and Business Ethics*, 5, 1-14.
- Maas, C. J., & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 1, 86-92.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate behavioral research*, 39, 99-128.
- Mace, C. A. (1935). *Incentives: Some experimental studies*. London: H. M. Stationery Off.
- Maehr, M. L. (1984). Meaning and motivation: Toward a theory of personal investment. In C. Ames & R. Ames (Eds.), *Research on motivation in education, Vol. 1* (pp. 115-144). New York, NY: Academic Press.
- Madjar, N., Kaplan, A., & Weinstock, M. (2011). Clarifying mastery-avoidance goals in high school: Distinguishing between intrapersonal and task-based standards of competence. *Contemporary Educational Psychology*, 36, 268-279.
- Maki, J. E., Thorngate, W. B., & McClintock, C. G. (1979). Prediction and perception of social motives. *Journal of Personality and Social Psychology*, 37, 203-220.
- Mansfield, C. (2009) Managing multiple goals in real learning contexts. *International Journal of Educational Research*, 48, 286-298.
- Manski, C. F. (1990). The use of intentions data to predict behavior: A best-case analysis. *Journal of the American Statistical Association*, 85, 934-940.
- Martin, M. M., Rocca, K. A., Cayanus, J. L., & Weber, K. (2009). Relationship between coaches' use of behavior alteration techniques and verbal aggression on athletes' motivation and affect. *Journal of Sport Behavior*, 32, 227-241.
- Mattei, F., & Niemi, R. G. (1991). Unrealized partisans, realized independents, and the intergenerational transmission of partisan identification. *The Journal of Politics*, 53, 161-174.

References

- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81-90.
- McCabe, K. O., Van Yperen, N. W., Elliot, A. J., & Verbraak, M. (2013). Big Five personality profiles of context-specific achievement goals. *Journal of Research in Personality, 47*, 698-707.
- McCrae, R. R., & Costa, P. T. (1989). The structure of interpersonal traits: Wiggins's circumplex and the five-factor model. *Journal of Personality and Social Psychology, 56*, 586-595.
- McAuliffe, B. J., Jetten, J., Hornsey, M. J., & Hogg, M. A. (2003). Individualist and collectivist norms: When it's ok to go your own way. *European Journal of Social Psychology, 33*, 57-70.
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology, 57*, 487-503.
- Meece, J. L., Blumenfeld, P. C., & Hoyle, R. H. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology, 80*, 514-523.
- Meece, J. L., & Miller, S. D. (1999). Changes in elementary school children's achievement goals for reading and writing: Results of a longitudinal and an intervention study. *Scientific Studies of Reading, 3*, 207-229.
- Meece, J. L., & Miller, S. D. (2001). A longitudinal analysis of elementary school students' achievement goals in literacy activities. *Contemporary Educational Psychology, 26*, 454-480.
- Mehta, A., Feild, H., Armenakis, A., & Mehta, N. (2009). Team goal orientation and team performance: the mediating role of team planning. *Journal of Management, 35*, 1026-1046.
- Meindl, J. R. (1995). The romance of leadership as a follower-centric theory: A social constructionist approach. *The Leadership Quarterly, 6*, 329-341.
- Mendes, W. B., Blascovich, J., Major, B., & Seery, M. (2001). Challenge and threat responses during downward and upward social comparisons. *European Journal of Social Psychology, 31*, 477-497.
- Mehrabian, A. (1996). Relations among political attitudes, personality, and psychopathology assessed with new measures of libertarianism and conservatism. *Basic and Applied Social Psychology, 18*, 469-491.

References

- Michel, J. W., Wallace, D. L., & Rawlings, R. A. (2013). Charismatic leaders: the role of admiration and system justification. *Leadership & Organization Development Journal, 34*, 469-487.
- Midgley, C., Kaplan, A., & Middleton, M. (2001). Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost?. *Journal of Educational Psychology, 93*, 77-86.
- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., & Urdan, T. (2000). *Manual for the Patterns of Adaptive Learning Scale*. Ann Arbor, MI: University of Michigan.
- Migacheva, K., & Tropp, L. R. (2013). Learning orientation as a predictor of positive intergroup contact. *Group Processes & Intergroup Relations, 16*, 426-444.
- Mignerey, J. T., Rubin, R. B., & Gorden, W. I. (1995). Organizational Entry An Investigation of Newcomer Communication Behavior and Uncertainty. *Communication Research, 22*, 54-85.
- Miller, A. N., Taylor, S. G., & Bedeian, A. G. (2011). Publish or perish: academic life as management faculty live it. *Career development international, 16*, 422-445.
- Miller, R. B., & Glass, J. (1989). Parent-child attitude similarity across the life course. *Journal of Marriage and the Family, 4*, 991-997.
- Miller, V. D., & Jablin, F. M. (1991). Information seeking during organizational entry: Influences, tactics, and a model of the process. *Academy of Management Review, 16*, 92-120.
- Moineddin, R., Matheson, F. I., & Glazier, R. H. (2007). A simulation study of sample size for multilevel logistic regression models. *BMC Medical Research Methodology, 7*, 1-10.
- Monson, T. C., Hesley, J. W., & Chernick, L. (1982). Specifying when personality traits can and cannot predict behavior: An alternative to abandoning the attempt to predict single-act criteria. *Journal of Personality and Social Psychology, 43*, 385-399.
- Moos, D., & Azevedo, R. (2006). The role of goal structure in undergraduates' use of self-regulatory variables in two hypermedia learning tasks. *Journal of Educational Multimedia and Hypermedia, 15*, 49-86.
- Mouratidou, K., Barkoukis, V., & Rizos, S. (2012). Achievement Goals and Moral Competence in Sport. *European Psychologist, 17*, 34-43.
- Mugny, G. (1984). Compliance, conversion and the Asch paradigm. *European Journal of Social Psychology, 14*, 353-368.

References

- Mugny, G., Butera, F., & Falomir, J. M. (2001). Social influence and threat in social comparison between self and source's competence: Relational factors affecting the transmission of knowledge. In F. Butera & G. Mugny (Eds.), *Social influence in social reality* (pp. 225-248). Göttingen, Germany: Hogrefe and Huber
- Mugny, G. & Carugati, F. (1989). *Social Representations of Intelligence*. Cambridge, United Kingdom: Cambridge University Press.
- Mugny, G., De Paolis, P., & Carugati, F. (1984). Social regulations in cognitive development. In W. Doise & A. Palmonari (Eds.), *Social interaction in individual development* (pp. 127-146). Cambridge, United Kingdom: Cambridge University Press.
- Mugny, G., De Paolis, P., & Carugati, F. (1984). Social regulations in cognitive development. In W. Doise & A. Palmonari (Eds.), *Social interaction in individual development* (pp. 127-146). Cambridge, United Kingdom: Cambridge University Press.
- Mugny, G., & Doise, W. (1978). Socio-cognitive conflict and structure of individual and collective performances. *European Journal of Social Psychology*, 8, 181-192.
- Mugny G., Doise W., & Perret-Clermont A.-N. (1975-1976). Conflit de centrations et progrès cognitif [Conflict of centrations and cognitive progress]. *Bulletin de psychologie*, 29, 199-204.
- Mugny, G., Giroud, J.C., et Doise, W. (1978-1979). Conflit de centrations et progrès cognitif II: nouvelles illustrations expérimentales [Conflict of centrations and cognitive progress II: new experimental illustrations]. *Bulletin de Psychologie*, 32, 979-985.
- Mugny, G., Quiazade, A., & Tafani, E. (2001). Dynamique représentationnelle et influence sociale [Representational dynamic and social influence]. In Moliner, P. (ed.) *La dynamique des représentations sociales: pourquoi et comment les représentations se transforment-elles ?* (pp. 123-161). Grenoble, France: Presses Universitaires de Grenoble.
- Mugny, G., Tafani, E., Falomir Pichastor, J. M., & Layat, C. (2000). Source credibility, social comparison and social influence. *International Review of Social Psychology / Revue Internationale de Psychologie Sociale*, 13, 151-175.
- Muis, K. R., & Duffy, M. C. (2013). Epistemic climate and epistemic change: Instruction designed to change students' beliefs and Learning strategies and improve achievement. *Journal of Educational Psychology*, 105, 213-225.
- Muis, K. R., & Edwards, O. (2009). Examining the stability of achievement goal orientation. *Contemporary Educational Psychology*, 34, 265-277.

References

- Muller, D., Atzeni, T., & Butera, F. (2004). Coaction and upward social comparison reduce the illusory conjunction effect: Support for distraction-conflict theory. *Journal of Experimental Social Psychology, 40*, 659-665.
- Muller, D., & Butera, F. (2007). The focusing effect of self-evaluation threat in coaction and social comparison. *Journal of Personality and Social Psychology, 93*, 194-211.
- Murayama, K., & Elliot, A. J. (2011). Achievement Motivation and Memory Achievement Goals Differentially Influence Immediate and Delayed Remember-Know Recognition Memory. *Personality and Social Psychology Bulletin, 37*, 1339-1348.
- Murayama, K., & Elliot, A. J. (2012a). The competition-performance relation: A meta-analytic review and test of the opposing processes model of competition and performance. *Psychological Bulletin, 138*, 1035-1070.
- Murayama, K., & Elliot, A. J. (2012b). Further clarifying the competition-performance relation: Reply to DW Johnson et al.(2012). *Psychological Bulletin, 138*, 1079-1084.
- Murayama, K., Elliot, A. J., & Yamagata, S. (2011). Separation of performance-approach and performance-avoidance achievement goals: A broader analysis. *Journal of Educational Psychology, 103*, 238-256.
- Murray, G. R., & Mulvaney, K. M. (2012). Parenting Styles, Socialization, and the Transmission of Political Ideology and Partisanship. *Politics & Policy, 40*, 1106-1130.
- Murdock, T. B., & Anderman, E. M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist, 41*, 129-145.
- Mussweiler, T., Rüter, K., & Epstude, K. (2004). The man who wasn't there: Subliminal social comparison standards influence self-evaluation. *Journal of Experimental Social Psychology, 40*, 689-696.
- Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *The Journal of Experimental Education, 76*, 170-189.
- Nemeth, C. J. (1986). Differential contributions of majority and minority influence. *Psychological Review, 93*, 23-32.
- Nesler, M. S., Aguinis, H., Quigley, B. M., Lee, S. J., & Tedeschi, J. T. (1999). The development and validation of a scale measuring global social power based on French and Raven's power taxonomy. *Journal of Applied Social Psychology, 29*, 750-769.
- Newcomb, T. M. (1943). *Personality and social change*. New York, NY: Dryden Press.

