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**Fostering Victim-Defending Behaviors among School Bullying Witnesses:
A Longitudinal and Experimental Test of Two New Strategies for Changing Behavior**

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Abstract

In school bullying, witnesses play a fundamental role because their defensive reactions can stop bullying situations. However, a great majority of witnesses remain passive despite their prodefense personal beliefs. To address this gap between witnesses' beliefs and behaviors, we developed and tested two social psychology strategies, namely, the induced hypocrisy and implementation intention. In an experimental and longitudinal study ($N = 101$), we randomly divided 7th- and 8th-grade students into three conditions, namely, control, induced hypocrisy, or implementation intention. Linear mixed models showed that the two strategies immediately increased planned defending behaviors as well as self-reported defending behaviors at three months but with a stronger effect at three months for the induced hypocrisy strategy. These new prevention avenues for practitioners are discussed according to current approaches.

Keywords: school bullying, witness, victim-defending behavior, induced hypocrisy, implementation intention

Fostering Victim-Defending Behaviors among School Bullying Witnesses: A Longitudinal and Experimental Test of Two New Strategies for Changing Behavior

1. Introduction

School bullying is usually defined as intentional and repeated aggressive action among students that involves an observed or perceived power imbalance (Salmivalli, 2014). Despite the development of sensibilization campaigns, school bullying remains widespread around the world (e.g., Demaray et al., 2016; Kubiszewski, 2016). Taking many forms, school bullying is a major societal issue because it is associated with several negative consequences for victims, perpetrators, and witnesses (see Shaw et al., 2013 for a review). For prevention purposes, research initially focused on perpetrators and victims, but a great deal of research has also examined the role of witnesses in preventing bullying (e.g., Kubiszewski et al., 2019; Polanin et al., 2012) and has shown the important role played by witnesses' reactions (Salmivalli, 2014). Witnesses can adopt three different reactions to bullying situations (Demaray et al., 2016), namely, helping the ringleader bully or reinforcing bullying (i.e., probullying reactions), watching passively or walking away (i.e., passive reactions) and standing up for the victim (i.e., defending reactions). Nevertheless, while defending reactions can put an end to school bullying (Espelage et al., 2012; Salmivalli, 2014), the large majority of witnesses remain passive (Demaray et al., 2016). Consequently, fostering victim-defending behaviors among witnesses seems promising to prevent school bullying.

1.1. Need to Move Beyond Witnesses' Personal Beliefs to Foster Victim-Defending Behaviors

With the aim of preventing school bullying, researchers have worked to identify psychological variables associated with victim-defending behaviors among witnesses. Several variables have been evidenced (see Lambe et al., 2019 for a review), such as positive

antibullying, provictim and victim-defending attitudes (Nickerson & Mele-Taylor, 2014; Rigby & Johnson, 2006) or subjective norms for victim-defending (Kubiszewski et al., 2019). As a result, many programs or prevention actions aim at reinforcing these witnesses' positive personal beliefs to make them defend victims (Garandau & Salmivalli, 2018). However, research suggests that the majority of witnesses already hold prodefense beliefs (Kubiszewski et al., 2019; Salmivalli & Voeten, 2004), which does not necessarily result in witnesses standing up for school bullying victims or in their intention to act (Mauduy et al., 2021). Consequently, new strategies, no longer based on the strengthening of beliefs but rather on the strengthening of the link between beliefs and action, would seem appropriate.

Research in the field of social psychology, beyond pointing out and understanding such gaps between individual personal beliefs (e.g., attitude and intention) and behaviors (see Gollwitzer & Sheeran, 2006), has proposed some levers to support witnesses' victim-defending behaviors. The first lever would be to bridge the gap between attitudes and behaviors by making students aware that they do not act according to their antibullying attitudes. The second lever would be to address the gap between intention to defend victims and actual behaviors by helping students plan defense strategies. These two levers correspond to two classic strategies of behavioral change in social psychology, namely, induced hypocrisy (IH, Priolo et al., 2019) and implementation intention (II, Gollwitzer & Sheeran, 2006), respectively. Thus, we aim to test two developed interventions targeting the attitude-behavior gap and the intention-behavior gap to increase defending behaviors among school bullying witnesses.

