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Supported, detached, or marginalized? The ambivalent role of social capital on stress at work

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1. Introduction

Stress in organizational settings is a critical concern for employers, due to its detrimental effects, such as increased absenteeism, reduced job performance, and higher turnover (Rodríguez et al., 2001). This psychological state results from unpleasant events at work (stressors), which employees perceive as excessive in relation to their available resources (Cox & Griffiths, 2005; Haslam et al., 2005). A key environmental feature that determines stress levels in work settings is social relationships with colleagues (Lindorff, 2001). Earlier work that studied their role mostly looked at the mere presence of supportive relationships within an employee's own personal network (Fenlason & Beehr, 1994). The clear influence of relationships with colleagues thus raises another pertinent question: Which specific configurations of relationships are most desirable for ensuring employee well-being?

To address this question, we adopt a social capital perspective, with a somewhat novel application. We propose a model of work stress as a function of the two fundamental dimensions of social capital, relational and structural (Inkpen & Tsang, 2005). In line with existing stress research (Viswesvaran et al., 1999), we anticipate that through the relational dimension, stronger, higher-quality ties offer employees more support, which enables them to cope with stressful situations (Fuemmeller et al., 2006). When we turn to the structural dimension though, we realize that far less research attention addresses its relation to well-being (cf. Lin et al., 1999; Zhu et al., 2013). To establish some initial insights, we focus on one relevant element of the structural dimension, namely, the extent to which an employee's social relationships entail bridging ties (i.e., ties to colleagues who work in other departments).

In addressing this potential determinant, we nuance the conventional arguments that bridging ties boost access to valuable resources, as commonly used to explain instrumental outcomes (e.g., task effectiveness, career success, see for example Cross & Cummings, 2004;

Tortoriello & Krackhardt, 2010). We argue that they do not apply when the access to psychological resources, and ultimately well-being, are at study. We predict that bridging ties may be ambivalent for well-being, because the resources they provide come from a source that is relatively distant (if not totally detached) from the focal employee's most proximal work environment, whence most stressors usually emerge. This distance then can create dual, contradictory mechanisms. At a cognitive level, by exposing the employee to outsiders' frames of reference or interpretations, bridging ties facilitate self-distancing and psychological detachment, which helps mitigate the effect of negative experiences or emotions (Ayduk & Kross, 2008, 2010; Sonnentag & Fritz, 2015; Yang & Kelly, 2016). At a social level, though, a focal employee with a prevalence of ties outside the work group (bridging ties) might be categorized by proximal colleagues as an outgroup member, with limited shared identity (Goldberg et al., 2016). Colleagues will thus offer less social support, which implies heightened stress for the focal employee (Haslam et al., 2005).

In our proposed integrative model, the structural and relational dimensions of social capital both influence stress. We test it with a field study, involving 343 employees at a Lebanese mid-sized company (Study 1), then provide further empirical support for the proposed mechanisms to account for the dual effects of bridging ties with two scenario-based experiments conducted among nonstudent UK residents (Studies 2 and 3).

2. Theoretical development

2.1. Toward a social capital perspective on stress

Social relationships and interactions with colleagues provide resources to help people cope with stressful situations (S. Cohen & Pressman, 2004; Fenlason & Beehr, 1994). Colleagues might show concern, listen sympathetically, or give tangible assistance, advice, or knowledge; they also can offer back-up, share work-related stories, and create a fun atmosphere (Fenlason & Beehr, 1994). They might propose solutions, minimize the

importance of problems, and encourage healthy behaviors (S. Cohen & Pressman, 2004; House, 1981). Even the mere perception that others seem ready to help can reduce work stress (S. Cohen & Pressman, 2004). Considering the clear evidence of the social underpinnings of stress, it is surprising that prior stress studies have not relied more on the concept of social capital, which highlights the “value of connections” (Borgatti & Foster, 2003, p. 993). One explanation may be that social capital, as a concept, initially served mainly to explain instrumental outcomes (e.g., career success, productivity) and “the differential success of individuals and firms in their competitive rivalry” (Adler & Kwon, 2002, p. 19). The core idea is that, just as human capital can be enhanced by education and training, social capital depends on idiosyncratic configurations (i.e., type, form, and composition) of individual personal relationships, which also determine its returns.

In a purposeful divergence from most prior research on social capital (e.g., Seibert et al., 2001), we suggest that these returns might extend beyond instrumental outcomes to include well-being, because “it is the meaning constructed by a person about what is happening that is crucial to the arousal of stress reactions” (Lazarus, 1999, p. 55). This vision of stress as socially shaped (Haslam et al., 2005) resonates with network studies that show that the configuration of social ties around employees shape a range of perceptual constructs, such as a sense of potency (Tröster et al., 2014), beliefs about the psychological contract (Ho et al., 2006), perceived role demands (Methot et al., 2016), role overload, and role ambiguity (Cullen et al., 2015). We go a step further by integrating social capital into a model of work stress.

2.2. Two dimensions of social capital: relational and structural

The relational dimension of social capital refers to the quality of the relationships (Inkpen & Tsang, 2005; Levin et al., 2016), which in turn determines the amount of resources that can flow through social ties, as well as the mutual binding involved; higher quality

relationships feature greater willingness to assist and tighter constraints on action for all parties (Granovetter, 1983). The structural dimension instead refers to the overall “architecture” of social ties and how they are arranged around a focal employee. Some network structures provide access to a greater variety of socially distant others. Other structures are denser and smaller, embedding the focal actor in a clique of people who all know one another, with only limited connections beyond their well-known contacts (Burt, 2005). The strength of weak ties theory, in its early formulation (Granovetter, 1973), proposes that weak ties (relational feature) are more likely than strong ties to bridge disconnected clusters of people (structural feature). However, further work has provided both theoretical and empirical evidence that strong ties can be bridging ties (e.g., Baer, 2010; Levin et al., 2016; McFadyen et al., 2009; Rost, 2011). We also explicitly note that the relational and structural dimensions of social capital are conceptually and empirically independent, such that their impacts move through distinct mechanisms (Levin et al., 2016). Accordingly, we develop hypotheses about their unique roles in relation to work stress.