References

- Newcomb, T. M., Koenig, K. E., Flacks, R., & Warwick, D. P. (1967). *Persistence and change: Bennington College and its students after 25 years*. New York, NY: John Wiley and Sons.
- Newman, R. S., & Schwager, M. T. (1995). Students' help seeking during problem solving: Effects of grade, goal, and prior achievement. *American Educational Research Journal*, 32, 352-376.
- Ng, T. W., & Feldman, D. C. (2013). How do within-person changes due to aging affect job performance?. *Journal of Vocational Behavior*, 83, 500-513.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91, 328-346.
- Nussbaum, E. M., Sinatra, G. M., & Owens, M. C. (2012). The two faces of scientific argumentation: Applications to global climate change. In M. S. Khine (Ed.), *Perspectives on scientific argumentation* (pp. 17-37). Houten, Netherlands: Springer.
- O'Leary-Kelly, A. M., Martocchio, J. J. & Frink, D. D. (1994). A review of the influence of group goals on group performance. *Academy of Management Review*, 37, 1985-1302.
- Ojanen, T., Grönroos, M., & Salmivalli, C. (2005). An interpersonal circumplex model of children's social goals: links with peer-reported behavior and sociometric status. *Developmental psychology*, 41, 699-710.
- Olson, D. H. (2000). Circumplex model of marital and family systems. *Journal of Family Therapy*, 22, 144-167.
- Ommundsen, Y., Roberts, G. C., Lemyre, P. N., & Treasure, D. (2003). Perceived motivational climate in male youth soccer: Relations to social-moral functioning, sportpersonship and team norm perceptions. *Psychology of Sport and Exercise*, 4, 397-413.
- Onwuegbuzie, A. J. (2000, November). *Expanding the Framework of Internal and External Validity in Quantitative Research*. Paper presented at the annual meeting of the Association for the Advancement of Educational Research (AAER), Ponte Vedra, FL.
- Orth, U., Robins, R. W., & Soto, C. J. (2010). Tracking the trajectory of shame, guilt, and pride across the life span. *Journal of Personality and Social Psychology*, 99, 1061.
- Papaioannou, A. (1994). Development of a questionnaire to measure achievement orientations in physical education. *Research Quarterly for Exercise and Sport*, 65, 11-20.
- Papaioannou, A., Bebetos, E., Theodorakis, Y., Christodoulidis, T., & Kouli, O. (2006). Causal relationships of sport and exercise involvement with goal orientations,

References

- perceived competence and intrinsic motivation in physical education: A longitudinal study. *Journal of Sports Sciences*, 24, 367-382.
- Park, E. S., & Hinsz, V. B. (2006). "Strength and safety in numbers": A theoretical perspective on group influences on approach and avoidance motivation. *Motivation and Emotion*, 30, 135-142.
- Park, G., Spitzmuller, M., & DeShon, R. P. (2013). Advancing Our Understanding of Team Motivation Integrating Conceptual Approaches and Content Areas. *Journal of Management*, 39, 1339-1379.
- Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric popularity and peer-perceived popularity two distinct dimensions of peer status. *The Journal of Early Adolescence*, 18, 125-144.
- Pajares, F., Britner, S. L., & Valiante, G. (2000). Relation between achievement goals and self-beliefs of middle school students in writing and science. *Contemporary Educational Psychology*, 25, 406-422.
- Patrick, H., Kaplan, A., & Ryan, A. M. (2011). Positive classroom motivational environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology*, 103, 367-382.
- Paulick, I., Retelsdorf, J., & Möller, J. (2013). Motivation for choosing teacher education: Associations with teachers' achievement goals and instructional practices. *International Journal of Educational Research*, 61, 60-70.
- Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology*, 92, 128-150.
- Pérez, J. A., & Mugny, G. (1993). *Influences sociales: La théorie de l'e'laboration du conflit* [Social influences: The theory of conflict elaboration]. Neuchâtel, Switzerland: Delachaux et Niestlé.
- Pekrun, R., Elliot, A. J., & Maier, M. A. (2009). Achievement goals and achievement emotions: Testing a model of their joint relations with academic performance. *Journal of Educational Psychology*, 101, 115-135.
- Pérez, J. A. & Mugny, G. (1996). The conflict elaboration theory of social influence. In E. Witte & J. Davis (Eds.), *Understanding group behaviors: Vol. 2. Small group processes and interpersonal relations*. Hillsdale, NJ: Erlbaum.
- Piaget, J. (1932). *Le jugement moral chez l'enfant* [The moral judgment of the child]. Paris, France: Presses Universitaires de France.

References

- Piaget, J. (1936). *La naissance de l'intelligence chez l'enfant* [The origins of intelligence in the infant]. Neuchatel, Switzerland: Delachaux & Niestlé.
- Piaget, J. (1951). Pensée égocentrique et pensée sociocentrique [Egocentric thought and sociocentric thought]. *Cahiers internationaux de sociologie*, *10*, 34-49.
- Piaget, J. (1952). *The origins of intelligence in children*. New York, NY: International University Press.
- Piaget, J. (1985). *The equilibration of cognitive structures*. Chicago, IL: University of Chicago Press.
- Pieterse, A. N. (2009). *Goal orientation in teams: The role of diversity* (Unpublished doctoral dissertation). Erasmus Research Institute of Management (ERIM), Rotterdam, Netherland.
- Pincus, A. L., Gurtman, M. B., & Ruiz, M. A. (1998). Structural analysis of social behavior (SASB): Circumplex analyses and structural relations with the interpersonal circle and the five-factor model of personality. *Journal of Personality and Social Psychology*, *74*, 1629-1645.
- Pinkley, R. L. (1990). Dimensions of conflict frame: Disputant interpretations of conflict. *Journal of Applied Psychology*, *75*, 117-126.
- Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. Maehr, & P.R. Pintrich, *Advances in motivation and achievement: Goals and self-regulatory processes, vol. 7*. Greenwich, CT: JAI Press.
- Plaut, V. C., & Markus, H. R. (2005). The “inside” story: A cultural-historical analysis of how to be smart and motivated, American style. In C. Dweck & A. Elliott, *Handbook of competence and motivation* (pp. 457-488). New York, NY: Guilford.
- Poortvliet, P. M. (2013). Harming others' task-related efforts: The distinct competitive effects of ranking information on performance and mastery goal individuals. *Social Psychology*, *44*, 373-379.
- Poortvliet, P. M., Anseel, F., Janssen, O., Van Yperen, N. W., & Van de Vliert, E. (2012). Perverse effects of other-referenced performance goals in an information exchange context. *Journal of Business Ethics*, *106*, 401-414.
- Poortvliet, P. M., & Darnon, C. (2010). Toward a More Social Understanding of Achievement Goals The Interpersonal Effects of Mastery and Performance Goals. *Current Directions in Psychological Science*, *19*, 324-328.

References

- Poortvliet, P. M., & Darnon, C. (2014). Understanding positive attitudes toward helping peers: The role of mastery goals and academic self-efficacy. *Self and Identity, 13*, 345-363.
- Poortvliet, P. M., & Giebels, E. (2012). Self-improvement and cooperation: How exchange relationships promote mastery-approach driven individuals' job outcomes. *European Journal of Work and Organizational Psychology, 21*, 392-425.
- Poortvliet, P. M., Janssen, O., Van Yperen, N. W., & Van de Vliert, E. (2007). Achievement goals and interpersonal behavior: How mastery and performance goals shape information exchange. *Personality and Social Psychology Bulletin, 33*, 1435-1447.
- Poortvliet, P. M., Janssen, O., Van Yperen, N. W., & Van de Vliert, E. V. D. (2009). The joint impact of achievement goals and performance feedback on information giving. *Basic and Applied Social Psychology, 31*, 197-209.
- Porter, C. O. L. H. (2005). Goal orientation: Effects on backing up behavior, performance, efficacy, and commitment in teams. *Journal of Applied Psychology, 90*, 811-818.
- Porter, C. O. L. H. (2008). A multilevel, multiconceptualization perspective of goal orientation in teams. In V. I. Sessa & M. London (Eds.), *Work group learning: Understanding and assessing how groups learn in organizations* (pp. 149-173). New York, NY: Taylor & Francis.
- Porter, G., & Tansky, J. W. (1996). Learning orientation of employees: Moving toward organization-based assessment. *Human Resource Development Quarterly, 7*, 165-178.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891.
- Preacher, K. J., & Selig, J. P. (2012). Advantages of Monte Carlo confidence intervals for indirect effects. *Communication Methods and Measures, 6*, 77-98.
- Preenen, P. T., Van Vianen, A. E., & De Pater, I. E. (2014). Challenging assignments and activating mood: the influence of goal orientation. *Journal of Applied Social Psychology*. In press.
- Prusak, N., Hershkowitz, R., & Schwarz, B. B. (2012). From visual reasoning to logical necessity through argumentative design. *Educational Studies in Mathematics, 79*, 19-40.
- Psaltis, C. (2011). The constructive role of gender asymmetry in social interaction: Further evidence. *British Journal of Developmental Psychology, 29*, 305-312.