1.2. Induced Hypocrisy and Implementation Intention: Two Psychosocial

Strategies of Behavioral Change

First, the IH paradigm was created by Aronson et al. (1991) because everyday life is filled with situations in which our behaviors do not match our beliefs, such as being against school bullying but not defending victims (see Priolo et al., 2019 for a meta-analysis). It is a

two-step procedure in which individuals advocate a prosocial cause and then recall their own past failures to comply with it. This inconsistency between behaviors and personal beliefs generates the hypocrisy effect, which creates a psychological state that motivates people to adopt behaviors in accordance with their prosocial beliefs. A meta-analysis indicated a medium to large hypocrisy effect ($d = .70$, Priolo et al., 2019), making it a powerful strategy for encouraging prosocial behaviors in many fields (e.g., environmental protection, road safety, and health-related issues). It has also been shown that IH is effective in reducing discriminatory behaviors (Mauduy et al., 2022; Son Hing et al., 2002), but to the best of our knowledge, it has never been tested for school bullying prevention.

Second, to resolve the intention–behavior gap, which is one of the most well-known weaknesses of predictive behavioral models, Gollwitzer (1999) developed the II strategy. It does not affect individuals' intentions but ensures that the intended behavior is triggered at the appropriate time in relevant situations by asking individuals to engage in action planning. II procedures involve making “if-then” plans that encourage people to identify critical situations (e.g., a bullying situation) and associate them with appropriate responses (e.g., alerting an adult). Due to the projected plans, the accessibility of the critical situation is enhanced when people encounter it, leading to automatically related responses. Forming such plans has a medium to large effect size ($d = .65$, see Gollwitzer & Sheeran's (2006) meta-analysis) to translate intentions into specific actions in a range of contexts (e.g., reducing binge drinking, cigarette smoking or discrimination). Nevertheless, this strategy has not yet been tested in school bullying prevention.

1.3. The present study

This study aims to test the effectiveness of IH and II, two behavioral change strategies, in the context of school bullying. More specifically, we expect that, on the one hand, IH by targeting the witnesses' gap between their prodefense attitudes and passive behaviors, and on

the other hand, II addressing witnesses' gap between their intention to defend victims and their actual behaviors, will increase victim-defending behaviors. Since developing and testing these two strategies in the school bullying prevention context is new, we were interested in whether they could stand alone for fostering victim-defending behaviors among witnesses. We therefore opted to test their effectiveness independently of each other.

2. Method

2.1. Sample and Study Design

A total of 118 students at the 7th and 8th grade levels from one middle school in Normandie (France) participated on a voluntary basis in the study on school bullying. Ultimately, 101 students ($M_{\text{age}} = 12.7$, $SD = 0.77$; 47.5% of girls; 49.5% in 7th grade and 50.5% in 8th grade) were included in the analyses. Six participants were excluded for not fully completing the experimental conditions, ten because they did not witness school bullying, and one participant because he or she did not indicate his or her past reactions to bullying. This sample size allowed us to achieve a sufficient statistical power of .82 (see *supplemental materials* for more details). The students came from a priority area school ("Réseau d'Education Prioritaire" in French), with most of them from socioeconomic lower-class families.

An experimental longitudinal trial was conducted over a 3-month period. Students were approached collectively in classrooms and were balanced across three conditions: control ($n = 26$; two classes), II intervention ($n = 36$; three classes) and IH intervention ($n = 39$; three classes). Students in the same class were assigned to the same experimental condition for two reasons. First, in a theoretical view, school bullying is a group phenomenon that often takes place within the class group and the strategies used can be more effective when carried out in a group (vs. individually). Second, for ecological reasons, it was easier to mobilize the students collectively within their class rather than individually, especially for practitioners and educational staff who are likely to adopt these strategies in a group class and not individually

due to organizational constraints. Grade level and gender are equally balanced across the three conditions (see the Supplemental Table 1 in *supplemental materials* for more details). The first measure (i.e., intentions of defending behaviors) was administered at the end of the intervention, and the second measure (i.e., self-reported defending behaviors) was administered three months later. At the end of the study, the students were debriefed to describe the purpose of this study and the scope of the results and to address any questions. The school nurse and psychologist were present at the school to address any requests from students following the study; however, no such requests were made.