2.2.1 Relational dimension of social capital: Strength of ties and stress

The strength of ties is a multifaceted concept, combining the “amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services” between two persons (Granovetter, 1973, p. 1361). Strong ties offer more and better social support, for several reasons. First, they “have greater motivation to be of assistance and are typically more easily available” (Granovetter, 1983, p. 209). Close contacts may feel an urge or obligation to help others (Wellman, 1992). Supportive interactions therefore should be more frequent if they involve a strong tie; the time and energy devoted to them by the supportive colleague also should be higher, resulting in greater levels of social support. Second, the quality of the supportive resources conveyed through strong ties should be higher than through weak ties. Strong ties favor more mutual confiding, which can be particularly valuable for employees

who face difficult work situations (Gibbons, 2004). Through strong ties, employees can openly share their difficulties and frustration, without worrying too much that the information will be used to their detriment in the future. Weak ties instead require more restraint during social interactions, as well as less self-exposure and transparency when confiding information, because reciprocity is not guaranteed (Granovetter, 1973). Therefore, weak ties are less able to activate the support that potentially is embedded in the relationship. Third, strong ties feature mutual awareness (Borgatti & Cross, 2003). Coworkers with strong ties to a focal employee know about his or her work context, needs, and personality, such that they are in a better position to tailor their support and provide effective support. For example, a coworker who knows the focal employee's background and profile can emphasize his or her strengths and prior work achievements (Wang & Seifert, 2017). Together, these arguments lead us to hypothesize:

Hypothesis 1: Network strength indirectly reduces perceived stress through perceived coworker social support, such that greater network strength increases perceived coworker social support, which then decreases perceived stress.

2.2.2. Structural dimension of social capital: Bridging ties and stress

Bridging ties. Bridging ties are ties that connect a focal employee to a distant work context. Depending on their research objectives, scholars have conceptualized them as connections to people in other business units (Shah et al., 2018; Shipilov et al., 2014), in other industries (Lin et al., 2001), or with different expertise (Rodan & Galunic, 2004) or working in a different physical location (Cross & Cummings, 2004). For this research, we focus on connections that bridge intra-organizational boundaries, which is relevant for studying well-being, because organizational sub-units usually have distinct shared meanings and experience different types of pressure exerted on their members (Tortoriello & Krackhardt, 2010). A work group also usually adopts a specific shared social identity, which

coexists with a broader, superordinate organizational identity (van Knippenberg & van Schie, 2000). Thus, whether an employee maintains most personal relationships outside or inside his or her organizational unit should substantially affect perceptions of the work environment. In particular, we theorize that bridging ties separate an employee from the immediate work environment, both mentally (cognitive effect) and socially (social effect), with contradictory outcomes on work stress.

Cognitive effect: self-distancing and psychological detachment. Vast literature cites a "brokerage advantage" (Burt, 2005), such that bridging ties offer exposure and access to broader information, resulting in greater creativity due to unique combinations of information (Burt, 2005; Rodan & Galunic, 2004). Studies also detail how people in such network positions tend to go through specific psychological processes (Burt et al., 1998). Brokers are in a better position to learn how to navigate change and discrepancies in their work environment (Burt et al., 1998). In dealing with different cliques that apply distinct norms of interaction and have different behavior expectations, they gain a greater ability to adapt to distinct social circles (Oh & Kilduff, 2008). Similarly, brokers usually are more open to change and prone to living new experiences (Fang et al., 2015). Such insights ground our argument that, by interacting mainly with outsiders, beyond their local work context, employees with bridging ties may be better equipped to adopt "decentered" viewpoints and multiple perspectives on their work situation. This distancing and perspective-taking mechanism, in clinical psychology, represents a critical tactic for dealing with stressful circumstances (Katzir & Eyal, 2013; Lefcourt et al., 1995; Yasinski et al., 2016). In addition to self-distancing, which means looking at the work context differently, socialization outside the most proximate work context also might provide distraction from that context. Such distraction facilitates psychological detachment, i.e. "mentally disengaging from work" (Sonnentag & Fritz, 2015: 72), another element known for reducing the impact of stressors. If

employees' social world instead is limited to a proximate, homogeneous cluster of others who share the same work context and encounter similar conditions, they have limited opportunities for self-distancing and fewer chances to distract themselves from the stressful work context. These employees are thus more likely to adopt a self-immersed perspective, which generally does not allow for adaptive emotional processing of difficult situations (Katzir & Eyal, 2013) and instead prompts "rumination thought styles" (Yasinski et al., 2016). We thus hypothesize:

Hypothesis 2: Bridging ties reduce perceived stress.

Social effect: marginalization. While abundant evidence shows that bridging ties help to acquire highly instrumental resources (i.e. technical knowledge, career advice, etc.), a growing body of research suggests that, on the other hand, they might be detrimental in terms of access to more psychological resources. People with most of their ties outside the immediate work group tend to be perceived by their co-workers as "standing on two boats" (Xiao & Tsui, 2007, p. 5) which entails greater chances that they face disagreement or social rejection by their co-workers. The latter tend to doubt their motives and find it difficult to trust them (Fleming & Waguespack, 2007), because their social position might enable their opportunism, based on information asymmetries (Soda et al., 2019). In a study of "clan-like" organizations, in which norms emphasize a sense of common identity and concern for group cohesion, Xiao and Tsui (2007) find that members who bridge different social cliques through their personal ties have more difficulty climbing the career ladder, seemingly because their colleagues suspect them of pursuing self-interests rather than group-level common interests and cohesion. In boundary spanning literature, commitment to relationships outside the main group also appears to undermine group membership and socially marginalize the boundary spanners (Kane & Levina, 2017; Levina & Vaast, 2005).

