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Maxime Mauduy, Virginie Bagneux, Cécile Sénémeaud. Unmasking School Bullying Witnesses: Five Different Psychological Profiles related to Intention to Defend Victims. *School Psychology Review*, inPress, 26 (1), pp.263-274. 10.1080/2372966X.2021.1978272 . hal-03346847

**HAL Id: hal-03346847**

**<https://hal.science/hal-03346847>**

Submitted on 16 Sep 2021

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**Unmasking School Bullying Witnesses:  
Five Different Psychological Profiles related to Intention to Defend Victims**

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This article has been accepted for publication in *School Psychology Review* on September 02, 2021. It is available online in the journal's publication format at the following permanent link: <https://doi.org/10.1080/2372966X.2021.1978272>.

A supplemental online material is available at <https://doi.org/10.1080/2372966X.2021.1978272>.

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### **Abstract**

Whereas defending victims can put an end to school bullying incidents, few witnesses engage in such behavior. This study aimed to explore the intention to defend victims among distinct witness profiles based on behavioral and psychological characteristics. Within the framework of the theory of planned behavior, we measured intentions, attitudes, subjective norms, perceived behavioral control to defend victims, and past reactions to bullying among 276 middle school students (55.1% male,  $M_{age} = 13.1$ ,  $SD = 1.22$ ) who had witnessed bullying. A cluster analysis identified five witness clusters. Although “prodefense,” “antidefense” and “probullying” witnesses are characterized by a coherent behavioral-psychological profile in favor of or against victim support, “conflicting beliefs’ witnesses” and “inconsistent witnesses” interestingly showed a beliefs conflict or psychological-behavioral gap that has never been identified before. Beyond elucidating witness characteristics, this study offers new prevention avenues adapted to each profile’s deficits.

### **Impact Statement**

Profiling school bullying witnesses based on their psychological characteristics, beyond their mere behavioral reactions, better accounts for the diversity of witness profiles. The “outsiders” identified in the literature are not a unitary group but can be distinguished according to three distinct psychological profiles, two of which reveal certain psychological and behavioral incoherencies. Finally, combined with a stronger or weaker intention to defend victims, the identified psychological-behavioral profiles of witnesses make it possible to consider avenues of prevention adapted to each profile’s deficits.

**Keywords:** school bullying witness; profile; defending reactions; intention; theory of planned behavior

## **Unmasking School Bullying Witnesses:**

### **Five Psychological Profiles Related to Intentions to Defend Victims**

School bullying, usually defined as intentional and repeated aggressive action among students that involves an observed or perceived power imbalance (Olweus, 2013), affected at least one hundred and thirty million students globally in 2018 and is associated with negative psychological consequences for students (see Shaw et al., 2013 for a review) and negative perceptions of school climate (Nickerson, Singleton, et al., 2014). France is no exception to school bullying, where bullying affects 60% of middle and high school students (Kubiszewski, 2016) and is consequently considered a major public health issue. To prevent such behavior, researchers initially focused on victims and bullies to investigate the underlying mechanisms involved, protective factors and socioemotional difficulties due to bullying (Salmivalli, 2010; Zych et al., 2015). However, in the last ten years, witnesses of school bullying have drawn much attention from researchers (Kubiszewski et al., 2019; Lambe et al., 2019; Longobardi et al., 2020; Polanin et al., 2012; Saarento & Salmivalli, 2015; Schacter & Juvonen, 2019; Thornberg et al., 2017), as their reactions to school bullying play a major role in perpetuating or putting an end such situations (Salmivalli, 2014). The current study aims to identify the psychological and behavioral characteristics of different school bullying witnesses' profiles and means to enhance their intentions to defend victims.

### **Role of Witnesses' Reactions in School Bullying Situations**

Investigations of witnesses' reactions show that witnesses can play three roles in bullying situations (Kärnä et al., 2010; Reijntjes, Vermande, Olthof, et al., 2016; Salmivalli et al., 1996; Thornberg et al., 2017). First, the "probullying" role involves reactions in which witnesses help the leading bully (i.e., assisting the aggressor) or do not participate but "reinforce" the bullying situation by cheering or laughing (i.e., reinforcing the situation)

(Demaray et al., 2016; Pöyhönen et al., 2012). Second, the “outsider” role involves passive reactions in which students remaining uninvolved with the bullying situation despite being aware of it by passively observing or walking away. Third, the “defender” role entails defending reactions in which witnesses defend the victim by comforting and supporting him/her, intervening in opposition to the aggressor, seeking the help of adults, or focusing on seeking a solution (Lambe & Craig, 2020).

Furthermore, the role adopted by witnesses are critical to reducing bullying and its consequences (Banyard, 2015; Saarento & Salmivalli, 2015; Salmivalli, 2014; Salmivalli et al., 2011). Whereas passive and probully reactions enhance the consequences for victims by perpetuating bullying, defending reactions often successfully put an end to school bullying (Espelage et al., 2012; Hawkins et al., 2001; Huitsing & Veenstra, 2012; Kärnä et al., 2013; Salmivalli, 2010, 2014; Salmivalli et al., 2011) and reduce the psychological distress experienced by the victim (Juvonen & Graham, 2014; Sainio et al., 2011) as well as contribute to the victims’ feelings of safety (Gini, Pozzoli, et al., 2008). However, many studies have indicated that the majority of witnesses adopt passive reactions when they observe bullying situations instead of defending victims (Demaray et al., 2016; Olweus & Limber, 2010; Rigby & Johnson, 2006; Salmivalli & Voeten, 2004). Consequently, to prevent school bullying, it is important to engage witnesses in defending behaviors.