2.2.Ethics

The survey was conducted in full agreement with the ethical standards set by the Psychology Department that follow the American Psychological Association's Ethical Principles of Psychologists and the Code of Conduct (APA, 2019) for the ethical treatment of human participants. The protocol was submitted to the school departments of the Normandy Region as well as to the school principal and teachers of each class involved in the study. Prior to data collection, individual consent for participation and active parental consent were requested and obtained. The participants were assured of the data confidentiality and informed that their participation in the study was voluntary and that they could withdraw from the study at any time. Finally, none of the 118 participating students left the study over the course of the survey.

2.3.Materials

2.3.1. Induced-Hypocrisy Intervention

First, the students performed the normative step of the IH strategy (i.e., advocacy). They were collectively invited to develop normative arguments against school bullying (see the *supplemental materials*). Advocating a prosocial cause is the classical procedure used to

activate the hypocrisy effect. It is most effective when it is carried out collectively (vs. individually, Fointiat, 2008) and made public (vs. private, Stone & Fernandez, 2008). Hence, in subgroups of four or five, the students were asked to list arguments demonstrating why school bullying is disapproved of and were told that these arguments would be reused in antibullying programs for schoolchildren. Second, the students performed the “transgressions recall” step of the IH strategy. They were invited to individually and anonymously (as recommended by Stone & Fernandez, 2008) complete a questionnaire concerning their past passive behaviors in witness situations. In this questionnaire, we presented them six passive witness situations (i.e., hurtful teasing, unpleasant name calling, deliberate exclusion, spreading of lies about an individual, threats of harm, physical injury, and prevention of someone from talking)¹. In order to facilitate students’ recall of their past passive behaviors, they were asked to specify for each situation whether it had happened to them as well as when they occurred (see *supplemental materials*).

2.3.2. The Implementation Intention Intervention

The II procedure was based on the technique of the Volitional Help Strategy (Armitage 2008) combined with coping planning (i.e., dealing with situational cues that usually lead to unintended responses, Schwarzer, 2016). First, a collective discussion with the students was held to identify school bullying situations (e.g., “a student is deliberately excluded”), the barriers witnesses encounter in defending victims of school bullying (e.g., “I don’t think it’s my concern”), and the appropriate responses to defend victims, including the “where” and “when” (e.g., “I will alert an adult during recess”). Each element identified by the students was noted on the school board by the experimenter under the headings "situations", "barriers" and "appropriate responses + where and when". Asking the students to identify these three elements

¹ A pilot study conducted on witnesses of school bullying ($N = 321$) allowed the identification of the situations when the witnesses had most frequently reacted passively. Hurtful teasing was observed by 50.4% of witnesses (68.1% of passive reactions), deliberate exclusion was observed by 43.9% (58.9% of passive reactions), prevention from talking was observed by 30.5% (63.3% of passive reactions), unpleasant name calling was observed by 30.2% (70.1% of passive reactions), threats of harm were observed by 26.8% (68.3% of passive reactions), and insults were observed by 22.4% (75.0% of passive reactions).

themselves allowed us to specifically apply the II strategy to the students' experiences. Second, the students each received an action planning sheet (see *supplemental materials*) and were asked to choose, write and draw lines connecting three situations, barriers and appropriate responses by using those previously listed. The instructions stated that the more precise, concrete and personal their formulated plans were, the greater their plans could help them. Third, they were asked to write their three plans under the following format: "IF [situation] BUT [barrier], THEN [appropriate response]". Finally, the students were told to memorize their plans carefully.