Scholars have pointed to identity theories as a promising vehicle for understanding such marginalization. They note that a network position not only provides a person with resources but also signals which social worlds that person identifies with (Goldberg et al., 2016; Podolny & Baron, 1997) and that “being anchored in multiple social worlds (...) implies projecting an incoherent social identity” (Goldberg et al., 2016: 7). Employees constantly interpret the behaviors of members of their smallest, everyday work unit (Ashforth et al., 2011) according to whether it confirms their membership in the same social group (Turner, 1985). It is this categorization process that leads a person to exhibit “differential thinking, feeling, and behaving toward in-group and out-group members” (Gaertner et al., 2000: 100). The positive bias stemming from categorizing someone as ingroup member facilitates empathy and prosocial behaviors; colleagues tend to feel greater obligation of support towards ingroup than outgroup members (Gaertner et al., 2000; Levine et al., 2005). If an employee relies mostly on outsiders, rather than ingroup colleagues, for socialization, the latter likely categorize that employee as an outsider and are less prone to offer support to her or him (Haslam et al., 2005; Haslam & Reicher, 2006). In turn, we hypothesize:

Hypothesis 3: Bridging ties indirectly increase perceived stress through perceived coworker social support, such that greater bridging ties decrease perceived coworker social support, which then increases perceived stress.

To test these hypotheses and establish evidence for the underlying mechanisms, we conduct three studies. Study 1 is a correlational study testing the effects of the relational and structural dimensions of social capital on stress. Then Studies 2 and 3 involve scenario-based experiments, with which we seek further evidence of self-distancing/detachment and marginalization effects, respectively, of bridging ties.

3. Study 1: effect of relational and structural dimensions of social capital on stress

3.1. Participants and procedure

The Study 1 respondents all work for a midsize company in Lebanon that sells IT services to local and multinational companies in a wide array of sectors. With the support of the head of human resources, all 418 employees received the survey, and 343 participated (82%). Their average age was 32.7 years; 24% of the respondents had worked for the firm for less than a year, 33% for 2–3 years, 24% indicated tenures of 4–10 years, and 19% had worked there for 10 years or more. Female employees account for 31% of the sample.¹

The survey included a section pertaining to social relationships, across the company. We used free recall questions that ask respondents to list the names of their contacts (Marin, 2004), contained in two name generators, then collapsed all names elicited into one list of social ties, as recommended by Burt (1997). Both name generators were adapted from Ibarra (1995): “Among your colleagues, with whom do you interact socially outside work premises (social activities, family gatherings, cinema, etc.)?” and “Suppose you faced an important situation or problem at work and you needed advice, whom among your colleagues would you go to?” Respondents were free to name as many contacts as they wished (observed min = 1, observed max = 25). From the first and last names of the contacts elicited by all respondents, we derived an integrative socio-matrix of ties among all employees, which represents an adjacency matrix in network parlance (Knoke & Yang, 2008). In addition, the survey included measures of perceived occupational stress, coworker social support, and several covariates, as detailed next.

3.2. Measures

Although central to network research (Granovetter, 1973), the concept of the strength of ties also has been subject to various measurement approaches. Following Marsden and Campbell (1984), we measure tie strength as emotional closeness. That is, respondents

¹ Although we obtained education data from the human resources department, they were available for only 44.9% of respondents. Nearly 95% of this segment had at least a bachelor’s degree, and 64.5% earned a master’s degree.

evaluated, on a 5-point scale, how close they felt to each of the persons they had named (1 = very distant; 5 = especially close). In the adjacency matrix, a cell a_{ij} contains the score of the emotional closeness perceived by employee i toward employee j . Network strength then equals the sum of the tie strengths for each focal respondent to all others in the network (Knoke & Yang, 2008).

Similar to Tortoriello and Krackhardt (2010), we measure bridging ties with the E/I index, defined as $(E_i - I_i)/(E_i + I_i)$ where, for each respondent i , I is the number of ties within the same department and E the number of ties beyond department boundaries. The EI index values range from -1 (all ties internal) to $+1$ (all ties external to the department).

For perceived occupational stress, we used three items from the Perceived Stress Scale (S. Cohen et al., 1983; S. Cohen & Williamson, 1988), which is designed to measure the degree to which, in a recent period, respondents perceive situations as stressful (e.g., “In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?”) On the 5-point scale (1 = never; 5 = very often), higher scores indicate more perceived stress.

To assess perceived coworker social support, we use a four-item, 5-point (1 = strongly disagree; 5 = strongly agree) sub-scale from the Job Content Questionnaire (Karasek et al., 1998), consistent with several prior stress studies (Achat et al., 2000; Bradley & Cartwright, 2002). The items ask for respondents’ level of agreement with descriptions of coworkers’ behavior (e.g., “friendly,” “interested in me”).

We control for psychological job demands, job control, and supervisor support, which are conventional elements in standard stress models (Johnson & Hall, 1988), to ensure the internal validity of our model. All three elements were measured with sub-dimensions of the Job Content Questionnaire (Karasek et al., 1998), based on items capturing participants’ agreement with descriptions of their work (5-point scale). Specifically, psychological job

demands reflect the level of time pressure and role conflicts endured at work (e.g., “enough time,” “conflicting demands”). The measure of job control combines two highly correlated sub-dimensions, consistent with prior studies (e.g., Bosma et al., 1997; Lourel et al., 2008): skill discretion (perceived degrees to which creativity and skills are required in the respondents’ job and to which they can decide what skills to mobilize, e.g. “high skill level”) and decision authority (perceived ability to make decisions, e.g., “allows own decisions”). For supervisor support, respondents indicate their level of agreement with descriptions of their supervisor's behavior, consistent with Karasek et al. (1998; e.g., “pays attention to what I am saying”). Finally, because stress also depends on demographics (Ng & Sorensen, 2008), we control for gender, seniority, and age.