### **Intention and the Theory of Planned Behavior**

Research in social psychology has long shown that a key, necessary step to achieving a behavior involves first developing the intention to perform it (Ajzen, 1991; Fishbein & Ajzen, 1975) since intention explains 28% of the variance in behavior on average (see Webb & Sheeran, 2006 for a review). Among a range of theoretical models (see Webb & Sheeran, 2006 for a metaanalysis), the theory of planned behavior (TPB; Ajzen, 1991, 2020) is the most widely

applied and features best intention-behavior relationships, including in the field of education ( $d = .80$ ; large effect size, Steinmetz et al., 2016). In this model, intention is predicted by three psychological factors (i.e., attitudes, subjective norms (SNs) and perceived behavioral control (PBC)) and an additional factor (i.e., past behavior, Ajzen, 1991; Ajzen, 2011). Attitudes are defined as an individual's (un)favorable evaluations of performing a target behavior. SNs refer to an individual's "normative beliefs" about whether the people he/she cares about (e.g., friends, parents, teachers, and coworkers) approve or disapprove of a particular behavior and the degree of motivation to align with other significant individuals. PBC refers to the feeling of being able to enact certain behaviors and is associated with beliefs of controllability and self-efficacy (Ajzen, 2002; Fishbein & Ajzen, 2011; Montaña & Kasprzyk, 2015). Controllability is the degree to which an individual perceives that he/she has control over performing the target behavior (i.e., how easy or difficult it is to engage in an action), and self-efficacy reflects one's confidence in one's ability to take action and successfully execute behaviors required to produce desired outcomes (Bandura & Walters, 1977). Moreover, to improve the predictive power of the TPB model, the past behavior factor has been added as a fourth factor (Ajzen, 2011). Assessing the extent to which behavior has been carried out in the past by individuals, the past behavior factor enhances the prediction of intentions by 7.2% on average (Conner & Armitage, 1998). Hence, we use the TPB model to further understand intentions to defend victims among school bullying witnesses.

### **Predicting Intentions to Defend School Bullying Victims Across Distinct Psychological Profiles of Witnesses**

Research has identified several variables associated with witnesses' intention to defend or victim-defending behaviors (see Kubiszewski, 2018; Lambe et al., 2019 for reviews), such as gender (girls reported more victims supports than boys, e.g., Barhight et al., 2017; Gini et al., 2015), age (younger students report more victim-defending reactions than older one, e.g.,

Meter & Card, 2015, 2016), low moral disengagement (e.g., Thornberg et al., 2017; Thornberg & Jungert, 2014), high level of popularity (e.g., Duffy et al., 2017; Kim et al., 2013), social skills (e.g., empathy, van Noorden et al., 2015; cooperation, Jenkins et al., 2016; assertiveness, Jenkins & Nickerson, 2019) and more particularly the TPB psychological factors related to defending behaviors. Even if the TPB model has not been used *in extenso* in school bullying contexts, attitudes, SNs, PBC, and past reactions have been each demonstrated to be strongly associated with intentions to defend victims and defending. The more witnesses develop antibullying and provictim attitudes (e.g., Nickerson, Aloe, et al., 2014; Pozzoli, Gini, et al., 2012a; Pozzoli & Gini, 2013b; Rigby & Johnson, 2006; Salmivalli & Voeten, 2004), social norms (e.g., Kubiszewski et al., 2019; Nickerson & Mele-Taylor, 2014; Pozzoli & Gini, 2010; Sandstrom et al., 2013; Thornberg et al., 2021; Troop-Gordon et al., 2019; Wood et al., 2017; Yun & Graham, 2018), self-efficacy to defend school bullying victims (Machackova et al., 2015; Peets et al., 2015; Pöyhönen et al., 2010, 2012; Pronk et al., 2013; Thornberg et al., 2017; Thornberg & Jungert, 2013; van der Ploeg et al., 2017), or past defending reactions (e.g., Ahmed, 2008; Barchia & Bussey, 2011; Forsberg et al., 2018; Rigby & Johnson, 2006), the more they intend to defend bullying victims.

However, the development of witnesses' intentions to defend victims across these behavioral reactions and TPB psychological factors has not been investigated. Yet, upstream of such intentions, witnesses' past reactions, attitudes, SNs, and PBC regarding victim support seem to interact. Indeed, students who report passive reactions demonstrate lower levels of self-efficacy than those exhibiting defending reactions (e.g., Gini et al., 2008), whereas students reporting probully reactions demonstrate weaker values in terms of antibullying attitudes and norms, and those reporting defending reactions exhibit stronger antibullying attitudes (e.g., Obermann, 2011; Pozzoli & Gini, 2013; Salmivalli & Voeten, 2004). In addition, when self-efficacy to defend is positively associated with defending reactions, it is not associated with

probully reactions (e.g., Pöyhönen et al., 2012; Thornberg & Jungert, 2013); when perceptions of social support from adults for defending victims is positively associated with victim support, they are not related to passive reactions (e.g., Kubiszewski et al., 2019).

Thus, the present study aims to further understand intentions to defend victims by identifying distinct profiles of school bullying witnesses on the basis of behavioral and TPB psychological factor combinations. A recent study supports the idea of different witness profiles (Jenkins et al., 2021). However, in this study the profiles were identified only based on the behavioral reactions to bullying situations, and furthermore, they do not seem to be different in terms of victim-defending intentions. We argue that the simultaneous consideration of three behavioral reactions to bullying (i.e., probullying, passive, and defending reactions) as well as three TPB psychological factors (i.e., attitude, SNs, PBC), which are based on a robust theoretical model in predicting behavioral intentions and behaviors (Steinmetz et al., 2016), can lead to the identification of a typology of witnesses from those who are behaviorally and psychologically well-positioned in responding to bullying situations to those who are not. We can then identify the basis on which to intervene to enhance intentions to defend victims of witnesses who need this support. Using a cluster analysis approach, we (i) explored the respective involvement and combination of attitudes, SNs and PBC relate to victim support and past reactions to bullying situations in different profiles of witnesses and then (ii) examined associations between these profiles and intentions to defend school bullying victims.