2.3.3. Dependent Variable Measures

2.3.3.1. Behavioral Intention to Defend School Bullying Victims

Adapted from Rigby & Johnson (2006), a questionnaire was created to measure behavioral intention to defend victims of school bullying. First, participants were instructed to imagine that they encounter three fictive situations of witnessing school bullying (i.e., "Students are hurtfully teasing another student for his or her appearance", "Secrets were told about a student to others to hurt him/her", "A student was not able to eat his/her meal because his/her food was damaged"). For each situation, the participants were asked to indicate what their reaction would be by selecting one of the following four reactions: assisting the bully, reinforcing bullying, remaining passive, and defending the victim (Mauduy et al., 2021). The calculation of the ratio of defending reactions to the three situations allowed us to establish a score of defending behaviors' intention. Concretely, we divided the number of students' planned defending behaviors by the number of bullying situations (i.e., three). Ranging from 0 to 1, a score of 0 for the defending reactions indicates that students not report behavioral intention to defend school bullying victims, and a score of 1 indicates he/ she indicates a strong behavioral intention.

2.3.3.2. Self-Reported of Victim-Defending Behaviors (at three months)

We assessed both students' witnessing of school bullying and their reactions to it (Mauduy et al., 2021). First, after the adolescents were provided with a comprehensive definition of school bullying (see *supplemental materials*), 12 items were presented with 5-point scales (1-*never*, 2-*only once or twice*, 3-*two or three times a month*, 4-*about once a week*, 5- *several times a week*). These items have traditionally been used to assess school bullying situations, describing negative behaviors such as hurtful teasing, unpleasant name calling, deliberate exclusion, the spreading of lies about someone, threats and harm, and physical injury. The adolescents were asked to indicate how often they had observed each of these 12 situations in the last three months. Second, for each of the 12 observed school bullying situations specified above, students were asked to report their potential resort to one of the four reactions: (1) assisting the aggressor, (2) reinforcing the bullying situation, (3) remaining passive, and (4) defending the victim. When the students reported that they had encountered a situation, they were asked to indicate their reactions by checking one of the four reactions. Finally, a score of defending reactions was calculated from the ratio of the number of past defending reactions to the total number of bullying situations witnessed.

2.4.Data Analysis

We used the Helmert contrast method (Brauer & McClelland, 2005) to process our data. According to it, with the first contrast, control = -2, II = 1, IH = 1, we compared the control condition to the two interventions considered together in order to test their effectiveness, and with the second contrast, control = 0, II = -1, IH = 1, we tested whether a difference was observed between the two interventions.

Two linear mixed models with the bootstrapping method in Jamovi (Gallucci, 2019) were constructed for behavioral intention to defend victims and self-reported defending behaviors at

three months, with the two contrasts and gender included as fixed effects and students' grade level as a random effect. These mixed models allow us to test the effects of our interventions by controlling for variance in our outcomes explained by students' grade level.

3. Results

3.1. Linear Mixed Model for Defending Behaviors' Intention

The results of the mixed model for defending behaviors' intention (see Table 1 for all statistical details) indicated that only the Helmert 1 contrast was significant after controlling for the random effect of grade level. More specifically, when facing fictitious situations of school bullying, the students who participated in the II ($M = 61.6\%$, $SD = 38.4$) and IH ($M = 60.7\%$, $SD = 33.6$) interventions reported greater intentions to defend victims of school bullying than the students in the control condition ($M = 37.2\%$, $SD = 37.0$). No significant difference was observed between the II and IH interventions (Helmert 2).

3.2. Linear Mixed Model for Self-Reported Defending Behaviors at Three Months

The results of the mixed model for self-reported victim-defending behaviors at three months (see also Table 1) indicated that both Helmert 1 and Helmert 2 contrasts were significant. More specifically, the students in both experimental conditions reported more victim-defending behaviors three months after the interventions compared to the control condition ($M = 14.4\%$, $SD = 22.2$). Additionally, the students in the IH intervention reported more defending behaviors ($M = 50.3\%$, $SD = 33.6$) than those in the II intervention ($M = 33.3\%$, $SD = 27.9$) (see Figure 1).