References

- Psaltis, C., & Duveen, G. (2006). Social relations and cognitive development: The influence of conversation type and representations of gender. *European Journal of Social Psychology, 36*, 407-430.
- Psaltis, C., & Duveen, G. (2007). Conservation and conversation types: Forms of recognition and cognitive development. *British Journal of Developmental Psychology, 25*, 79-102.
- Psaltis, C., Duveen, G., & Perret-Clermont, A. N. (2009). The social and the psychological: Structure and context in intellectual development. *Human Development, 52*, 291-312.
- Psaltis, C., & Zapiti, A. (2014). *Interaction, communication and development: Psychological development as a social process*. Hove, United Kingdom: Routledge.
- Pudelko, C. E., & Boon, H. J. (2014). Relations between Teachers' Classroom Goals and Values: A Case Study of High School Teachers in Far North Queensland, Australia. *Australian Journal of Teacher Education, 39*, 14-36.
- Pulfrey, C., Buchs, C., & Butera, F. (2011). Why grades engender performance avoidance goals: The mediating role of autonomous motivation. *Journal of Educational Psychology, 103*, 683-700.
- Pulfrey, C., & Butera, F. (2013). Why Neoliberal Values of Self-Enhancement Lead to Cheating in Higher Education A Motivational Account. *Psychological Science, 24*, 2153-2162.
- Pulfrey, C., Darnon, C., & Butera, F. (2013). Autonomy and task performance: Explaining the impact of grades on intrinsic motivation. *Journal of Educational Psychology, 105*, 39-57.
- Purcell, S. M., Wray, N. R., Stone, J. L., Visscher, P. M., O'Donovan, M. C., Sullivan, P. F., ... O'Donovan, M. C. (2009). Common polygenic variation contributes to risk of schizophrenia and bipolar disorder. *Nature, 460*, 748-752.
- Quiamzade, A. (2007). Imitation and performance in confrontations between competent peers: The role of the representation of the task. *European Journal of Psychology of Education, 22*, 243-258.
- Quiamzade, A., & Mugny, G. (2001). Social influence dynamics in aptitude tasks. *Social Psychology of Education, 4*, 311-334.
- Quiamzade, A., Mugny, G., & Darnon, C. (2009). The coordination of problem solving strategies: When low competence sources exert more influence on task processing than high competence sources. *British Journal of Social Psychology, 48*, 159-182.

References

- Quiamzade A., Mugny G., Butera F., (2013). *Psychologie sociale de la connaissance* [The social psychology of knowledge]. Grenoble, France: Presses Universitaires de Grenoble.
- Quiamzade A., Mugny G., Butera F. (2014). *Psychologie sociale de la connaissance: Etayage expérimental* [The social psychology of knowledge: Empirical illustration]. Grenoble, France: Presses Universitaires de Grenoble.
- Quiamzade, A., Mugny, G., & Darnon, C. (2009). The coordination of problem solving strategies: When low competence sources exert more influence on task processing than high competence sources. *British Journal of Social Psychology, 48*, 159-182.
- Quiamzade, A., Mugny, G., Dragulescu, A., & Buchs, C. (2003). Interaction styles and expert social influence. *European Journal of Psychology of Education, 18*, 389-404.
- Quiamzade, A., Tomei, A., & Butera, F. (2000). Informational dependence and informational constraint: Social comparison and social influences in an anagram resolution task. *International Review of Social Psychology / Revue Internationale de Psychologie Sociale, 13*, 123-150.
- Rabe-Hesketh, S., & Skrondal, A. (2012). *Multilevel and longitudinal modeling using Stata*. StataCorp.
- Radel, R., Sarrazin, P., Legrain, P., & Wild, T. C. (2010). Social contagion of motivation between teacher and student: Analyzing underlying processes. *Journal of Educational Psychology, 102*, 577-587.
- Rahtz, D. R., Sirgy, M. J., & Meadow, H. L. (1989). The elderly audience: Correlates of television orientation. *Journal of Advertising, 18*, 9-20.
- Ramani, G. B., Siegler, R. S., & Hitti, A. (2012). Taking it to the classroom: Number board games as a small group learning activity. *Journal of Educational Psychology, 104*, 661-672.
- Rawsthorne, L. J., & Elliot, A. J. (1999). Achievement goals and intrinsic motivation: A meta-analytic review. *Personality and Social Psychology Review, 3*, 326-344.
- Razavi, T. (2001). *Self-report measures: An overview of concerns and limitations of questionnaire use in occupational stress research*. Southampton, United Kingdom: School of Management, University of Southampton.
- Reed, S. K. (2001). Making sense of word problems (book review). *Mathematical Thinking and Learning, 3*, 87-91.
- Régner, I., Escribe, C., & Dupeyrat, C. (2007). Evidence of social comparison in mastery goals in natural academic settings. *Journal of Educational Psychology, 99*, 575-583.

References

- Reinisch, J. M., & Sanders, S. A. (1986). A test of sex differences in aggressive response to hypothetical conflict situations. *Journal of Personality and Social Psychology, 50*, 1045-1049.
- Retelsdorf, J., Butler, R., Streblov, L., & Schiefele, U. (2010). Teachers' goal orientations for teaching: Associations with instructional practices, interest in teaching, and burnout. *Learning and Instruction, 20*, 30-46.
- Retelsdorf, J., & Günther, C. (2011). Achievement goals for teaching and teachers' reference norms: Relations with instructional practices. *Teaching and Teacher Education, 27*, 1111-1119.
- Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology, 104*, 700-712.
- Richardson, J. T. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review, 6*, 135-147.
- Rizzolatti, G., & Craighero, L. (2004). The mirror-neuron system. *Annual Review of Neuroscience, 27*, 169-192.
- Rodkin, P. C., Ryan, A. M., Jamison, R., & Wilson, T. (2013). Social goals, social behavior, and social status in middle childhood. *Developmental Psychology, 49*, 1139-1150.
- Rogers, W. H. (1993). Regression standard errors in clustered samples. *Stata Technical Bulletin, 13*, 19-23.
- Roseth, C. J., Saltarelli, A. J., & Glass, C. R. (2011). Effects of face-to-face and computer-mediated constructive controversy on social interdependence, motivation, and achievement. *Journal of Educational Psychology, 103*, 804-820.
- Rothbard, M. N. (1995). *Economic Thought Before Adam Smith: An Austrian Perspective on the History of Economic Thought, Vol. 1*. Auburn, AL.: Edward Elgar.
- Rothman, S. & Lichter, S. R. (2008). The vanishing conservative: Is there a glass ceiling? In R. Maranto, R. E. Redding, & F. M. Hess (Eds.), *The politically correct university: Problems, scope, and reforms*. Washington D.C.: The AEI Press.
- Roussel, P., Elliot, A. J., & Feltman, R. (2011). The influence of achievement goals and social goals on help-seeking from peers in an academic context. *Learning and Instruction, 21*, 394-402.
- Rousseeuw, P. J., & Croux, C. (1993). Alternatives to the median absolute deviation. *Journal of the American Statistical Association, 88*, 1273-1283.

References

- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, *5*, 359-371.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, *39*, 1161-1178.
- Ruiz, E. (1994). Quasi-maximum likelihood estimation of stochastic volatility models. *Journal of Econometrics*, *63*, 289-306.
- Rumberger, R. W. (2001, January). *Why students drop out of high school and what can be done*. Paper prepared for the conference, "Dropouts in America: How Severe is the Problem? What Do We Know about Intervention and Prevention?". Cambridge, MA: Harvard University.
- Ryan, A. M., Hicks, L., & Midgley, C. (1997). Social goals, academic goals, and avoiding seeking help in the classroom. *The Journal of Early Adolescence*, *17*, 152-171.
- Ryan, A. M., & Pintrich, P. R. (1997). Should I ask for help? The role of motivation and attitudes in adolescents' help seeking in math class. *Journal of Educational Psychology*, *89*, 329-341.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.
- Sage, L., & Kavussanu, M. (2007). Multiple goal orientations as predictors of moral behavior in youth soccer. *The Sport Psychologist*, *21*, 417-437.
- Sage, L. D., & Kavussanu, M. (2008). Goal orientations, motivational climate, and prosocial and antisocial behaviour in youth football: Exploring their temporal stability and reciprocal relationships. *Journal of Sports sciences*, *26*, 717-732.
- Sage, L., Kavussanu, M., & Duda, J. (2006). Goal orientations and moral identity as predictors of prosocial and antisocial functioning in male association football players. *Journal of Sports Sciences*, *24*, 455-466.
- Sagiv, L., & Schwartz, S. H. (2007). Cultural values in organisations: insights for Europe. *European Journal of International Management*, *1*, 176-190.
- Sahay, B. S. (2005). Multi-factor productivity measurement model for service organisation. *International Journal of Productivity and Performance Management*, *54*, 7-22.
- Saltarelli, A. J., & Roseth, C. J. (2014). Effects of synchronicity and belongingness on face-to-face and computer-mediated constructive controversy. *Journal of Educational Psychology*. In Press.