## **Method**

### **Participants**

A total of 528 students from two middle schools in Normandy (France) participated in this study. Among this sample, 276 witnesses of school bullying ( $M_{age} = 13.1$ ,  $SD = 1.22$ ; ranging from 11 to 16 years of age) were considered (see Figure 1 for the selection flow diagram

and details within the *supplemental materials*<sup>1</sup>). The students were in 6<sup>th</sup> to 9<sup>th</sup> grade with 17.4% in 6<sup>th</sup> grade ( $n = 48$ ), 26.1% in 7<sup>th</sup> grade ( $n = 72$ ), 31.2% in 8<sup>th</sup> grade ( $n = 86$ ), and 25.4% in 9<sup>th</sup> grade ( $n = 70$ ), and 55.1% were boys ( $n = 152$ ) and 44.9% were girls ( $n = 124$ ). In total, 63.4% of the students ( $n = 175$ ) came from middle school A, and 36.5% ( $n = 101$ ) came from middle school B. The socioeconomic status of the school population was not directly measured, but the two public schools, which volunteered to participate in this study, represent a range of sociogeographic origins and socioeconomic statuses, and major differences between the two urban schools are not likely. Results of comparisons between these two schools on the measures assessed in the study are available within the supplemental materials in the Supplemental Table 1.

The survey was conducted in full agreement with ethical standards set by a psychology department that follows the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct (APA, 2017) for the ethical treatment of human participants. The survey was submitted to school departments of the Normandy Region as well as to the school principals and teachers involved in the study. Two weeks prior to data collection, each student and his/her parents were informed of the study with an information letter. Individual consent to participate and active parental consent were requested. Students were informed of the confidentiality of their participation and were informed that participation in the study was voluntary. The participants could refuse to participate and could withdraw from the study at any time. Of the 578 students invited to participate, 46 did not due to not obtaining a declaration of consent signed by their parents and/or themselves on the date of data

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<sup>1</sup> To check the expected lack of difference between the "eligible witnesses" ( $N = 276$ ) and the "excluded witnesses" ( $N = 45$ ), comparisons were performed on sociodemographic variables, school bullying and TPB variables. The only significant difference seems to be in the level of school bullying witnessing: the "excluded witnesses" have less observed bullying situations than the eligible witnesses. However, given the large difference between the number of students in these groups, caution is needed about the significance of this result. Details of all results are available within the *supplemental materials* (see Supplemental Table 5).

collection, and four students did not participate because their parents refused their participation. Finally, none of the 528 participating students left the study over the course of the survey.

### **Measures and Procedure**

The survey was assessed in the following order: (a) school bullying variables and past reactions to bullying, (b) TPB variables, and (c) sociodemographic variables (gender, age, and grade). Table 1 presents the items of all measures used. In the presence of teachers, the researcher invited students to individually complete a written questionnaire in class for approximately fifty minutes. At the end of the survey, the students were briefed on the purpose of the survey and on the scope of the results and questions from the students were addressed. A school nurse and psychologist were present to address any requests from the students following the survey. No such requests were made.

*Victimization, Bullying Others and Witnessing Bullying.* Based on the French adaptation of the Olweus Bully/Victim Questionnaire (Kubiszewski et al., 2014; Olweus, 1996; Solberg & Olweus, 2003) and the Forms of Bullying Scale (Shaw et al., 2013), we measured victimization, bullying others and witnessing bullying. First, we have provided a comprehensive definition of school bullying to the adolescents (Kubiszewski et al., 2014) using the three criteria of bullying (Olweus, 2013) and exemplifying different forms of bullying<sup>2</sup>. Then, 12 items measured on 5-point scales were presented to them (1-*never*, 2-*only once or twice*, 3-*two or three times a month*, 4-*about once a week*, and 5- *several times a week*). The items described negative behaviors such as hurtful teasing, unpleasant name calling, deliberate exclusion, lies spread about someone, threats and harm, and physical injuries, for which negative behaviors are classically used to assess school bullying situations. The students were asked to indicate how often they had experienced (Victimization scale, Cronbach  $\alpha = .87$ ),

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<sup>2</sup> More details of the comprehensive presentation of the school bullying phenomenon are available within the *supplemental materials* in the Supplemental Figure 1.

perpetrated (Bullying others scale, Cronbach  $\alpha = .87$ ), and witnessed each of these twelve situations (Witnessing bullying scale, Cronbach  $\alpha = .78$ ) over the last three months. In accordance with the school bullying literature (Shaw et al., 2013), we considered students to be witnessing bullying when they had observed at least one situation approximately once a week or more.

*Witnesses' Past Reactions to School Bullying Situations.* Four past reactions to bullying were measured according to the participant role approach (Salmivalli et al., 1996): (1) assisting the aggressor, (2) reinforcing the bullying situation, (3) remaining passive, and (4) defending the victim. 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. Asking students to indicate how they reacted in each of 12 specific situations, rather than asking them how they reacted to bullying in general (as with the participant role questionnaire, e.g., Thornberg & Jungert, 2013), allowed us to obtain a more systematic measure of their past reactions (i.e., taking into account the different situations they had witnessed). Then, scores of defending, passive, and probullying reactions were calculated from the ratio of the number of past reactions to the total number of bullying situations witnessed. Hence, for each witness, the computed scores reflected respectively their patterns of defending, passive, and probullying reactions. This latter score representing probullying reactions grouped both assisting the aggressor and reinforcing the situation, because they refer to one type of reaction (i.e., probullying reactions) and are usually aggregated into a single score (Thornberg & Jungert, 2013). Ranging from 0 to 1, a score of 0 for the defending reactions indicates that witness never defended the victim in the observed situations, and a score of 1 indicates he/she always defended the victim in the observed situations.