4. Discussion

The present study aimed to test the effectiveness of two psychosocial strategies of behavioral change for the first time in promoting school bullying witnesses' victim-defending

behaviors. The results of the experimental longitudinal study indicated that both the IH and II strategies seem to be effective in a short time, although the effect of the IH strategy seems to last longer (three months after the intervention). Two important issues need to be discussed. First, we provide insights into the greater effectiveness of IH on II. Second, we place the possible contribution of these new prevention strategies for practitioners in the context of current prevention approaches.

First, the lower effectiveness of II compared to IH may be related to the strength of students' preexisting intention to defend victims. We know that the II strategy is more effective when individuals have a strong intention to perform the behavior (Gollwitzer & Sheeran, 2006). However, Mauduy et al.' study (2021) shows that only one witness out of two (i.e., 52.55%) declares intent to defend victims of bullying and, furthermore, that the strength of this intention varies across witness profiles. Thus, a possible explanation for the lower effectiveness of II compared to IH could be that II is a suitable strategy for fewer bullying witnesses, given that it requires a prior (strong) intention to defend the victims. The IH, however, would be even more suitable for the bullying situation since Mauduy et al. (2021) showed that nearly three-quarters of witnesses hold a positive attitude toward victim defense (i.e., 73.2%). Moreover, the IH has the particularity of (1) reinforcing the intention to perform a behavior and (2) reinforcing the realization of that same behavior (see Priolo et al., 2019). Thus, an interesting avenue for future research would be to combine these two strategies to (1) reinforce the intention to support victims via the IH strategy and then (2) translate this intention into action via the II strategy. To our knowledge, combining these two strategies has never been studied in the field of bullying or in any other field.

Second, we believe that the strategies proposed and tested in this study can improve bullying prevention and be directly useful to practitioners by departing from current prevention approaches. Current prevention programs, such as the Kiva program (Kärnä et al., 2013), the

most widespread program in Europe, aim to strengthen students' personal beliefs, such as prodefense attitudes, normative beliefs, sense of self-efficacy, and intention to defend school bullying victims (Garandeau & Salmivalli, 2018). In other words, current prevention programs do not offer any solutions to bridge gaps that exist in some witnesses between their prodefense attitude and actual behaviors or their intention to defend victims and actual behaviors. Therefore, adding two modules based on IH and II would be effective at a minimum time cost (one-hour session), directly available and easily integrated by school educational staff, and highly complementary to current approaches. Testing whether these new strategies can supplement current approaches would be an interesting avenue for future research to improve our effectiveness in addressing school bullying.

4.1. Limitations and Future Research

This study has three main limitations that we should note. First, to adapt and preliminarily test two new psychosocial strategies for bullying prevention, this study was conducted in a single school. The generalizability of the findings, both throughout France and internationally, is a first limitation, and the effectiveness of these strategies needs to be confirmed. Second, students' initial behavioral intention and defending behaviors were not measured. Although the comparability of our three conditions with respect to the dependent measures is assumed because of the study experimental design (i.e., randomization), controlling students' initial values of dependent measures would strengthen the study findings. Third, we based our study on the literature showing that the school bullying rate (victim and perpetrator) is reduced through witnesses' reactions (e.g., Polanin et al., 2012). However, we did not test whether our interventions allowed us to globally reduce the school bullying rate. Including such measures in future studies would be necessary to test the overall effectiveness of these strategies in preventing school bullying.

5. References

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Declaration of interest statement

The authors have no interest conflict.

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Author Biographical Statements

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Dr. Cécile Sénémeaud, is a Professor at the University of Caen Normandie (LPCN, Caen, France). She is an expert in psychological processes at play in behavioral change, especially in the public health domain (blood donation, addictions, bullying). She more specifically studied the effectiveness of various communication strategies on behavioral change as a function of individual differences.