3.3. Results

3.3.1. Analysis with partial least squares

We rely on partial least squares (PLS), a structural equation modeling (SEM) technique that is not limited to theory development but that is also suitable for confirmatory research (Rigdon, 2016; Šerić et al., 2020). As Sarstedt et al. (2016) recommend, we checked to confirm that PLS is more appropriate than covariance-based SEM, noting the composite-based nature of our data.² Analyses were conducted in SmartPLS 3 (Ringle et al., 2015) and entailed two steps: validate the measurement model and assess the explanatory and predictive power of the structural model.

All the latent variables in the model are reflective. Thus, we first check for the convergent and discriminant validity of the measurement model (Gefen & Straub, 2005). All

² We used the standardized root mean square residual (SRMR) indice to check the nature of the data. The SRMR value for our measurement model is above the threshold of .08, which indicates a misspecified common-based factor model and suggests that our data follows a composite model (Sarstedt et al., 2016). We also analyzed the data using covariance based SEM (CB SEM) as well as Path Analysis and the significance level of the main structural results are preserved across methods (with one exception: the relationship between coworker social support and perceived stress is marginally significant when using CB SEM). Yet the fit indices for the CB SEM model clearly don't reach the recommended thresholds, a feature that is consistent with the composite nature of our data.

the items that measure the latent variables load significantly on the appropriate construct, indicating adequate convergent validity. Furthermore, the average variance extracted (AVE) values all are near the recommended threshold of .5, and the construct measures show adequate internal consistency. The composite reliabilities are greater than the recommended level of .7 (Nunnally, 1978). These analyses indicate the adequate construct validity and reliability of the measures (Table 1).

< Please insert Table 1 about here >

To examine discriminant validity, we use the factor loadings and cross-loadings; all the items load strongly on their theoretically assigned factors, at values greater than .5, and do not cross-load on other factors (Appendix A). The square root of the AVE for each construct is greater than its correlation with any other constructs in the analysis (Table 2), in further support for discriminant validity.

< Please insert Table 2 about here >

Table 3 present the structural model. Figure 1 includes the path coefficients and significance levels, obtained through bootstrap (N = 500) sampling procedures for each path. The R-square values for the dependent constructs range from .084 for coworker social support to .23 for perceived stress; the Q-square is positive for both dependent variables and offers good predictive relevance (Table 3).

Consistent with established models of stress (Viswesvaran et al., 1999), we find that coworker social support has a negative effect on stress ($\beta = -.112, p = .027$). Among the control variables, job characteristics have the expected effects on stress: positive for job demands ($\beta = .172, p = .001$) and negative for job control ($\beta = -.295, p < .001$). Supervisor support, gender, seniority, and age do not have any significant influences on perceived stress (Table 3).

< Please insert Table 3 about here >

Preacher and Hayes (2008, p. 886) recommend obtaining “confidence limits for specific indirect effects under most conditions,” so we also test our hypothesis using bootstrap methods. Then, to identify the mediation effects, we apply the three-step procedure suggested by Zhao et al. (2010), as we detail next.

3.3.2. Mediation effects of coworker social support

On the relation between network strength and perceived occupational stress. A bootstrap test indicates the value and significance of the indirect effect of network strength as the independent variable (IV), on perceived occupational stress as the dependent variable (DV), through coworker social support as the mediator (M). The results of the statistical analyses in Table 4 indicate a significant indirect effect ($a \times b = -.028, p = .043$). That is, coworker social support mediates the negative relationship between network strength and perceived occupational stress. The direct link between network strength and perceived occupational stress is non-significant ($\beta = -.059, p = .116$), so we encounter indirect-only mediation (Zhao et al., 2010). The negative and significant indirect effect of network strength on perceived stress through coworker social support, the positive and significant effect of network strength on perceived coworker social support ($\beta = .254, p < .001$), and the negative and significant effect of perceived coworker social support on perceived stress ($\beta = -.112, p = .027$) combine to provide support for H1.

< Please insert Table 4 about here >

On the relation between bridging ties and perceived occupational stress. The indirect effect of bridging ties on perceived occupational stress through coworker social support is positive and significant ($a \times b = .018, p = .046$), in support of a mediating effect of coworker social support. Next, with regard to the type of mediation, we note that the direct link between bridging ties (IV) and perceived occupational stress (DV) is significant and negative ($\beta = -.123, p = .007$), with a sign opposite that of the indirect effect. This result supports the

cognitive effect predicted in H2 and suggests that we are dealing with competitive mediation (Zhao et al., 2010). Given the mediating effect of coworker social support on the link between bridging ties and perceived stress and the negative effect of bridging ties on coworker social support, in line with the theorized marginalization mechanism ($\beta = -.162, p = .001$), we also find support for H3.

Although we controlled for several factors when testing the effect of both network strength and bridging ties on coworker social support in Study 1, none of the variables was manipulated, so we cannot completely rule out other latent confounding factors. Furthermore, our theoretical argument that the relational dimension of social capital affects stress through social support reflects established findings (Lin et al., 1999), whereas our arguments pertaining to the structural dimensions are relatively novel, such that they require further confirmation. **Therefore, with Studies 2 and 3, in search of additional evidence of self-distancing/detachment and marginalization effects of bridging ties, we conduct online, scenario-based experiments in which we manipulate the level of bridging ties. For both studies, we recruit nonstudent adults, living in the United Kingdom, from the Prolific Academic platform (www.prolific.ac).**

4. Study 2: further evidence of the cognitive effects of bridging ties

With Study 2, we seek causal evidence of the mitigating effect of bridging ties on stress through cognitive processes. In particular, and in line with our arguments for H2, we investigate the influences of self-distancing and psychological detachment from work.