*Factors of the Theory of Planned Behavior and Intention.* TPB psychological factors related to victim support were assessed with a 12-item Likert-type scale (from 1 = *strongly disagree* to

9 = *strongly agree*) including three items for *attitudes* (Cronbach  $\alpha = .71$ ), *perceived behavioral control* (Cronbach  $\alpha = .67$ ), *intentions* to act in the next two months (Cronbach  $\alpha = .69$ ) and two items for *subjective norms* ( $r = .62$ ) from the classical TPB questionnaire<sup>3</sup> (adapted from Elliott et al., 2003 to the bullying context and more especially to victim-defending behaviors).

### **Analytic Strategy**

First, we have run analyses in order to characterize the sample of school bullying witnesses. The “eligible witnesses” were thus compared to the “non-witnesses” group on sociodemographic, school bullying and TPB variables. Chi square tests were performed on gender, grade level, and school variables, and independent Student’s t-tests were performed on age, victimization, bullying others and TPB variables (i.e., intention, attitudes, SN and PBC). Past reactions of “eligible witnesses” were analyzed through repeated-measures ANOVAs. Table 2 presents witness sample’s characteristics in terms of the studied variables and the results of these analyses.

Second, because sociodemographic variables have previously been shown to play a role in school bullying and witnesses’ reactions (e.g., Meter & Card, 2015, 2016; Trach et al., 2010), we tested differences across gender, grade and school variables and associations between age and school bullying variables, past reactions to bullying, and TPB psychological variables among the sample of school bullying witnesses ( $N = 276$ ).

Third, a cluster analysis was performed to identify subgroups of students among the 276 school bullying witnesses by including in the model the three psychological factors predicting intentions under the TPB, namely, attitudes, SNs and PBC related to victim support, as well as past reactions to bullying, namely, defending, passive and probullying reactions. As

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<sup>3</sup> Because the internal consistency of the three SN items was found to be low (i.e., Cronbach  $\alpha = .52$ ), the score was calculated excluding the reverse item and was otherwise reported by the children as more difficult to understand.

recommended (Hair et al., 2010), hierarchical and nonhierarchical data grouping was carried out. We first performed a hierarchical analysis by using Ward's method with a squared Euclidean distance measure to determine the optimal number of clusters. Different indexes were used to determine the number of clusters. The aim of performing a cluster analysis is to group within a single cluster individuals who are most similar to each other and most different from other individuals in different clusters. We determined the optimal number of clusters by using the following four metrics in a combined approach: C-index (Hubert & Levin, 1976), the G(+) (Rohlf, 1974), the Gamma (Barker & Hubert, 1975), and the Point-biserial correlation (Milligan, 1981). The minimum value of the first two metrics and the maximum value of the last two metrics suggest the optimal number of clusters to retain, hence indicating the best cluster solution. Second, we determined the cluster membership of witnesses through subsequent nonhierarchical K-means analysis. As we used two different scales with different score ranges, all variables included were Z-scored. Third, differences between clusters on the variables included in the cluster analysis were investigated by performing ANOVAs. Finally, to support the reliability of the obtained clusters of witnesses, thorough ANOVAs and chi square tests, we compared clusters based on external correlates, namely, the intention to defend victims, school bullying variables, and sociodemographic variables.

Fourth, comparisons, through ANOVAs and the use of simple contrasts, were also performed between each cluster identified in the cluster analysis and the non-witnesses' group on the TPB variables.

All analyses were conducted using Jamovi (version 1.6.8; The jamovi project, 2021) except for the cluster analysis which used R (version 4.05; R Core Team, 2021) with the NbClust package (Charrad et al., 2014).

## Results

### Characteristics of the School Bullying Witnesses

Table 2 reports descriptive data and details of statistical analyses. The results show that boys (61.5%) and students from the School A (63.87%) are overrepresented in the sample of bullying witnesses, but no difference were observed on age, grade level and scores of TPB variables between witnesses and non-witnesses. In addition, the sample of witnesses is characterized by higher levels of victimization ( $M_{ew} = 1.33$ ,  $SD = 0.38$  vs.  $M_{nw} = 1.22$ ,  $SD = 0.33$ ,  $p < .001$ ) and bullying others ( $M_{ew} = 1.19$ ,  $SD = 0.31$  vs.  $M_{nw} = 1.06$ ,  $SD = 0.12$ ,  $p < .001$ ) compared to the non-witnesses' sample. Finally, our sample of witnesses reported on average a majority of passive reactions (i.e., 58.9%), defending reactions representing one-third of reactions (i.e., 34.9%) and very few probullying reactions (i.e., 6.15%), and they reported, on average, relatively favorable beliefs about victim support.

### Effects of Sociodemographic Variables on Past Reactions to Bullying and TPB Psychological Variables

Student's t-tests indicate that none of the variables differ by student gender (see Table 3 for descriptive data and details of statistical analyses). A one-way ANOVA shows that both observing bullying and defending reactions variables differ by grade level. The students in 8<sup>th</sup> grade reported more incidents of witnessing bullying than the 6<sup>th</sup> grade students, and students in 8<sup>th</sup> grade reported fewer defending reactions than the 6<sup>th</sup> and 5<sup>th</sup> grade students. Pearson's correlations indicate that age is positively associated with witnessing bullying ( $r = 0.13$ ) and passive reactions ( $r = 0.13$ ) but negatively associated with defending reactions ( $r = -0.14$ ) and subjective norms of victim support ( $r = -0.13$ ). Students from the two middle schools only differ in their probullying reactions, with more probullying reactions found for middle school A ( $M = 7.90\%$ ,  $SD = 19.52$ ) than for middle school B ( $M = 3.11\%$ ,  $SD = 10.96$ ).