Tables and Figures

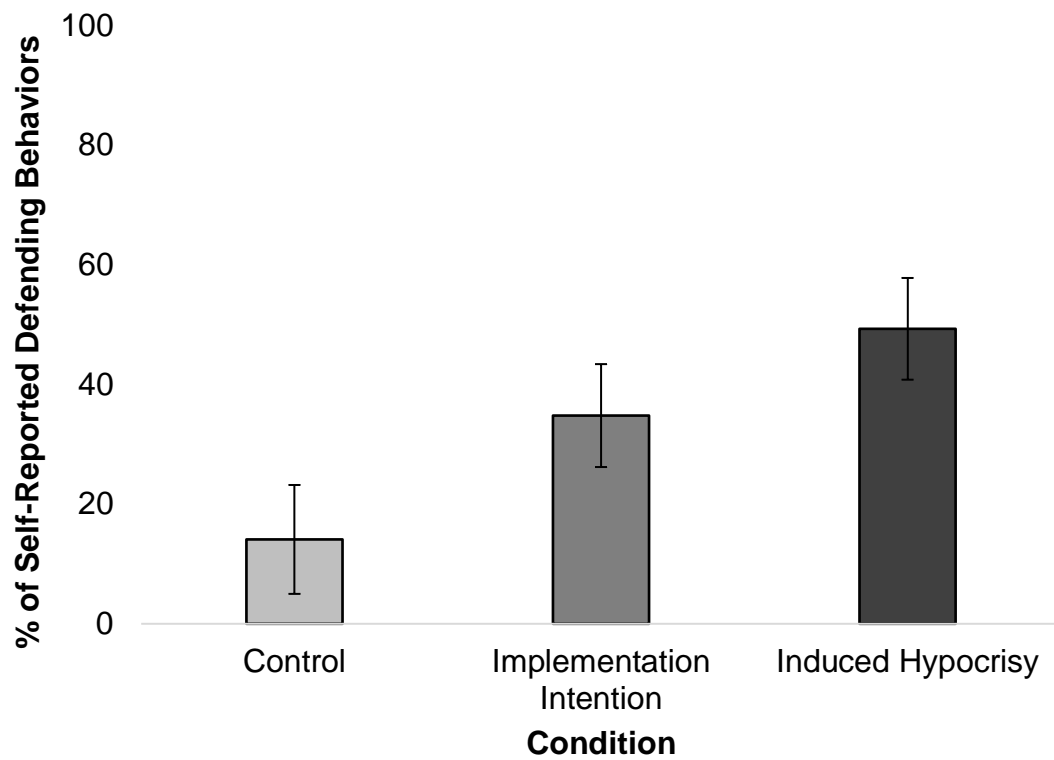
Table 1*Linear Mixed Models for Defending Behaviors' Intention and Self-Reported Defending Behaviors*

	Defending behaviors' intention						Self-reported defending behaviors (at three-month)					
	Empty model			Model 1			Empty model			Model 1		
Fixed Effects	<i>Estimate</i>	<i>(SE)</i>	<i>t</i>	<i>Estimate</i>	<i>(SE)</i>	<i>t (df)</i>	<i>Estimate</i>	<i>(SE)</i>	<i>t</i>	<i>Estimate</i>	<i>(SE)</i>	<i>t (df)</i>
<i>Intercept</i>	0.549	(.066)	8.38				0.349	(0.091)	3.86			
Helmert 1 [Control vs. II and IH]				0.081	(.028)	2.851** (96)				0.093	(.021)	4.371** (96)
Helmert 2 [II vs. IH]				-0.012	(.043)	-0.281 (96)				0.073	(.033)	2.22* (96)
Gender				-0.022	(.038)	-0.598 (96)				-0.032	(.028)	-1.12 (96)
Random Effect												
Grade level (ICC)	0.037			0.038			0.132*			0.117*		
<i>R</i> ² marginal (fixed effects)				.074						.182		
Deviance (AIC)	99.67			97.38			58.289			40.979		
LogLikelihood	-48.84			-50.18			-27.821			-22.651		

Note. IH: Induced-Hypocrisy intervention. II: Implementation Intention intervention. For gender variable, female was coded -0.5 and male +0.5. Statistically significant at * $p < .05$; ** $p < .01$; *** $p < .001$

Figure 1

Self-Reported Defending Behaviors Three Months after the Intervention



Note. Estimated Marginal Means are displayed with Standard Errors.