References

- Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L., & Cury, F. (2002). Motivation and dropout in female handballers: A 21-month prospective study. *European Journal of Social Psychology, 32*, 395-418.
- Schoor, C., & Bannert, M. (2011). Motivation in a computer-supported collaborative learning scenario and its impact on learning activities and knowledge acquisition. *Learning and Instruction, 21*, 560-573.
- Schunk, D. H., & Zimmerman, B. J. (Eds.). (2012). *Motivation and self-regulated learning: Theory, research, and applications*. New York, NY: Routledge.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values?. *Journal of Social Issues, 50*, 19-45.
- Schwartz, S. H. (2006). A theory of cultural value orientations: Explication and applications. *International Studies in Sociology and Social Anthropology, 104*, 33-78.
- Schwartz, S. H. (2007). Cultural and individual value correlates of capitalism: A comparative analysis. *Psychological Inquiry, 18*, 52-57.
- Schwartz, S. H., & Bilsky, W. (1990). Toward a theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology, 58*, 878-891.
- Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality, 38*, 230-255.
- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32*, 519-542.
- Schwarz, B. B., Neuman, Y., & Biezuner, S. (2000). Two wrong may make a right... if they argue together! *Cognition and Instruction, 18*, 461-494.
- Schwartz, S. H., & Sagiv, L. (1995). Identifying culture-specifics in the content and structure of values. *Journal of Cross-Cultural Psychology, 26*, 92-116.
- Sedlacek, T. (2011). *Economics of good and evil: The quest for economic meaning from Gilgamesh to Wall Street*. New York, NY: Oxford University Press.
- Selimbegovic, L., Quiamzade, A., Chatard, A., Mugny, G., & Fluri, D. (2007). Conflict of competences, counterfactual thinking, and performance. *Swiss Journal of Psychology, 66*, 153-161.
- Senko, C., Hama, H., & Belmonte, K. (2013). Achievement goals, study strategies, and achievement: A test of the "learning agenda" framework. *Learning and Individual Differences, 24*, 1-10.

References

- Senko, C., & Harackiewicz, J. M. (2002). Performance goals: The moderating roles of context and achievement orientation. *Journal of Experimental Social Psychology, 38*, 603-610.
- Senko, C., & Harackiewicz, J. M. (2005). Regulation of Achievement Goals: The Role of Competence Feedback. *Journal of Educational Psychology, 97*, 320-336.
- Senko, C., Hulleman, C. S., & Harackiewicz, J. M. (2011). Achievement goal theory at the crossroads: Old controversies, current challenges, and new directions. *Educational Psychologist, 46*, 26-47.
- Shah, J. (2003). Automatic for the people: how representations of significant others implicitly affect goal pursuit. *Journal of Personality and Social Psychology, 84*, 661-681.
- Sheldon, K. M., & Krieger, L. S. (2004). Does legal education have undermining effects on law students? Evaluating changes in motivation, values, and well-being. *Behavioral Sciences and the Law, 22*, 261-286.
- Sherif, C. W. (1961). *Intergroup conflict and cooperation: The Robbers Cave experiment (Vol. 10)*. Norman, OK: University Book Exchange.
- Shim, S. S., Cho, Y., & Cassady, J. (2013). Goal structures: The role of teachers' achievement goals and theories of intelligence. *The Journal of Experimental Education, 81*, 84-104.
- Shim, S. S., Cho, Y., & Wang, C. (2013). Classroom goal structures, social achievement goals, and adjustment in middle school. *Learning and Instruction, 23*, 69-77.
- Sideridis, G. D. (2008). The regulation of affect, anxiety, and stressful arousal from adopting mastery-avoidance goal orientations. *Stress and Health, 24*, 55-69.
- Silver, L. S., Dwyer, S., & Alford, B. (2006). Learning and performance goal orientation of salespeople revisited: The role of performance-approach and performance-avoidance orientations. *Journal of Personal Selling and Sales Management, 26*, 27-38.
- Skaalvik, E. M., & Skaalvik, S. (2013). Teachers' perceptions of the school goal structure: Relations with teachers' goal orientations, work engagement, and job satisfaction. *International Journal of Educational Research, 62*, 199-209.
- Slabu, L., & Guinote, A. (2010). Getting what you want: Power increases the accessibility of active goals. *Journal of Experimental Social Psychology, 46*, 344-349.
- Slavin, R. E. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology, 21*, 43-69.
- Smith, A. (1976). *An inquiry into the nature and causes of the wealth of nations*. New York, NY: Random House.

References

- Smith, R. H. (2000) Assimilative and contrastive emotional reactions to upward and downward social comparisons. In J. Suls L. Wheeler (Eds.), *Handbook of social comparison: Theory and research* (pp.173 -200). New York, NY: Plenum.
- Smith, K., Johnson, D. W., & Johnson, R. T. (1981). Can conflict be constructive? Controversy versus concurrence seeking in learning groups. *Journal of Educational Psychology*, 73, 651-663.
- Smith, L. G., Amiot, C. E., Callan, V. J., Terry, D. J., & Smith, J. R. (2012). Getting new staff to stay: The mediating role of organizational identification. *British Journal of Management*, 23, 45-64.
- Smith, P. B., Dugan, S., & Trompenaars, F. (1996). National culture and the values of organizational employees a dimensional analysis across 43 nations. *Journal of cross-Cultural Psychology*, 27, 231-264.
- Smith, P. K., & Bargh, J. A. (2008). Nonconscious effects of power on basic approach and avoidance tendencies. *Social Cognition*, 26, 1-24.
- Sommet, N., Darnon, C., & Butera, F. (2011). Le conflit: une motivation à double tranchant pour l'apprenant [The conflict: A double-edged motivation for learners]. In Bourgeois E. & Chapelle G. (Eds.) *Apprendre et faire apprendre* [Learning and teaching] (pp. 283-296). Paris, France: Presses Universitaires de France.
- Sommet, N., Darnon C., & Butera, F. (2014). To Confirm or to Conform? Performance Goals as a Regulator of Conflict With More-Competent Others. *Journal of Educational Psychology*. In press.
- Sommet, N., Darnon, C., Mugny, G., Quiamzade, A., Pulfrey, C., Dompnier, B., & Butera, F. (2014). Performance goals in conflictual social interactions: Towards the distinction between two modes of relational conflict regulation. *British Journal of Social Psychology*, 53, 134-153.
- Sommet, N., Pulfrey, C., & Butera, F. (2013). Did my MD really go to university to learn? Detrimental effects of numerus clausus on self-efficacy, mastery goals and learning. *PloS one*, 8, e84178.
- Son Hing, L. S., Bobocel, D. R., Zanna, M. P., & McBride, M. V. (2007). Authoritarian dynamics and unethical decision making: High social dominance orientation leaders and high right-wing authoritarianism followers. *Journal of Personality and Social Psychology*, 92, 67-81.

References

- Sorrentino, R. M., & Short, J. A. C. (1977). The case of the mysterious moderates: Why motives sometimes fail to predict behavior. *Journal of Personality and Social Psychology*, *35*, 478-484.
- Spears, R., & Lea, M. (1994). Panacea or panopticon? The hidden power in computer-mediated communication. *Communication Research*, *21*, 427-459.
- Spencer, H. (1898). *The Principles of Sociology* (Vol. I, pt. 2). New York, NY: D. Appleton and company.
- StataCorp (2011). *Stata Structural Equation Modeling Reference Manual Release 12*. Statistical Software. College Station, TX: StataCorp LP.
- Staw, B. (1981) The Escalation of Commitment to a Course of Action. *Academy of Management Review*, *6*, 577-587.
- Steinfeldt, J. A., Foltz, B. D., Mungro, J., Speight, Q. L., Wong, Y. J., & Blumberg, J. (2011). Masculinity socialization in sports: Influence of college football coaches. *Psychology of Men & Masculinity*, *12*, 247-259.
- Stephens, D. E. (2000). Predictors of Likelihood to Aggress in Youth Soccer: An Examination of Coed and All-Girls Teams. *Journal of Sport Behavior*, *23*, 311-325.
- Stoeber, J., Stoll, O., Pescheck, E., & Otto, K. (2008). Perfectionism and achievement goals in athletes: Relations with approach and avoidance orientations in mastery and performance goals. *Psychology of Sport and Exercise*, *9*, 102-121.
- Stornes, T., & Ommundsen, Y. (2004). Achievement goals, motivational climate and sportpersonship: A study of young handball players. *Scandinavian Journal of Educational Research*, *48*, 205-221.
- Sujan, H., Weitz, B. A., & Kumar, N. (1994). Learning orientation, working smart, and effective selling. *The Journal of Marketing*, *3*, 39-52.
- Sutton, R. I., & Louis, M. R. (1987). How selecting and socializing newcomers influences insiders. *Human Resource Management*, *26*, 347-361.
- Swann, W. B. (1997). The trouble with change: Self-verification and allegiance to the self. *Psychological Science*, *8*, 177-180.
- Tafari, E., & Mugny, G. (2002). Influence et représentation sociale : le rôle des enjeux identitaires dans la dynamique représentationnelle [Influence and social representation: role of identity stake in representational dynamic]. In J.-L. Beauvois, R.-V. Joule & J.-M. Monteil (Eds.), *Perspectives cognitives et conduites sociales* (Vol. 8, pp. 27-44). Rennes, France: Presses Universitaires de Rennes.

References

- Tafani, E., Mugny, G., & Bellon, S. (1999). Irréversibilité du changement et enjeux identitaires dans l'influence sociale sur une représentation sociale [Irreversibility of change and identify stakes in social influence over a social representation]. *Psychologie et Société, 1*, 73-104.
- Tammivaara, J. S. (1982). The effects of task structure on beliefs about competence and participation in small groups. *Sociology of Education, 55*, 212-222.
- Tanaka, A., Murakami, Y., Okuno, T., & Yamauchi, H. (2001). Achievement goals, attitudes toward help seeking, and help-seeking behavior in the classroom. *Learning and Individual Differences, 13*, 23-35.
- Tanaka, A., Okuno, T., & Yamauchi, H. (2013). Longitudinal tests on the influence of achievement goals on effort and intrinsic interest in the workplace. *Motivation and Emotion, 37*, 457-464.
- Tanaka, A., Takehara, T., & Yamauchi, H. (2006). Achievement goals in a presentation task: Performance expectancy, achievement goals, state anxiety, and task performance. *Learning and Individual Differences, 16*, 93-99.
- Tandy, D.W. & Neale, W.C. (1996), *Works and Days: a translation and commentary for the social sciences*. Berkeley, CA: University of California Press.
- Terborg, J. R., & Miller, H. E. (1978). Motivation, behavior, and performance: A closer examination of goal setting and monetary incentives. *Journal of Applied Psychology, 63*, 29-39.
- Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude-behavior relationship: A role for group identification. *Personality and Social Psychology Bulletin, 22*, 776-793.
- Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology, 21* (pp. 181-227). New York, NY: Academic Press.
- Tetlock, P. E. (1983). Accountability and the perseverance of first impressions. *Social Psychology Quarterly, 46*, 285-292.
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly, 48*, 227-236.
- Tetlock, P. E. (1994). Political psychology or politicized psychology: Is the road to scientific hell paved with good moral intentions? *Political Psychology, 15*, 509-529.