### **Profiles of School Bullying Witnesses**

The cluster analysis was performed on the three TPB variables and the three scores of past reactions to bullying. Correlations between the study measures are available within the *supplemental materials* in the Supplemental Table 2.

According to the relative loss of inter-cluster inertia, three cluster solutions were chosen: the two-, three-, and five-cluster solutions. Then, the four metrics previously described were used to determine the optimal number of clusters of two to five solutions. The C-index, the G(+) and the Gamma suggested a five-cluster solution, the Point-biserial correlation indicated a two-cluster solution (for more details of metrics' results, see the Supplemental Table 3 available within the *supplemental materials*). Considering that three metrics indicated the five-cluster solution as the most optimal, and that the two-cluster solution would decrease considerably the information to be gained from the identification of psychological witness profiles, a five-cluster solution was chosen (see Figure 2).

The differences between clusters regarding the TPB psychological variables and past reactions to bullying were investigated through ANOVAs (see Table 4<sup>4</sup>). Cluster 1 (“the prodefense witnesses”, 23.2%) was characterized by higher values on attitudes, SNs and PBC and defending reactions; Cluster 2 (“the antidefense witnesses”, 17.7%) was characterized by lower values on psychological variables related to defense and higher value on passive reactions; Cluster 3 (“the probullying witnesses”, 9.1%) was characterized by lower values on psychological variables related to defense and higher value on probullying reactions; Cluster 4 (“the conflicting beliefs’ witnesses”, 20.7%) was characterized by higher value on attitudes but lower value on SNs regarding victim support, and average values on PBC, and defending, passive and probullying reactions; and Cluster 5 (“the inconsistent witnesses”, 29.3%) was

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<sup>4</sup> The same table with raw values is available within the *supplemental materials* (Supplemental Table 4).

characterized by higher values on attitudes, SNs and PBC related to defense but respectively lower and higher values on defending and passive reactions. A set of comparisons based on external correlates supports the reliability of these subgroups (see Table 4). First, and likely the most important, the intention to defend victims differs by cluster with a higher level found for Clusters 1 and 5, an average level found for Cluster 4 and a lower level found for Clusters 2 and 3. Second, whereas no significant difference was evidenced between clusters in regard to gender, age and school enrollment<sup>5</sup>, the results indicate that 6<sup>th</sup> graders were overrepresented in Cluster 1, and Cluster 3 reported higher levels of bullying others and of witnessing bullying.

### **Comparison Between Witness Clusters and Non-Witnesses Group**

Findings of the comparisons between each cluster and the non-witnesses' group allowed to specify the psychological strengths and weaknesses of each witness profile (see Table 5 for descriptive data and statistical analyses). Compared to the non-witnesses, Cluster 1 ("prodefense witnesses") has a higher psychological profile for victim support (i.e., higher levels on all the TPB psychological variables); Cluster 2 ("antidefense witnesses") has a lower psychological profile for victim support (i.e., lower levels on all the TPB psychological variables); Cluster 3 ("probullying witnesses") has lower intention and attitude but similar levels of norms and PBC; Cluster 4 ("conflicting beliefs' witnesses") has lower subjective norms but stronger attitudes and similar levels of intention and PBC; and Cluster 5 ("inconsistent witnesses") has a higher psychological profile.

### **Discussion**

The present study is the first to investigate the combined roles of attitude, subjective norms, perceived behavioral control related to victim support among school bullying witnesses and

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<sup>5</sup> Despite the significant results of chi square tests for the studied schools, the Pearson's residuals indicate no over- or underrepresentation of either school across the five witness clusters.

their past reactions to bullying to identify witnesses' psychological profiles and further understand their intentions to defend victims. For this purpose, middle school students in 6<sup>th</sup> to 9<sup>th</sup> grade were invited to complete a questionnaire assessing these factors. The results first show that witnesses reported mostly passive reactions, especially for older students for whom normative pressures to defend victims decrease, but at the same time, these students showed relatively favorable beliefs about victim support. These results are consistent with the literature, which shows that students are mostly passive (Atlas & Pepler, 1998; Demaray et al., 2016; Salmivalli, 2014; Salmivalli et al., 1996) and yet report being against bullying (e.g., Boulton et al., 2002; Lodge & Frydenberg, 2005; Rigby & Slee, 1991; Salmivalli & Voeten, 2004) and that younger students are more likely to defend victims whereas older students are more likely to remain passive (Cowie, 2000; Menesini et al., 1997; Meter & Card, 2015; Pozzoli, Ang, et al., 2012; Pozzoli, Gini, et al., 2012; Reijntjes et al., 2016; Rigby & Johnson, 2006; Trach et al., 2010). Second, the cluster analysis shows five profiles of witnesses who vary in terms of psychological factors related to victim defense, past reactions to bullying and behavioral intentions to defend victims. The first three profiles, which we call "prodefense witnesses" (Cluster 1), "antidefense witnesses" (Cluster 2), and "probullying witnesses" correspond with the types of witnesses classically described in the literature and are characterized by relative coherence between psychological factors, past reactions to bullying and future intentions to defend victims. However, the same cannot be claimed for the other two profiles, which we call "conflicting beliefs' witnesses" (Cluster 4) and "inconsistent witnesses" (Cluster 5), as they present a less coherent combination of psychological factors, past reactions to bullying and intentions to defend victims, and to the best of our knowledge, have never been highlighted in the literature. Thus, three important elements must be discussed. First, we review each of the profiles identified and show how they can further comprehension of school bullying witnesses according to not only their behavioral reactions but also their psychological characteristics.