4.1. Participants and procedure

In this scenario-based experiment, 289 nonstudent adults living in the United Kingdom (99 men, 190 women, $M_{\text{age}} = 40.3$ years) completed the study in exchange for .70 pounds. The experiment features a 2 (bridging ties: no, yes) between-subject design. We had to exclude 52 participants who failed attention checks (at the end of the survey, they could

not remember how many persons they interacted with in the scenario), as well as one clear outlier (3.5 *SD* above the mean), which left 236 participants for the analyses.³ All participants were asked to imagine that they worked for a medium-sized company and worried about the quality of a project they would have to deliver shortly; they also were randomly assigned to one of the two scenarios (Appendix B) that described them interacting with people either within or outside their work team. After reading the assigned scenario, participants were asked to briefly write down their thoughts, then rate their level of perceived stress due to the project deadline, self-distancing, and psychological detachment from work. Such scenarios have been used frequently to study mental and behavioral processes (Evans et al., 2015), because they provide appropriate control, standardization, and means to focus participants' attention on important factors (Alexander & Becker, 1978). Reassuringly, observations in scenario-based experiments hold up in real life (Murphy et al., 1986).

4.2. Measures

Consistent with prior stress studies that use experimental designs (e.g., Crescentini et al., 2016; Salzman et al., 2018), we measure perceived stress about the project deadline with one item, adapted from Howland et al. (2017): “Please indicate how you would feel regarding your project deadline” (1 = not stressed; 9 = very stressed). The level of self-distancing also uses a single-item measure, from (Ayduk & Kross, 2010) : “Indicate the extent to which you saw the previous situation (described in the scenario) through your own eyes versus watched the situation unfold as an external observer” (1 = I saw the situation through my own eyes; 9 = I saw the situation as an external observer). The level of psychological detachment from work was assessed with three 7-point Likert scale items, adapted from Sonnentag and Fritz (2007): “Consider now the end of that work day. When you come home, how much do you

³ When we analyze the data from all participants, the results remain stable, except that one marginally significant result becomes non-significant.

agree or disagree with each statement”: “I will forget about work,” “I won't think about work at all,” and “I will get a break from the demands of work” ($\alpha = .82$). Finally, participants provided their demographic information.

4.3. Results

A *t*-test for stress confirms that participants express lower perceived stress over the project deadline when they have bridging ties ($M = 6.62$) compared with ties only within the same work team ($M = 7.17$, $t(234) = 3.03$, $p < .01$). This finding indicates that bridging ties reduce perceived stress, in further support for H2. The *t*-test for self-distancing also indicates that participants take more distance (i.e., perceive the situation more as an external observer) when they have interacted with bridging ties ($M = 4.19$) instead of people from their own work team ($M = 3.52$, $t(234) = 2.12$, $p < .05$). Similarly, the *t*-test for psychological detachment shows that they are (marginally) more detached in the bridging ties condition ($M = 2.77$) than in the non-bridging ties condition ($M = 2.49$, $t(234) = 1.63$, $p = .10$). These results suggest that self-distancing and/or psychological detachment from work may mediate the relationship between bridging ties and perceived stress.

To assess mediation, we conducted a bias-corrected bootstrap mediation analysis, with 10,000 bootstraps, in the regression-based PROCESS tool for SPSS (Hayes, 2013). The DV is perceived stress, the IV is the bridging ties condition (no bridging ties = 0, bridging ties = 1), and the mediators are self-distancing and psychological detachment from work. We first test simple mediation models with each putative mediator, then test serial mediation models. From the simple mediation models, we obtain confirmatory evidence of mediation by self-distancing (95% confidence interval [CI] for the indirect effect [-.07] excludes 0 [-.1810, -.0027]), but we cannot confirm the mediation of psychological detachment from work (95% CI = [-.1964, .0161], includes 0). Interestingly, we find evidence of serial mediation when we enter self-distancing as the first mediator and psychological detachment as the second (95%

CI = [-.0509, -.0005]). The alternative path, in which we reverse the order of the two mediators, is not significant (95% CI = [-.0262, .0017]). Thus, bridging ties appear to decrease perceived stress because they facilitate self-distancing, which in turn leads to greater psychological detachment from work.

5. Study 3: further evidence of the marginalization effect

With Study 3, we seek causal evidence of the negative effect of bridging ties on coworker social support, which we have argued is due to social identification processes (i.e., that work group identification mediates the relationship between bridging ties and coworker social support). More specifically, we expected that employees with more, compared with fewer, bridging ties should be perceived by their colleagues as exhibiting weaker identification with the work unit and that consequently their colleagues should be less likely to provide them with social support.

5.1. Participants and procedure

Similar to Study 2, we use a scenario-based 2 (bridging ties: no, yes) between-subject design. To test whether colleagues make inferences about a focal employee's social identity and provide support accordingly, this scenario asks participants to imagine the behavior of a member of their work team, not their own behavior (Appendix C)⁴. The 245 nonstudent adult participants (57 men, 188 women, $M_{\text{age}} = 36.6$ years) participated in exchange for .70 pounds. We excluded 19 participants who failed the attention checks (at the end of the survey, they failed to remember whether the person described in the scenario was a member of their work team), leaving 226 participants for analyses. Participants had to imagine that they worked for a medium-sized company. Peter, a member of their work team, was described as having ties either within or outside the work team (bridging ties). After reading the scenario, participants briefly wrote down their thoughts about Peter. They then rated the social support they would

⁴ This focus on colleagues' behavior makes an assessment of perceived stress logically pointless.

be ready to provide Peter and the extent to which they perceived that Peter identifies with the work team.

5.2.Measures

Participants rated the social support they would be ready to provide Peter on six 7-point Likert scale items, adapted from Karasek et al. (1998) and Hayton et al. (2012), such as “I would be friendly to Peter,” “I would be helpful to Peter in getting his job done,” ; “I really care about the well-being of Peter”; “I am willing to extend myself in order to help Peter perform his job the best he can”; “I care about Peter's general satisfaction at work”; “I care about Peter's opinion” ($\alpha = .88$). Participants also rated the extent to which they perceived that Peter identifies with the work team on four 7-point Likert scale items adapted from Van der Vegt and Bunderson (2005): “Peter feels a strong sense of belonging to our team”; “Peter feels emotionally attached to our team”; “Peter feels like part of the family in our team”; “Peter feels as if the team’s problems are his own” ($\alpha = .93$). Finally, participants provided their demographic information.