References

- Tetlock, P. E., Armor, D., & Peterson, R. S. (1994). The slavery debate in antebellum America: Cognitive style, value conflict, and the limits of compromise. *Journal of Personality and Social Psychology, 66*, 115-126.
- Tetlock, P. E., & Boettger, R. (1989). Accountability: a social magnifier of the dilution effect. *Journal of Personality and Social Psychology, 57*, 388-398.
- Tetlock, P. E., & Kim, J. I. (1987). Accountability and judgment processes in a personality prediction task. *Journal of personality and social psychology, 52*, 700-709.
- Thomas, K. W. (1992). Conflict and conflict management: Reflections and update. *Journal of Organizational Behavior, 13*, 265-274.
- Thomas, K. W., & Kilman, R. H. (1974). *Thomas-Kilmann conflict mode instrument*. New York, NY: Xicom.
- Tjosvold, D. (1986). The dynamics of interdependence in organizations. *Human Relations, 39*, 517-540.
- Tjosvold, D., Johnson, D. W., & Fabrey, L. J. (1980). Effects of controversy and defensiveness on cognitive perspective-taking. *Psychological Reports, 47*, 1043-1053.
- Tjosvold, D., Johnson, D. W., & Lerner, J. (1981). Effects of affirmation and acceptance on incorporation of opposing information in problem-solving. *The Journal of Social Psychology, 114*, 103-110.
- Toma, C., & Butera, F. (2009). Hidden profiles and concealed information: Strategic information sharing and use in group decision making. *Personality and Social Psychology Bulletin, 35*, 793-806.
- Tomaka, J., Blascovich, J., Kelsey, R. M., & Leitten, C. L. (1993). Subjective, physiological, and behavioral effects of threat and challenge appraisal. *Journal of Personality and Social Psychology, 65*, 248-260.
- Toma, C., Gilles, I., & Butera, F. (2013). Strategic use of preference confirmation in group decision making: The role of competition and dissent. *British Journal of Social Psychology, 52*, 44-63.
- Toma, C., Vasiljevic, D., Oberlé, D., & Butera, F. (2013). Assigned experts with competitive goals withhold information in group decision making. *British Journal of Social Psychology, 52*, 161-172.
- Tomaka, J., Blascovich, J., Kelsey, R. M., & Leitten, C. L. (1993). Subjective, physiological, and behavioral effects of threat and challenge appraisal. *Journal of Personality and Social Psychology, 65*, 248-260.

References

- Trautwein, U., Lüdtke, O., Marsh, H. W., & Nagy, G. (2009). Withinschool social comparison: How students perceive the standing of their class predicts academic self-concept. *Journal of Educational Psychology, 101*, 853-866.
- Treasure, D. C., & Robert, G. C. (2001). Students' perceptions of the motivational climate, achievement beliefs, and satisfaction in physical education. *Research Quarterly for Exercise and Sport, 72*, 165-175.
- Tsagris, M., Elmatzoglou, I., & Frangos, C. C. (2012). The assessment of performance of correlation estimates in discrete bivariate distributions using bootstrap methodology. *Communications in Statistics—Theory and Methods, 41*, 138-152.
- Tudge, J. (1989). When collaboration leads to regression: Some negative consequences of socio-cognitive conflict. *European Journal of Social Psychology, 19*, 123-138.
- Tuominen-Soini, H., Salmela-Aro, K., & Niemivirta, M. (2012). Achievement goal orientations and academic well-being across the transition to upper secondary education. *Learning and Individual Differences, 22*, 290-305.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, United Kingdom: Basil Blackwell.
- Turner, J. E., Husman, J., & Schallert, D. L. (2002). The importance of students' goals in their emotional experience of academic failure: Investigating the precursors and consequences of shame. *Educational Psychologist, 37*, 79-89.
- Urduan, T. (1997). Achievement goal theory: Past results, future directions. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 10, pp. 99-141). Greenwich, CT: JAI.
- Urduan, T. C. (2004a). Can achievement goal theory guide school reform? In P. R. Pintrich & M. L. Maehr (Eds.), *Advances in motivation and achievement*, (pp. 361-392). Oxford, United Kingdom: Elsevier
- Urduan, T. C. (2004b). Predictors of Academic Self-Handicapping and Achievement: Examining Achievement Goals, Classroom Goal Structures, and Culture. *Journal of Educational Psychology, 96*, 251-264.
- Urduan, T. C., & Maehr, M. L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research, 65*, 213-243.
- Urduan, T., & Midgley, C. (2003). Changes in the perceived classroom goal structure and pattern of adaptive learning during early adolescence. *Contemporary Educational Psychology, 28*, 524-551.

References

- Urduan, T., & Schoenfelder, E. (2006). Classroom effects on student motivation: Goal structures, social relationships, and competence beliefs. *Journal of School Psychology, 44*, 331-349.
- Valentiner, D. P., Mounts, N. S., Durik, A. M., & Gier-Lonsway, S. L. (2011). Shyness mindset: Applying mindset theory to the domain of inhibited social behavior. *Personality and Individual Differences, 50*, 1174-1179.
- Van Yperen, N. W. (1997). Inequity and vulnerability to dropout symptoms: An exploratory causal analysis among highly skilled youth soccer players. *Sport Psychologist, 11*, 318-325.
- Van Yperen, N. W. (2003). Task interest and actual performance: the moderating effects of assigned and adopted purpose goals. *Journal of Personality and Social Psychology, 85*, 1006-1015.
- Van Yperen, N. W. (2006). A novel approach to assessing achievement goals in the context of the 2 x 2 framework: Identifying distinct profiles of individuals with different dominant achievement goals. *Personality and Social Psychology Bulletin, 32*, 1432-1445.
- Van Yperen, N. W., Blaga, M., & Postmes, T. (2014). A meta-analysis of self-reported achievement goals and nonself-report performance across three achievement domains (work, sports, and education). *PloS One, 9*, e93594.
- Van Yperen, N. W., Elliot, A. J., & Anseel, F. (2009). The influence of mastery-avoidance goals on performance improvement. *European Journal of Social Psychology, 39*, 932-943.
- Van Yperen, N. W., & Renkema, L. J. (2008). Performing great and the purpose of performing better than others: On the recursiveness of the achievement goal adoption process. *European Journal of Social Psychology, 38*, 260-271.
- Van Yperen, N.W., Hamstra, M.R.W. & van der Klauw, M. (2011). To win, or not to lose, at any cost: The impact of achievement goals on cheating. *British Journal of Management, 22*, 5-15.
- Van Yperen, N. W., & Orehek, E. (2013). Achievement goals in the workplace: Conceptualization, prevalence, profiles, and outcomes. *Journal of Economic Psychology, 38*, 71-79.
- Van Yperen, N. W., & Renkema, L. J. (2008). Performing great and the purpose of performing better than others: On the recursiveness of the achievement goal adoption process. *European Journal of Social Psychology, 38*, 260-271.

References

- VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*, 995-1015.
- VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum Jr, J. W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology, 84*, 249-259.
- Vansteenkiste, M., Duriez, B., Simons, J., & Soenens, B. (2006). Materialistic Values and Well-Being Among Business Students: Further Evidence of Their Detrimental Effect. *Journal of Applied Social Psychology, 36*, 2892-2908.
- Vansteenkiste, M., Lens, W., Elliot, A. J., Soenens, B., & Mouratidis, A. (2014). Moving the Achievement Goal Approach One Step Forward: Toward a Systematic Examination of the Autonomous and Controlled Reasons Underlying Achievement Goals. *Educational Psychologist, 49*, 153-174.
- Vansteenkiste, M., Mouratidis, A., & Lens, W. (2010). Detaching reasons from aims: fair play and well-being in soccer as a function of pursuing performance-approach goals for autonomous or controlling reasons. *Journal of Sport & Exercise Psychology, 32*, 217-242.
- Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. *Advances in Motivation and Achievement, 16*, 105-165.
- Vansteenkiste, M., Smeets, S., Soenens, B., Lens, W., Matos, L., & Deci, E. L. (2010). Autonomous and controlled regulation of performance-approach goals: Their relations to perfectionism and educational outcomes. *Motivation and Emotion, 34*, 333-353.
- Varbanov, I. (2010). Hesiod: the First "Economist"?, *Philosophical Alternatives Journal / Filosofski Alternativi, 19*, 134-142.
- Vergnaud, G., & Récopé, M. (2000). De Revault d'Allonnes à une théorie du schème aujourd'hui [From Revault d'Allonnes to a contemporary schema theory]. *Psychologie française, 45*, 35-50.
- Vygotsky, L. S. (1934). *Мышление и речь* [Thinking and Speech]. Огиз-Соцгиз: МЛ.
- Vygotsky, L.S. (1978). *Mind and society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. souberman, Eds). Cambridge, MA: Harvard University Press.
- Walper S., Mülle, K., Noack, P. & Silbereisen, R.K. (1981, August). *Stimulation of social cognition in children: Do parents use theoretically appropriate interaction*