Second, we address how key psychological factors related to victim support lacking in some witnesses reveal new means to promote defending intentions and behaviors adapted to each profile's deficits. Third, we highlight the practical implications of our findings for current bullying prevention programs.

### **Five Witness Profiles with Distinct Behavioral-Psychological Characteristics**

By considering potential interactions between behavioral and psychological characteristics of witnesses related to victim support, our results offer a clearer and more comprehensive account of school bullying witnesses that distinguishes them based on the coherence of their psychological-behavioral profiles.

First, three psychological-behavioral coherent profiles were identified. "Prodefense witnesses" (Cluster 1) are students with a coherent profile in favor of the defense of victims, which is associated with higher values on intention to defend victims, attitudes, SNs, PBC, and defending reactions. "Antidefense witnesses" (Cluster 2) and "probullying witnesses" (Cluster 3) are also students with a coherent profile but against victim support. Although these two coherent profile groups show lower values on intentions, attitudes, SNs, and PBC in support of defending victims and are associated fewer defending behaviors, they differ in that "antidefense witnesses" have passive reactions to bullying and "probullying witnesses" exhibit probullying reactions. Clearly, the first three profiles are quite classic and in accordance with the literature distinguishing between "defender," "outsider" and "probullying" witnesses (see the participant role approach to school bullying, Salmivalli, 2010; Salmivalli et al., 1996). In the literature, defenders are described as witnesses who consistently challenge bullying situations by caring for victims, alerting adults, or opposing aggressors. Outsiders are witnesses who withdraw from bullying situations, remain passive and do not engage in defending behaviors, and probully witnesses reinforce bullying situations by encouraging and/or assisting bullies. However, our

results suggest that these three profiles are not exact, as none exhibit these specific behavioral patterns in all situations. Rather, the profiles engage in all three reactions but show a greater propensity to engage in one of them. This is line with recent studies showing that witnesses could be defenders but also probullies at other times (Frey et al., 2014; Huitsing et al., 2014). Thus, the reasons why “prodefense witnesses” sometimes adopt passive behaviors and “antidefense” and “probullies” witnesses sometimes support school bullying victims must be explored further. Avenues could be considered based on other factors that could influence witness reactions to bullying, such as the type of bullying observed (Fox et al., 2014; Tapper & Boulton, 2005) by considering how witnesses respond to each specific bullying situations, as well as victim status and victim gender (Oldenburg et al., 2018; Sainio et al., 2011), and aggressor status (Tisak & Tisak, 1996).

Second, the two other clusters have less uniform psychological-behavioral profiles. “Conflicting beliefs’ witnesses” (Cluster 4) show an average value on intention to defend victims, higher value on attitudes towards victim support, lower value on perceptions of normative pressures to defend and average levels of a perceived ability to defend and of defending and passive reactions. Of course, we could also have called these individuals “moderate witnesses” since they show mostly average values at the psychological (intentions and PBC) and behavioral (defending and passive reactions) levels. However, we decided to call them “conflicting beliefs’ witnesses” due to the specificities of this witness profile, which combines strong prodefense attitudes with very weak normative prodefense beliefs. Why does this conflict of beliefs matter? We know the crucial role played by social norms in school bullying witnesses (e.g., Kubiszewski et al., 2019; Salmivalli, 2010; Salmivalli & Voeten, 2004) and more broadly in adolescence (Caravita et al., 2014; van Hoorn et al., 2016). People, especially adolescents, follow norms by conforming to the behaviors and opinions of others to seek peer acceptance and avoid social rejection and group repercussions (Brenick &

Halgunseth, 2017; Cialdini & Goldstein, 2004; Killen et al., 2013; Mulvey et al., 2016). Therefore, these witnesses seem to experience a *conflict of beliefs* between their own personal prodefense beliefs on one hand and their normative antidefense beliefs on the other. This perception of normative pressures to not behave according to their own values may ultimately explain why they often react passively by complying with norms but sometimes defend victims in line with their own convictions, perhaps from having found the courage to challenge the norm. Therefore, these individuals' behavioral ambivalence may simply reflect their psychological conflict. In contrast, "inconsistent witnesses" are characterized by an incoherent psychological-behavioral profile associated with strong beliefs in defending victims and few defending and many passive reactions. Thus, unlike "conflicting beliefs' witnesses", these witnesses have all of the psychological features needed to defend victims, but they do not. Why do they not support victims? It may be that the involved psychological factors (i.e., intentions, attitudes, SNs, and PBC), even at their highest levels, are necessary but not sufficient to defend victims, at least for some witnesses. This would be consistent with social psychology research showing that a strong intention to perform a behavior may not be sufficient to realize it (Gollwitzer & Sheeran, 2006) due to many barriers that prevent the concretization of intentions into action (see Hazler, 1996 for a summary of barriers to defending victims that witnesses face and Boulton et al., 2017 and O'Brien, 2016 for recent work in this area). For example, it could be considered that individual characteristics (e.g., feeling distressed at school, Correia et al., 2009) or social status in the peer group (e.g., van der Ploeg et al., 2017) may lead students, despite they feel themselves capable of performing defending behaviors, not to act because they believe that their behavior will not influence their peers' attitudes and behaviors. Finally, this particular witness profile is worth exploring not only because it accounts for more than one-third of our witness sample but also because it can contribute to our understanding of the psychological consequences of remaining passive with regard to school bullying.