5.3.Results

A *t*-test for social support confirms that the participants are less willing to help Peter when he has bridging ties ($M = 5.32$), compared with when he has ties only within the work team ($M = 5.57$, $t(224) = 1.97$, $p < .05$). That is, bridging ties have a negative impact on others’ willingness to provide social support. The *t*-test for team identification further indicates that participants believe that Peter identifies less with the work team in the bridging ties condition ($M = 3.92$) compared with the non-bridging ties condition ($M = 5.14$, $t(224) = 7.50$, $p < .001$). Perceived team identification thus could mediate the relationship between bridging ties condition and social support.

To assess this mediation, we again conducted a bias-corrected bootstrap mediation analysis with 10,000 bootstraps in the PROCESS tool for SPSS (Hayes, 2013). The DV is

social support, the IV is the bridging ties condition (no bridging ties = 0, bridging ties = 1), and the mediator is perceived team identification. The CI for the indirect effect (-.45) excludes 0 (95% CI = [-.6658, -.3000]), which provides evidence of mediation by perceived team identification. Because the direct effect is non-significant ($p = .11$), the negative effect of bridging ties on social support can be entirely explained by its negative effect on perceived team identification.

The scenarios describe a supportive, positive work environment, which may limit the induced potential for stress, which in turn could act like a confound for the influences of our study variables. To check for this possibility, we conduct a follow-up experiment, identical in all respects ($N = 216$ nonstudent adults living in the United Kingdom from Prolific), except that we describe the work environment as negative and unsupportive (Appendix C). The results are consistent: Bridging ties have a negative impact on the provision of social support ($t(214) = 2.30, p < .05$) and on perceived team identification ($t(214) = 5.69, p < .001$), and the negative effect of bridging ties on social support can be explained entirely by the negative impact on perceived team identification (95% bootstrap CI = [-.5014, -.1823]). That is, the results apply equally to positive and negative work environments.

In manipulating the level of an employee's bridging ties, Study 3 can rule out alternative interpretations of the patterns observed in Study 1. It provides additional evidence of our theorization that bridging ties can have negative influences on social support. Furthermore, we identify that the decrease in perceived team identification is the underlying mechanism explaining this negative influence on social support.

6. Discussion

With this study, we sought to improve understanding of the social underpinnings of well-being at work, relying on the concept of social capital. We propose that stress depends on the conjunction of the two dimensions of social capital, relational and structural (Inkpen &

Tsang, 2005). The findings confirm that the relational dimension of social capital affects stress. People with stronger ties perceive more social support, which ultimately reduces stress levels. This finding accordingly confirms that the mere existence of ties is not sufficient; social support is not always shared through ties. Instead, relationships must feature some level of intimacy and emotional closeness to be effective in reducing stress, because they provide more motivation to offer support, trust to discuss difficult situations openly, and the awareness needed to tailor appropriate supportive efforts. Our research thus contributes to the few studies that acknowledge how the nature of a person's relationships affects the level of social support received (Hayton et al., 2012; Methot et al., 2016; Zhu et al., 2013). Using tie strength as an antecedent of social support suggests new possibilities for clarifying the social side of stress. In particular, continued research might examine the boundary conditions of the positive impact of strong ties. As much as they facilitate social support, they also might imply reciprocal obligations (Granovetter, 1983), which could act as a resource drain, with negative implications for well-being (Methot et al., 2016).

As a theoretical contribution, we also highlight that both dimensions of social capital have a role, and confirm its general relevance as an integrative framework for studying stress. However, addressing only the relational dimension creates the risk of regarding ties as mere "conduits" for social support (i.e., greater relationship quality increases the chance of social support). To move beyond a limited view of relationships as resource providers (i.e., connections provide coping resources), we argue that researchers must include the structural dimension, which will enable them to identify other mechanisms through which social relationships affect well-being. In particular, they can facilitate or mitigate identification processes (i.e., connections signal identity to the larger environment, which in turn drives the provision of coping resources) and they shape key stress-related cognitive processes (i.e., social relationships are instruments to change ways of thinking).

These findings shed some new light on prior studies that include the structural dimension of social capital but mostly in relation to instrumental outcomes, such as productivity, career success, or creativity (Burt, 2005; McFadyen et al., 2009; Seibert et al., 2001), rather than psychological outcomes (Zhu et al., 2013). The arguments in those studies reflect a functionalist view of social ties, according to which people pursue clear, self-serving ends from their relationships. **Understanding the role of social ties on non-instrumental goals and more psychological outcomes requires theoretical approaches which better account for the subjective nature of networks (Chollet et al., 2021). Considering certain structural positions as a source of identity disruption (Lomi et al., 2013; Methot et al., 2018), like we do to account for the marginalization effect, for example, contributes to this objective and also opens interesting research prospects. Future work could look into the boundary conditions of this effect, considering moderating factors such as individual traits (Liu & Hung, 2016), salience of the work group identity (Gaertner et al., 2000) or salience of a superordinate identity, at the organizational level (van Knippenberg & van Schie, 2000).**

At a methodological level, our paper responds to recent calls for new methodological approaches that could address the limitations of quantitative network analysis when social capital is to be studied in interaction with individual behaviors and perceptions (Kwon et al., 2020). It shows the relevance of combining “regular” social network analysis (Study 1) with experimental designs (Studies 2 and 3), more suited for isolating cognitive and social-psychological mechanisms (O’Connor & Gladstone, 2018).

For managers, our research suggests methods for identifying why some employees might enjoy more support than others, as well as some actionable ideas for reducing stress throughout the organization. Social support is critical in stress models, along with job characteristics, such as psychological job demands or job control (Johnson & Hall, 1988). But as a variable, it is notably unique, in that organizations can relatively easily control and

influence job characteristics, but they have limited power over the level of social support that coworkers provide and receive. By identifying social relationships as antecedents of social support and of stress, we suggest new managerial options that move beyond solely notions of social support to include the social structure. Even if it might not be directly determined, managers can map and analyze it, then develop more appropriate network-based interventions (Cross et al., 2004).