References

- strategies?*. Poster presented at the 6th Biennial Meeting of the International Society for the Study of Behavioural Development, Toronto.
- Warburton, V., & Spray, C. (2014). Appearance-and competition-focused performance goals Examining their links with performance in physical education. *European Physical Education Review*. In press.
- Wason, P.C. (1966). Reasoning. In P.N. Johnson-Laird & P.C. Wason (Eds.), *Thinking: Readings in cognitive science*. Cambridge, United Kingdom: Cambridge University Press.
- Webb, N. M. (2009). The teacher's role in promoting collaborative dialogue in the classroom. *British Journal of Educational Psychology*, 79, 1-28.
- Weinberger, A., & Fischer, F. (2006). A framework to analyze argumentative knowledge construction in computer-supported collaborative learning. *Computers & Education*, 46, 71-95.
- Weiner, B. (2005). Motivation from an attributional perspective and the social psychology of perceived competence. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 73-84). New York: Guilford.
- Weisband, S. P., Schneider, S. K., & Connolly, T. (1995). Computermediated communication and social information: Status salience and status differences. *Academy of Management Journal*, 38, 1124-1151.
- Wentzel, K. R. (2005). Peer relationships, motivation, and academic performance at school. In A. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 279-296). New York, NY: Guilford Press.
- Whitebread, D., Bingham, S., Grau, V., Pino Pasternak, D., & Sangster, C. (2007). Development of metacognition and self-regulated learning in young children: Role of collaborative and peer-assisted learning. *Journal of Cognitive Education and Psychology*, 6, 433-455.
- Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, 37, 395-412.
- Wiggins, J. S. (1996). An informal history of the interpersonal circumplex tradition. *Journal of Personality Assessment*, 66, 217-233.
- Wiggins, J. S. (2003). *Paradigms of personality assessment*. New York, NY: Guilford Press.
- Williams, K. J., Donovan, J. J., & Dodge, T. L. (2000). Self-regulation of performance: Goal establishment and goal revision processes in athletes. *Human Performance*, 13, 159-180.

References

- Willis, G. B., & Guinote, A. (2011). The effects of social power on goal content and goal striving: A situated perspective. *Social and Personality Psychology Compass*, 5, 706-719.
- Winne, P. H., Muis, K. R., & Jamieson-Noel, D. L. (2003). *The stability of goal orientation as a function of feedback and calibration of achievement in a multi-assignment undergraduate course*. Toronto, Canada: American Psychological Association.
- Wolters, C. A. (2004). Advancing Achievement Goal Theory: Using Goal Structures and Goal Orientations to Predict Students' Motivation, Cognition, and Achievement. *Journal of Educational Psychology*, 96, 236-250.
- Wolters, C. A., Fan, W., & Daugherty, S. (2010). Teacher-reported goal structures: Assessing factor structure and invariance. *The Journal of Experimental Education*, 79, 1-29.
- Wu, X., Anderson, R. C., Nguyen-Jahiel, K., & Miller, B. (2013). Enhancing motivation and engagement through collaborative discussion. *Journal of Educational Psychology*, 105, 622-632.
- Xie, F. C., & Wei, B. C. (2007). Diagnostics analysis in censored generalized Poisson regression model. *Journal of Statistical Computation and Simulation*, 77, 695-708.
- Yamaguchi, R. (2001). Children's Learning Groups A Study of Emergent Leadership, Dominance, and Group Effectiveness. *Small Group Research*, 32, 671-697.
- Yamaguchi, R., & Maehr, M. L. (2004). Children's Emergent Leadership The Relationships with Group Characteristics and Outcomes. *Small group research*, 35, 388-406.
- Yzerbyt, V., Muller, D., & Judd, C. M. (2004). Adjusting researchers' approach to adjustment: On the use of covariates when testing interactions. *Journal of Experimental Social Psychology*, 40, 424-431.
- Zapiti, A., & Psaltis, C. (2012). Asymmetries in peer interaction: The effect of social representations of gender and knowledge asymmetry on children's cognitive development. *European Journal of Social Psychology*, 42, 578-588.
- Zeichner, K. M., & Gore, J. (1989). Teacher socialization. In W. R. Houston, J. Sikula, & M. Haberman (Eds.), *Handbook of research on teacher education* (pp. 329-348). New York, NY: Macmillan
- Zweig, D., & Webster, J. (2004). What are we measuring? An examination of the relationships between the Big-Five personality traits, goal orientation, and performance intentions. *Personality and Individual Differences*, 36, 1693-1708.

APPENDIX

1. Achievement Goal Questionnaire, Study 1.1. (also in 1.2., 2.1., 2.3., 3.1-3.4.)

Vous allez lire un texte relatant une expérience sur le thème de l'apprentissage et l'utiliser pour **résoudre un problème**. En prévision de cette tâche, merci d'indiquer dans quelle mesure chacune de ces propositions est vraie pour vous :

	Pas du tout vraie pour moi					Tout à fait vraie pour moi	
Il est important pour moi de mieux réussir que les autres étudiants.	1	2	3	4	5	6	7
Je désire maîtriser complètement le contenu du texte qui va m'être présenté.	1	2	3	4	5	6	7
Ma peur d'échouer dans cet exercice est ce qui me motive.	1	2	3	4	5	6	7
Mon but est d'avoir un meilleur score que la plupart des étudiants.	1	2	3	4	5	6	7
C'est important pour moi de comprendre le texte de façon aussi approfondie que possible.	1	2	3	4	5	6	7
Je veux seulement éviter d'échouer à cet exercice.	1	2	3	4	5	6	7
Mon but est d'éviter de mal réussir.	1	2	3	4	5	6	7
Il est important pour moi de bien réussir comparativement aux autres.	1	2	3	4	5	6	7
Je veux apprendre autant que possible de cet exercice.	1	2	3	4	5	6	7

2. Text Introducing the Serial Position Effect, Study 1.1. (also in 2.1.)

2.1. Primacy Effect (Version 1.)

L'EFFET DE POSITION SERIELLE

Dans l'apprentissage humain, de nombreuses études mettent en évidence un **effet de primauté** : lorsque plusieurs éléments sont présentés les uns à la suite des autres, ce sont **les premiers éléments** dont nous nous souvenons le mieux.

Dans une expérience, des participants devaient mémoriser une liste de mots. Ensuite, passé un délai de quelques minutes, ils devaient les restituer. D'une condition à l'autre, les auteurs faisaient varier l'ordre de présentation des mots. D'une manière systématique, ils ont remarqué que les participants rappelaient davantage **les premiers mots de la liste**, comparativement à ceux du milieu et de la fin.

Une explication de cet effet peut être que les éléments présentés en premier bénéficieraient d'une attention particulière du fait qu'ils sont nouveaux, et qu'ils n'interfèrent pas avec d'autres messages.

Cette étude a notamment des implications dans le domaine de l'Education. En classe, les étudiants semblent en effet plus attentifs aux informations données **en début de cours** et, à mesure que celui-ci avance, leur concentration s'estompe progressivement.

C'est pourquoi nous encourageons les enseignants, notamment à l'Université, de présenter les points principaux de leurs cours **en tout début de séance**.

BENVENISTE, E. (1996-2002) Apprentissage : des théories en pratique, vol. 2 Grenoble : PUF.

2.2. Recency Effect (Version 2.)

L'EFFET DE POSITION SERIELLE

Dans l'apprentissage humain, de nombreuses études mettent en évidence un **effet de récence** : lorsque plusieurs éléments sont présentés les uns à la suite des autres, ce sont **les derniers éléments** dont nous nous souvenons le mieux.

Dans une expérience, des participants devaient mémoriser une liste de mots. Ensuite, passé un délai de quelques minutes, ils devaient les restituer. D'une condition à l'autre, les auteurs faisaient varier l'ordre de présentation des mots. D'une manière systématique, ils ont remarqué que les participants rappelaient davantage **les derniers mots de la liste**, comparativement à ceux du milieu et de la début.

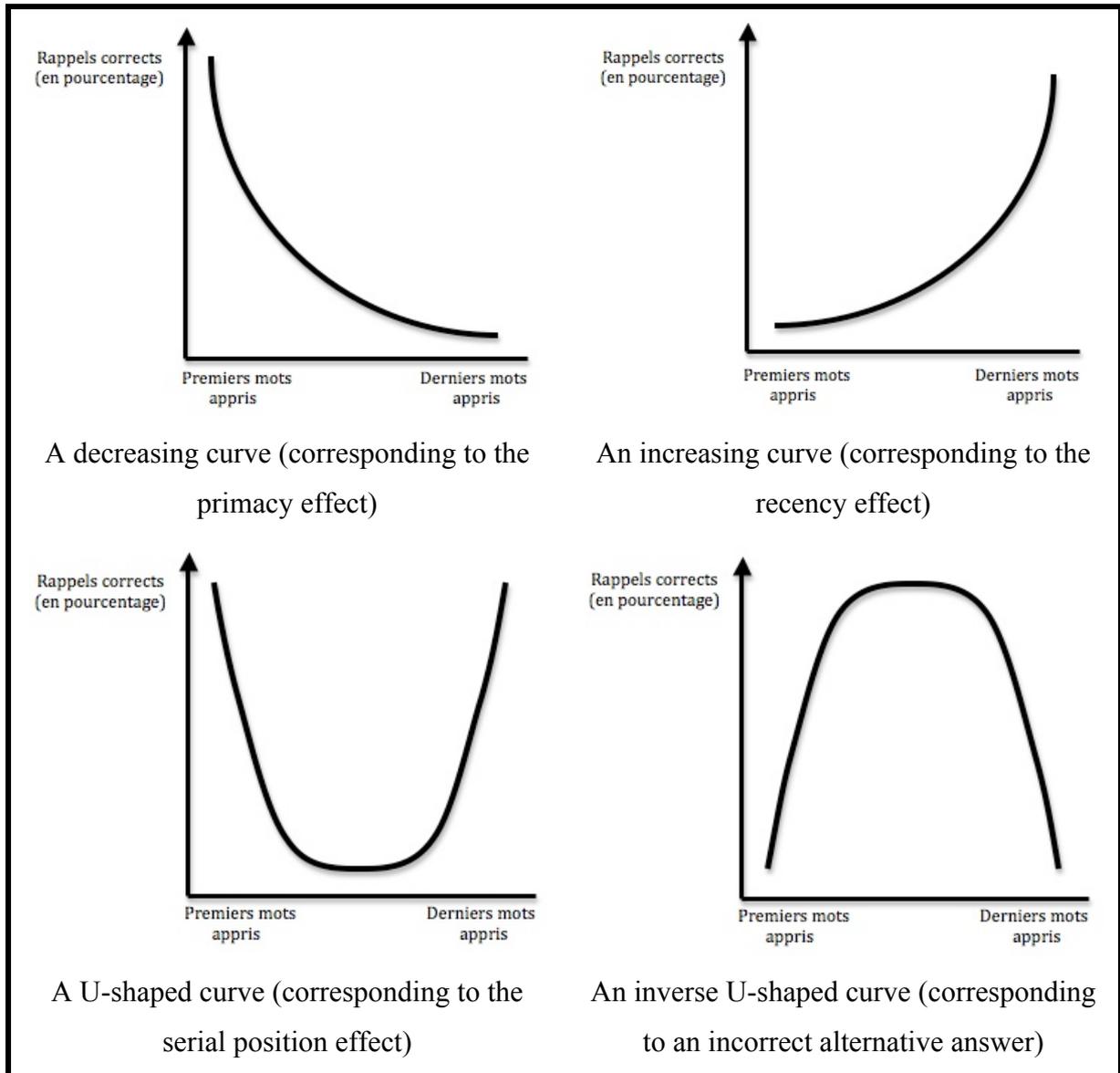
Une explication de cet effet peut être que les éléments présentés en dernier bénéficieraient d'une attention particulière du fait qu'ils soient plus aisément accessibles après la fin de la présentation