## **Developing Interventions Adapted to Each Witness Profile's Deficits to Promote Defending Reactions**

Beyond providing a more comprehensive typology of witnesses, this study identifies which specific psychological factors “antidefense” “probullying” “conflicting beliefs” and “inconsistent” witnesses are lacking when compared to “prodefense witnesses” making it possible to consider specific interventions that could be adapted to each of these four profiles to increase their intentions to defend victims and engage in defending behaviors.

First, “probullying witnesses” and “antidefense witnesses” appear to exhibit mainly a prodefense attitude deficiency but also weak norms and PBC related to victim support. Therefore, a positive attitude towards defending and antibullying behaviors would be worth developing among these cohorts as a first step. Providing information objectively is an efficient means to improve attitudes and intentions towards behavior (see Steinmetz et al., 2016 for a meta-analysis). The framing technique (Gallagher & Updegraff, 2012) provides information on the positive consequences (gains) of stopping problematic bully behavior and probullying reactions for “probullying witnesses” and passive behavior for “antidefense witnesses” or the negative consequences (losses) of doing so. Concretely, adolescents would be exposed to information contradicting the outcomes traditionally expected from probully (e.g., greater peer acceptance) or passive behaviors (e.g., not being responsible for the bullying situation) and defending behaviors (e.g., being victimized in turn). As a second step, when positive attitudes towards victim support are elicited among “probullying witnesses” and “antidefense witnesses” the two strategies developed for “conflicting beliefs’ witnesses” could be relevant to them as well.

Second, for “conflicting beliefs’ witnesses” which have insufficient prodefense norms and PBC to a lesser extent, their normative beliefs about victim support as well as their

perceived ability to defend victims must be strengthened. On the one hand, consistent with previous studies showing that some witnesses misperceive peer norms by undervaluing the pro-victim and antibullying attitudes of peers associated with defending reactions (Sandstrom et al., 2013; Sandstrom & Bartini, 2010), misperceptions of norms need to be rectified by making “conflicting beliefs’ witnesses” aware that their normative beliefs do not reflect reality (i.e., their perceptions of their peers’ attitudes towards victim support differ from peers’ actual attitudes). A strategy developed for this purpose is that of personalized normative feedback (Vallentin-Holbech et al., 2018). Concretely, in the form of an exercise, students could be asked to answer questions about their attitudes towards antibullying, the defense of victims and the number of classmates they estimate to be against bullying and supportive of victim support. An individual correction (i.e., personalized) could be returned to each student showing three elements with charts: their own antibullying attitudes, the perceived number of peers who are against bullying, and the actual number of peers who are against bullying. On the other hand, the self-efficacy beliefs required to intervene among “conflicting beliefs’ witnesses” could be strengthened using the social modeling approach (Burn, 1991). This technique increases perceived self-efficacy in carrying out actions (see Webb & Sheeran, 2006 for a meta-analysis) through observation or the feedback of models (i.e., peers). More specifically, adolescents could be exposed to defenders – with whom they can identify – who could tell them about what they do to defend victims. Such an exercise could also have a role-playing component.

Third, “inconsistent witnesses” seem unable to use their strong beliefs and intentions to support victims, rendering this intention-behavior gap the deficit that these witnesses must address. Following behavioral intention formation, the model of action phases (Gollwitzer, 1993) indicates the need to plan actions to overcome the many barriers that prevent the concretization of the intention to act. A promotion intervention especially developed for this purpose is the implementation intention technique (Gollwitzer, 1999; Gollwitzer & Sheeran,

2006). Specifically, adolescents could be invited to create and learn from “if-then” scenarios by identifying bullying situations (e.g., “I see a student being deliberately excluded”), barriers that prevent them from defending victims (e.g., “I think this is none of my business”) and appropriate means of defending victims (e.g., “I report it to an adult during recess”).

### **Implications for Practice**

Several bullying prevention programs take into account the role of witnesses: Friendly Schools (Cross et al., 2011), Viennese Social Competence (Strohmeier et al., 2012), Steps to Respect (Hirschstein & Frey, 2006), or even the KiVa program (Kärnä et al., 2013). This is one of the currently most widespread programs in the world and it is exclusively centered on the role of witnesses (e.g., in Finland, Kärnä et al., 2013; Netherlands, van der Ploeg et al., 2016; UK, Hutchings & Clarkson, 2015; Italy, Nocentini & Menesini, 2016). The goal of this type of program is to develop interventions, in the form of teacher-delivered lessons, that aim to strengthen students’ prodefense attitudes, normative beliefs, and sense of self-efficacy in defending school bullying victims (Garandeau & Salmivalli, 2018). In addition to having led us to consider innovating educational strategies, the results of our study allow us to complement these current approaches by showing the interest in developing and adapting prevention measures according to the witness profiles. For example, our results show that the strategy of strengthening the prodefense beliefs, which remains the main objective of many prevention programs such as KiVa, would not be the most adapted one for certain witness profiles such as the “inconsistent witnesses”: they already have all the psychological reasons to defend victims but are unable to do so. It would then be much more effective, as we have developed above, to support them with strategies that facilitate their shift to action or/and reinforce their self-affirmation (e.g., intention implementation, Gollwitzer & Sheeran, 2006). Thus, in general, it would be better for any bullying prevention program to start with an initial diagnostic stage that would make it possible to identify the type of witnesses targeted and then to adapt the

educational interventions to the different profiles. Given the heterogeneity of witness profiles, this profiling seems essential in order to effectively support students towards adopting victim-defending behaviors. This approach we defend, which would be innovative in the field of school bullying prevention, could fit well within a Multi-Tiered System of Support (MTSS, Eagle et al., 2015) framework which aims to provide a system-wide resources and strategies which involve universal intervention (i.e., implemented population-wide to influence all students) and selective intervention (i.e., addressed specific student needs) levels to address student needs related to their academic, social, emotional, and behavioral development.