In particular, the effect of relational capital, through strong ties, suggests the need to promote friendly, informal, high quality relationships among employees, which might be encouraged by an effective organizational culture. The findings related to the structural dimension of social capital create a bit of a puzzle (self-distancing/detachment versus marginalization), which might be solved by promoting interactions across departments (e.g., establish cross-functional teams, promote an organizational culture of “transversality”). Such efforts might facilitate self-distancing by all employees, then entering into a broader scope of possible relationships. But increasing organizational-level communication across sub-unit borders also should facilitate stronger identification with the organization overall (Postmes et al., 2005), which may reduce perceptions of the “otherness” of employees outside the immediate work team, as well as the risk of marginalization effects.

Along with these insights, this present study contains some limitations. Due to the sampling method, Study 1 may be at risk of common method bias (Podsakoff et al., 2003). Despite the strong theoretical arguments that network variables are antecedents of social support, and the supportive evidence obtained in Studies 2 and 3, we cannot completely rule out reverse causality.

We also did not account for all types of social ties, such as relationships outside the work sphere. Yet such social links can provide significant support and help employees cope with difficult situations at work (Blanch & Aluja, 2012). Conversely, stresses at home can

spill over to the work context (Anand et al., 2015). Whether positive or negative, such relationships could affect our results. Noting the established relationship between work–life balance and stress (Klumb et al., 2017), we call for further research into work and non-work relationships simultaneously. Moreover, by focusing exclusively on social ties, we do not account for how other, professional ties affect well-being, such as by creating burdensome work demands. Adding communication or workflow networks could represent a valuable expansion of our model (Cullen et al., 2015).

Finally, we consider the psychological dimension of stress and measure it with self-reported items. Further research might investigate how social capital affects physiological symptoms (e.g., Klumb et al., 2017), using measures such as blood pressure, cortisol levels, or catecholamine levels as outcome variables. Such insights could further extend the model that we have developed herein.

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Table 1

Convergent validity indicators

Construct	Number of Items	Composite Reliability	Average Variance Extracted
Coworker social support	4	.804	.512
Supervisor support	4	.868	.623
Psychological job demands	3	.736	.489
Job control	7	.876	.503
Perceived occupational stress	3	.743	.492

Notes. Coworker social support, supervisor support, psychological job demands, and job control (Job Content Questionnaire) measures come from Karasek et al. (1998). The perceived stress scale is from Cohen et al. (1983) and Cohen and Williamson (1988).

Table 2

Latent variable correlations and divergent validity indicators

Measure	1	2	3	4	5	6	7	8	9	10
1. Perceived stress	.70									
2. Coworker social support	-.28	.71								
3. Network strength	-.13	.24	1.000							
4. Bridging ties	-.06	-.14	.08	1.000						
5. Psychological job demands	.23	-.15	-.09	.08	.70					
6. Job control	-.34	.28	.10	-.02	-.03	.70				
7. Supervisor support	-.30	.52	.15	-.07	-.24	.34	.78			
8. Age	.11	-.12	.07	.08	.12	.11	-.17	1.000		
9. Gender (Male = 1)	.02	-.03	-.04	.10	-.06	-.16	.05	-.15	1.000	
10. Seniority	.11	-.12	.16	.11	.17	.15	-.16	.67	-.15	1.000

Notes. The square roots of the average variances extracted are on the diagonal.

Table 3

PLS-SEM results

Paths	β
Network variables on coworker social support	
Network strength → Coworker social support	.254***
Bridging ties → Coworker social support	-.162**
Network variables and coworker social support on stress	
Bridging ties → Perceived stress	-.123**
Network strength → Perceived stress	-.059 ns.
Coworker social support → Perceived stress	-.112*
Control variables on stress	
Supervisor social support → Perceived stress	-.079 ns.
Psychological job demands → Perceived stress	.172**
Job control → Perceived stress	-.295***
Age → Perceived stress	.059 ns.
Gender → Perceived stress	.021 ns.
Seniority → Perceived stress	.089 ns.
Coefficient of determination (R^2) and predictive relevance (Q^2)	
R^2/Q^2 Coworker social support	.084 / .039
R^2/Q^2 Perceived stress	.231 / .089

Notes. Cohen's (1988) standards, all the effect sizes (f^2) of the significant paths in our model score higher than the minimum threshold ($f^2 > .02$).

*** $p < .001$.

** $p < .01$.

* $p < .05$.

Table 4

Mediating effect of coworker social support on the relation between network variables and perceived occupational stress

	Coworker social support IV→M		Perceived occupational stress IV→DV (c')		
	β	<i>t</i>	β	<i>t</i>	Indirect effect (<i>a x b</i>)
Network strength	.254	5,026*** <i>p</i> = .000	-.059	1,196 <i>p</i> = .116	-.028* <i>p</i> = .043
Bridging ties	-.162	3,278*** <i>p</i> = .001	-.123	2,479*** <i>p</i> = .007	.018* <i>p</i> = .046
Coworker social support	--	--	-.112	1,887* <i>p</i> = .027	--

Notes. IV = independent variable, M = mediator, DV = dependent variable. The results come from a bootstrap resampling (500 replicates) designed to calculate the direct and indirect effects of network strength and bridging ties on perceived occupational stress, as mediated by coworker social support.