Cette étude a notamment des implications dans le domaine de l'Education. En classe, les étudiants semblent en effet plus attentifs aux informations données **en fin de cours** car, à mesure que celui-ci avance, leur concentration se recentrerait progressivement.

C'est pourquoi nous encourageons les enseignants, notamment à l'Université, de présenter les points principaux de leurs cours **en toute fin de séance**.

BENVENISTE, E. (1996-2002) *Apprentissage : des théories en pratique*, vol. 2 Grenoble : PUF.

3. Graphs, Study 1.1. (also in 2.2.)



4. Performance Goals Induction, Study 1.2. (also in 2.2.)

4.1. Performance-Approach Goals

Il est important que vous compreniez bien les consignes de cette étude. Il s'agit pour vous **d'être performant**, d'être bon, d'avoir **une bonne note à la tâche**, de recevoir **une bonne évaluation** de la part des expérimentateurs, d'essayer de **vous démarquer positivement** des autres élèves **en réussissant mieux** que la plupart d'entre eux, de **mettre en avant vos capacités**, vos compétences.

4.2. Performance-Avoidance Goals

Il est important que vous compreniez bien les consignes de cette étude. Il s'agit pour vous, de **ne pas faire preuve d'incompétence**, d'éviter d'être mauvais, de **ne pas avoir une mauvaise note** à la tâche, de **ne pas recevoir une mauvaise évaluation** de la part des expérimentateurs, d'essayer de **ne pas vous démarquer négativement** des autres élèves **en réussissant moins bien** que la plupart d'entre eux, **d'éviter de rendre visibles incompétences** éventuelles.

5. Extracts of the Social Psychology Text, Study 1.3.

5.1. Text Given to the First Participant Within the Dyad

BIAIS DANS L'ESTIMATION DU COMPORTEMENT D'AUTRUI

Certains auteurs parlent d'effet de fausse-unicité pour désigner le fait que l'on sous-estime le caractère général de ses propres capacités et comportements. Nous avons en effet une curieuse tendance à sous-estimer à quel point les gens se comportent comme nous. En matière de capacités, nous trouvons un renfort à celles-ci en sous-estimant dans quelle mesure les autres ont les mêmes que nous. De même, lorsque nous nous comportons bien, ou lorsque nous réussissons à une tâche, nous nous valorisons en pensant que ces comportements sont exceptionnels. En d'autres termes, l'effet de fausse-unicité traduit le fait que nous pensons que les autres n'ont pas les mêmes capacités ou ne se comportent pas comme nous.

Pour certains auteurs, ce biais est à classer dans le registre des biais auto-avantageux. Ce biais aurait en effet pour fonction de rehausser l'image de soi.

L'ACCEPTATION D'UNE REQUETE

Des auteurs ont mis en évidence que lorsqu'une requête est précédée de la question « comment allez-vous ? (...) je suis content que vous alliez bien », elle est plus facilement acceptée que lorsqu'elle est formulée directement. Dans une étude, un chercheur a examiné comment vendre des cookies au profit des Restaurants du Cœur. Pour cela, soit il formulait la requête directement, soit il la précédait de la question : « Comment allez-vous ? (...) je suis content que vous alliez bien. ». Le pourcentage d'acceptation passe de 10% à 25% dans le second cas.

D'après certains auteurs, cet effet s'explique par le fait que la première requête permet d'instaurer un dialogue entre sollicitateur et sollicité. Une fois ce dialogue instauré, la requête est plus facilement acceptée, les gens réalisent donc plus facilement un don.

L'IMPACT PERSUASIF

Le changement d'attitude suite à un discours persuasif varie en fonction de plusieurs facteurs, dont l'ordre dans lequel les messages sont présentés. En effet, de nombreuses études montrent un effet de primauté : lorsque plusieurs messages sont émis les uns à la suite des autres, c'est le premier message qui a le plus d'influence. Dans une expérience, des auteurs donnaient à des étudiants une transcription d'un procès en cour civile contenant un dossier avec les arguments du plaignant, un autre avec ceux de la défense. Une semaine plus tard, on leur demandait de se positionner du côté du plaignant ou de celui de la défense. Les auteurs observent un effet de primauté : les sujets se rangent plus du côté de celui duquel ils ont lu les arguments en premier.

Une explication de cet effet peut-être que les éléments présentés les premiers bénéficieraient d'une attention particulière du fait qu'ils sont nouveaux, et qu'ils n'interfèrent pas avec d'autres informations. L'écoute des éléments entendus par la suite, en revanche, serait gênée du fait de l'interférence avec les premiers éléments.

LE JUGEMENT SOCIAL

La manière dont les individus jugent et évaluent leur entourage dépend du contexte dans lequel ils se trouvent quand ils émettent leur jugement. Certaines études montrent que la présentation de certains traits (ex : aventureux vs. insouciant), modifie la manière dont est jugée une personne ultérieurement. La présentation de traits positifs entraînerait une évaluation plus positive et vice versa. C'est l'effet d'assimilation.

Dans une étude, on présentait à des sujets des traits (« aventureux, persévérant, sûr de soi, indépendant » ; ou « insouciant, obstiné, prétentieux, renfermé »). Puis, dans une autre étude, présentée comme n'ayant aucun lien avec la première, on demandait à ces sujets de donner un jugement sur le personnage d'une histoire (personnage décrit comme avide de sensations fortes, pratiquant des sports tels que la descente de rapides, le vol libre, etc). Cette étude montre que le jugement est fortement biaisé par les mots présentés lors de la première phase. Les sujets évaluent en effet plus négativement le personnage lorsque durant la première phase, les traits présentés étaient « insouciant, obstiné, prétentieux, renfermé » (traits négatifs), que lorsqu'il s'agissait des traits : « aventureux, persévérant, sûr de soi, indépendant » (traits positifs). Pour résumer, lorsqu'on leur avait initialement présenté des mots négatifs, leur jugement était plus négatif, d'où le terme d'effet d'assimilation.

D'après les auteurs, ceci est dû au fait que comme ces traits ont été activés, ils sont plus accessibles en mémoire et modifient ainsi de manière inconsciente les jugements ultérieurs.

Autrement dit, le sujet assimile les nouvelles données qu'on lui présente aux traits récemment activés sans qu'il en ait conscience.

5.2. Text Given to the Second Participant Within the Dyad

BIAIS DANS L'ESTIMATION DU COMPORTEMENT D'AUTRUI

Certains auteurs parlent d'effet de faux-consensus pour désigner le fait que l'on surestime le caractère général de ses opinions, de ses sentiments et de ses comportements. Nous avons en effet une curieuse tendance à surestimer à quel point les gens se comportent comme nous. En matière d'opinion, nous trouvons un renfort à celles-ci en surestimant dans quelle mesure les autres sont d'accord avec nous. De même, lorsque nous nous comportons mal, ou lorsque nous échouons à une tâche, nous nous rassurons en pensant que ces comportements sont habituels. En d'autres termes, l'effet de faux-consensus traduit le fait que nous pensons que les autres pensent et agissent comme nous.

Pour certains auteurs, ce biais est à classer dans le registre des biais auto-avantageux. Ce biais aurait en effet pour fonction de rehausser l'image de soi.

L'ACCEPTATION D'UNE REQUETE

Des auteurs ont mis en évidence que lorsqu'une requête est précédée de la question « comment allez-vous ? (...) je suis content que vous alliez bien », elle est plus facilement acceptée que lorsqu'elle est formulée directement. Dans une étude, un chercheur a examiné comment vendre des cookies au profit des Restaurants du Cœur. Pour cela, soit il formulait la requête directement, soit il la précédait de la question : « Comment allez-vous ? (...) je suis content que vous alliez bien. ». Le pourcentage d'acceptation passe de 10% à 25% dans le second cas.

D'après certains auteurs, cet effet s'explique par le fait que la première requête permet d'instaurer un dialogue entre sollicitateur et sollicité. Une fois ce dialogue instauré, la requête est plus facilement acceptée, les gens réalisent donc plus facilement un don.