Table 5

Common method bias test (variance inflation factor)

Measure	1	2	3	4	5	6	7
1. Bridging ties		1.090	1.138	1.142	1.098	1.150	1.071
2. Psychological job demands	1.631		1.723	1.531	1.716	1.543	1.315
3. Network strength	1.101	1.115		1.123	1.057	1.115	1.124
4. job control	1.646	1.474	1.672		1.673	1.557	1.268
5. Coworker social support	2.147	2.243	2.135	2.270		1.496	2.163
6. Supervisor support	2.381	2.134	2.386	2.236	1.584		2.400
7. Perceived stress	2.028	1.665	2.200	1.667	2.096	2.195	

Notes: We examine the structural model for common method bias according to variance inflation factor (VIF) values. (Kock, 2015) argues that the full collinearity VIF test can detect common method bias in PLS models. As this table shows, the VIF values for all variables are below the recommended threshold of 3.3 (Kock, 2015; Kock & Lynn, 2012), so multicollinearity is unlikely to be an issue for this study.

Appendix A

Cross-Loadings

Scale	Perceived Occupational Stress	Coworker Social Support	Job Control	Psychological Job Demands	Supervisor Support	SE	<i>p</i> -Value
Stress3	.773	-.233	-.330	.144	-.288	.059	<.001
Stress1	.694	-.138	-.217	.244	-.207	.070	<.001
Stress2	.632	-.222	-.148	.109	-.111	.081	<.001
CowSup1	-.148	.672	.100	-.099	.388	.066	<.001
CowSup2	-.124	.554	.197	-.075	.283	.073	<.001
CowSup3	-.287	.785	.299	-.115	.394	.045	<.001
CowSup4	-.212	.821	.206	-.149	.435	.036	<.001
DecisA1	-.256	.301	.798	-.007	.297	.031	<.001
DecisA2	-.257	.254	.711	-.062	.262	.042	<.001
DecisA3	-.240	.191	.721	-.024	.271	.039	<.001
SkillD5	-.159	.088	.597	.115	.158	.060	<.001
SkillD1	-.260	.210	.683	-.088	.289	.044	<.001
SkillD3	-.259	.145	.685	-.062	.217	.049	<.001
SkillD4	-.263	.198	.753	.006	.201	.045	<.001
Demand1	.083	.041	.114	.517	-.007	.168	<.001
Demand5	.197	-.113	-.162	.767	-.191	.106	<.001
Demand4	.184	-.188	.058	.782	-.233	.088	<.001
SupSup1	-.189	.322	.303	-.295	.675	.070	<.001
SupSup2	-.272	.434	.326	-.225	.852	.031	<.001
SupSup3	-.241	.429	.197	-.194	.821	.033	<.001
SupSup4	-.249	.467	.272	-.073	.797	.035	<.001

Notes. The *p*-values < .05 are desirable for reflective indicators.

Appendix B
Study 2 scenarios

Non-bridging ties scenario⁵

You are working in a medium-sized company of roughly 300 employees, organized into several departments. Your department is composed of 26 persons, all located on the same floor. You've been working for several months now on a project for which you are the main contributor. The final deliverable is due in three days. You feel frustrated and worried about the project because you are not going to be able to deliver the quality you were hoping for.

While standing at the printer, waiting for documents to come out, you are chatting with Alex, *a member of your department* whom you like to share ideas with about work. As Alex asks what you are up to these days, you start explaining about your frustration about the project.

Later that same day, you meet another colleague - *who also belongs to your department* - in the cafeteria. Like most other days during lunch break, you discuss a variety of topics, both personal and work-related. After some time discussing plans for the weekend and the local news, the conversation shifts to work matters. You talk about the poor deliverable you are likely to submit and your colleague tells you about another project *in your department* on which he is currently working.

Bridging ties scenario

You are working in a medium-sized company of roughly 300 employees, organized into several departments. Your department is composed of 26 persons, all located on the same floor. You've been working for several months now on a project for which you are the main contributor. The final deliverable is due in three days. You feel frustrated and worried about the project because you are not going to be able to deliver the quality you were hoping for.

While standing at the printer, waiting for documents to come out, you are chatting with Alex, *a member of another department* whom you like to share ideas with about work. As Alex asks what you are up to these days, you start explaining about your frustration about the project.

Later that same day, you meet another colleague - *who also belongs to another department* - in the cafeteria. Like most other days during lunch break, you discuss a variety of topics, both personal and work-related. After some time discussing plans for the weekend and the local news, the conversation shifts to work matters. You talk about the poor deliverable you are likely to submit and your colleague tells you about another project *in his own department* on which he is currently working.

⁵ Italics serve to highlight the differences between the two scenarios; the text presented to the participants was all in the same, plain font.

Appendix C
Study 3 scenarios

No bridging ties scenario⁶

You are working in a medium-sized company of roughly 300 employees, organized into several work teams. Your team is composed of 26 persons, all located on the same floor. The work environment is positive and supportive and your manager fosters an open communication climate.⁷

Peter is a member of your team and you work with him on projects every once in a while. While standing at the printer, waiting for some documents to come out, you overhear a conversation between Peter *and another member of your team*. They discuss their plans to meet at the park for a picnic this weekend, together with their families.

A few days later, you meet Peter at the cafeteria. He was discussing *with two colleagues from your team* (colleagues whom you don't know very well), requesting help and explanations on how to install some software that he needs to complete an important task.

Bridging ties scenario

You are working in a medium-sized company of roughly 300 employees, organized into several work teams. Your team is composed of 26 persons, all located on the same floor. The work environment is positive and supportive and your manager fosters an open communication climate.

Peter is a member of your team and you work with him on projects every once in a while. While standing at the printer, waiting for some documents to come out, you overhear a conversation between Peter *and somebody from another team*. They discuss their plans to meet at the park for a picnic this weekend, together with their families.

A few days later, you meet Peter at the cafeteria. He was discussing *with two colleagues from another team* (colleagues whom you don't know very well), requesting help and explanations on how to install some software that he needs to complete an important task.

⁶ Italics serve to highlight the differences between the two scenarios; the text presented to the participants was all in the same, plain font.

⁷ To rule out the possibility that the observed effects might be limited to a positive work environment, we replicated the experiment but this time we described the work environment as negative, with the phrase: "The work environment is quite negative and unsupportive and your manager does not foster an open communication climate." As described in the text, the results remain unchanged.