L'IMPACT PERSUASIF

Le changement d'attitude suite à un discours persuasif varie en fonction de plusieurs facteurs, dont l'ordre dans lequel les messages sont présentés. En effet, de nombreuses études montrent un effet de récence : lorsqu'on est confronté à un message, et quelques temps plus tard à un autre, c'est le message entendu le dernier qui a le plus d'influence.

Dans une expérience, des auteurs donnaient à des étudiants une transcription d'un procès en cour civile contenant un dossier avec les arguments du plaignant, un autre avec ceux de la défense. Ils leur donnaient d'abord un seul des dossiers. Une semaine plus tard, on leur donnait l'autre dossier. Puis on leur demandait de se positionner du côté du plaignant ou de celui de la défense. Les auteurs observent un effet de récence : les sujets se rangent plus du côté de celui duquel ils ont lu les arguments en dernier.

Une explication de cet effet peut-être que les éléments seraient stockés dans la mémoire à court terme, mémoire qui serait comme un magasin ou une registre doté d'une capacité limitée. Dans ce registre seraient conservés les éléments les plus récents. Par manque de place, les éléments les plus anciens en seraient peu à peu chassés.

LE JUGEMENT SOCIAL

La manière dont les individus jugent et évaluent leur entourage dépend du contexte dans lequel ils se trouvent quand ils émettent leur jugement. Certaines études montrent que la présentation de certains traits (ex : aventureux vs. insouciant), modifie la manière dont est jugée une personne ultérieurement. La présentation de traits positifs entraînerait une évaluation plus négative et vice versa. C'est l'effet de contraste.

Dans une étude, on présentait à des sujets des traits (« aventureux, persévérant, sûr de soi, indépendant » ; ou « insouciant, obstiné, prétentieux, renfermé »). Dans la même expérience, on demandait ensuite aux sujets de rappeler le trait qu'ils venaient de voir, puis de donner un jugement sur le personnage d'une histoire (personnage décrit comme avide de sensations fortes, pratiquant des sports tels que la descente de rapides, le vol libre, etc). Cette étude montre que le jugement est fortement biaisé par les mots présentés lors de la première phase. Les sujets évaluent en effet plus positivement le personnage lorsque durant la première phase, les traits présentés étaient « insouciant, obstiné, prétentieux, renfermé » (traits négatifs), que lorsqu'il s'agissait des traits : « aventureux, persévérant, sûr de soi, indépendant » (traits positifs). Pour résumer, lorsqu'on leur avait initialement présenté des mots positifs, leur jugement était plus négatif, d'où le terme d'effet de contraste.

D'après les auteurs, ceci est dû au fait que les individus cherchent à s'assurer que leur jugement ne dépend pas des informations auxquelles ils ont été confrontés auparavant. Autrement dit, lorsqu'ils pensent que certaines connaissances peuvent biaiser leur jugement, ils évitent de les utiliser.

6. Mode of Conflict Regulation, Study 1.3. (also in 2.1., 2.3., Pilot Study)

Lorsque vous avez discuté avec votre partenaire, dans quelle mesure avez-vous... :							
	Pas du tout						Tout à fait
...résisté et maintenu votre position initiale ?	1	2	3	4	5	6	7
...pensé que la réponse de l'autre étudiant était plus correcte que la vôtre ?	1	2	3	4	5	6	7
...tenté de conformer votre opinion à celle de l'autre étudiant ?	1	2	3	4	5	6	7
...tenté de montrer que l'autre étudiant avait tort ?	1	2	3	4	5	6	7
...accepté la vision des choses de l'autre étudiant ?	1	2	3	4	5	6	7
...tenté de montrer que vous aviez raison ?	1	2	3	4	5	6	7

7. (Bogus) Multiple-Choice Questionnaire, Study 2.3. (also used in 2.4.)

Avant de commencer la tâche, nous aimerions **évaluer vos connaissances en psychopathologie**. Même si elles vous semblent complexes, merci de répondre aux questions suivantes, **sans vous aider d'Internet**. Vos réponses nous permettront de connaître **niveau de compétence par rapport à celui de votre partenaire**.

* Laquelle (ou lesquelles) de ces manifestations s'avère(nt) typique(s) d'un syndrome maniaque (= état d'excitation pathologique) :

Cachez la ou les réponses

- Achats irréflechis
- Anxiété
- Tachypsychie (= Fuite des idées)
- Automatismes mentaux
- Hyperactivité motrice

* Lequel (ou lesquels) des traitements suivants se montre(nt) efficace(s) contre les affections graves de dépression (type mélancolie) :

Cachez la ou les réponses

- Les thérapies cognitives et comportementales
- Les anxiolytiques (ex.: benzodiazépine)
- Une dose importante d'antidépresseurs (ex.: antidépresseurs tricycliques).
- La sophrologie
- Les sismothérapies (= électrochocs)

* Quel(s) signes est (sont) révélateur(s) d'un risque de passage à l'acte chez un individu ayant des pensées suicidaires :

Cachez la ou les réponses

- Antécédents familiaux de tentatives de suicide
- Intention verbalisée de suicide durant l'entretien psychothérapeutique
- Antécédents personnels de tentatives de suicide
- Absence de soutien social et/ou affectif
- Hallucinations de type impératives

* Parmi les manifestations suivantes, laquelle (ou lesquelles) renvoie(nt) aux symptômes négatifs de la schizophrénie :

Cachez la ou les réponses

- Délires mystiques
- Apragmatisme (= incapacité à entreprendre des actions)
- Diminution des performances scolaires
- Hallucinations auditives
- Affects émoussés (= diminution des réactions émotionnelles)

8. Text Describing Bipolar Disorder, Study 2.3.

LE TROUBLE BIPOLAIRE

QU'EST-CE QUE LE TROUBLE BIPOLAIRE ?

Le trouble bipolaire est une maladie touchant la régulation de l'humeur. Les personnes qui en souffrent sont sujettes à **des fluctuations excessives de l'humeur**. Elles oscillent entre deux types de phase :

1. LES PHASES HAUTES (« hypomanie » ou « état maniaque ») : elles correspondent à des périodes où l'humeur est anormalement élevée, persistante, expansive. Exemples de symptômes : idées de grandeur, réduction du besoin de sommeil, agitation psychomotrice...

2. LES PHASES BASSES (« état dépressif ») : elles correspondent à des périodes où l'humeur est anormalement diminuée. Exemples de symptômes : réduction de l'intérêt et du plaisir dans les activités, perte d'énergie, fatigue...

PRÉVALENCE ET TRAITEMENTS

Le trouble bipolaire touche de 2 % à 6 % de la population.

Les traitements sont à la fois médicamenteux (stabilisateurs de l'humeur, neuroleptiques...) et psychothérapeutiques.

9. (Bogus) Partner's Reply, Study 2.3.

9.1. Nurture-Based Reply

Merci de nous donner votre opinion sur le caractère du trouble bipolaire 	
Inné <input type="radio"/>	Acquis <input type="radio"/>
Merci de justifier votre réponse puis d'appuyer sur " envoyer " <small>(votre justification devra contenir 20 caractères minimum)</small>	
<div style="border: 1px solid black; padding: 5px;"><p>Moi je pense que c'est inné. Je veux dire, on naît comme ça, c'est héréditaire, c'est dans les gènes. D'ailleurs on a beaucoup plus de chances d'avoir un trouble bipolaire si un de nos parents en souffre aussi.</p></div>	

9.2. Nature-Based Reply

Merci de nous donner votre opinion sur le caractère du trouble bipolaire 	
Inné <input type="radio"/>	Acquis <input type="radio"/>
Merci de justifier votre réponse puis d'appuyer sur " envoyer " <small>(votre justification devra contenir 20 caractères minimum)</small>	
<div style="border: 1px solid black; padding: 5px;"><p>Moi je pense que c'est acquis. Je veux dire, on devient comme ça, c'est environnemental, c'est par rapport à ce qu'on vit. D'ailleurs on a beaucoup plus de chances d'avoir un trouble bipolaire si on vit dans un milieu stressant.</p></div>	

10. Text Describing Alzheimer's Diseases, Study 2.4.

10.1. Text in Favor of a Biological Explanation

La maladie d'Alzheimer

Vingt-six millions de personnes sur Terre sont atteintes de la maladie d'Alzheimer. Considérée comme le « *fléau du XXIème siècle* », cette maladie neurodégénérative du tissu cérébral se déclare généralement vers 65 ans. Elle entraîne une perte progressive des fonctions mentales et notamment de la mémoire.

Cause de la maladie : Facteurs génétiques

De nombreux scientifiques soutiennent que la présence de l'allèle 4 du gène codant pour l'apolipoprotéine E aurait un impact sur le développement de la maladie d'Alzheimer. En 1993, il a été démontré que la présence de cet allèle prédisait significativement la survenue de la maladie. Plus récemment, les rôles de deux autres gènes ont été mis en évidence comme facteur de risque. On parle de « *facteurs génétiques* ».

10.2. Text in Favor of an Environmental Explanation

La maladie d'Alzheimer

Vingt-six millions de personnes sur Terre sont atteintes de la maladie d'Alzheimer. Considérée comme le « *fléau du XXIème siècle* », cette maladie neurodégénérative du tissu cérébral se déclare généralement vers 65 ans. Elle entraîne une perte progressive des fonctions mentales et notamment de la mémoire.

Cause de la maladie : Facteurs environnementaux

De nombreux scientifiques soutiennent que le mode de vie du sujet aurait un impact sur le développement de la maladie d'Alzheimer. En 1994, il a été démontré qu'un faible niveau d'éducation prédisait significativement la survenue de la maladie. Plus récemment, l'importance du réseau social, du statut matrimonial, et des pratiques d'activités de loisir ont été mis en évidence comme facteur amoindrissant le risque. On parle de « *facteurs environnementaux* ».