### **Limitations and Future Research**

This study has limitations that we should note. First, we have used self-reported data. Although this is the most common method used in this field (e.g., Papanikolaou et al., 2011; Solberg et al., 2007; Vaillancourt et al., 2011), it can lead to recall bias or even to participants' reluctance to report actual behaviors in bullying situations to avoid stigma or present themselves in a socially desirable way. It would therefore be interesting to use a complimentary approach, such as peer nominations (e.g., Obermann, 2011). Second, there are four types of defending behaviors (Lambe & Craig, 2020): caring (i.e., comforting and supporting the victim), opposing (i.e., intervening in opposition to the aggressor), reporting (i.e., seeking help from adults), and focusing on seeking solutions. To complete our study, it would be interesting to verify whether some of the variables identified here as related to the intention to defend bully victims are rather related to a certain type of defending behavior. Third, the identification of "probullying witnesses" who are associated with higher levels of aggression, supports the slim boundary between being a bully or being a witness who assists a bully and/or reinforces bullying situations as suggested by some researchers (e.g., Kubiszewski, 2018; Thornberg et al., 2017). Therefore, future work could measure other variables such as negative "antibullying" beliefs (Obermann, 2011; Salmivalli & Voeten, 2004), provictim attitudes (Rigby & Slee, 1991), and

feelings of being excluded (Barboza et al., 2009) to supplement understanding of probullying witnesses (see also Álvarez-García et al., 2015 for a systematic review of school bullying perpetration correlates). Fourth, we focused on the psychological variables specifically related to the TPB model as this model was relevant in predicting the intention to act (Steinmetz et al., 2016). Other theoretical models of defending reactions exist, such as the Bystander Intervention Model (Nickerson, Aloe, et al., 2014; Jenkins & Nickerson, 2017), which takes into account other variables such as moral disengagement (Pozzoli & Gini, 2013b), while focusing less on TPB variables like social norms (Ajzen, 2020; Kubiszewski et al., 2019). Considering these both models simultaneously in future research may well enrich our understanding of school bullying witnesses and better predict their reactions. Finally, a last limitation of our study is related to our cluster analytic approach as this statistical approach is sample-dependent. Despite each of the profiles identified in this study are not dependent on one of the two schools that composed our sample, future studies need to confirm these witness profiles on other samples, including different populations such as primary school students as well as high school students.

### **Conclusion**

School bullying is associated with several negative consequences for students (i.e., psychological, relational, and academic, see Shaw et al., 2013 for a review). Prevention programs are being developed around the world (e.g., the KiVa Program, Kärnä et al., 2013; the Steps to Respect Program, Frey et al., 2009; the Australian Friendly Schools Project, Cross et al., 2011), mostly focusing on the role of witnesses (see Polanin et al., 2012 for a meta-analysis). The present study could allow the adaptation of prevention modules to witness profiles according to their specific and easily identified deficits, as shown by our results. Then, some witnesses could be led to focus on the perceived (negative) consequences of not supporting victims, while others could be led to feel more equipped to defend victims and thus be motivated to turn their goodwill into effective action.

### **Acknowledgements**

We are grateful to the parents, teachers, and school administrators who made the research possible, and the students who contributed to this study.

### **Declaration of interest statement**

The authors have no interest conflict.

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**Tables**

**Table 1***Study Measure Items*

| Variables  | Response options                        |
|--|---|
| <b>School bullying situations</b>  |   |
| 1 A student was prevented from speaking in unkind ways.                                |   |
| 2 A student was unkindly rejected.   |   |
| 3 Unkind comments made to a student.   |   |
| 4 A student has not able to eat his/her meal because his/her food was damaged.         |   |
| 5 A student was teased in unkind ways.   | 1 ( <i>never</i> )                      |
| 6 A student's belongings were deliberately damaged, destroyed or stolen.               | 2 ( <i>only once or twice</i> )         |
| 7 A student was made to feel afraid by threats of harm.                                | 3 ( <i>two or three times a month</i> ) |
| 8 Secrets were told about a student to others to hurt him/her.                         | 4 ( <i>about once a week</i> )          |
| 9 A student was physically abused to humiliate him/her.                                | 5 ( <i>several times a week</i> )       |
| 10 A student was called unkind names.  |   |
| 11 A student was insulted to hurt him/her.   |   |
| 12 A student was deliberately physically hurt by someone and/or a group.               |   |
| <b>Past reactions to bullying</b>  |   |
| 1 I defended the student who [was bullied] ( <i>defending reactions</i> )              |   |
| 2 I was only an observer ( <i>passive reactions</i> )                                  |   |
| 3 I encouraged the student who [bullied] ( <i>reinforcing reactions</i> )              | Check one of the four                   |
| 4 I cooperated with the student who [bullied] ( <i>assisting reactions</i> )           |   |
| <b>Attitudes towards victim support</b>  |   |
| 1 I do not think it is right to defend school bullying victims.                        | From 1 ( <i>strongly disagree</i> )     |
| 2 In my opinion, it is beneficial to help bullied students.                            | to                                      |
| 3 It is important to defend students who are bullied.                                  | 9 ( <i>strongly agree</i> )             |
| <b>Subjective norms surrounding victim support</b>                                     |   |
| 1 Most people who are important to me think I should defend school bullying victims.   | From 1 ( <i>strongly disagree</i> )     |
| 2 The majority of people important to me disapprove of me helping bullied students.*   | to                                      |
| 3 Most people who are important to me would want me to help bullied students.          | 9 ( <i>strongly agree</i> )             |
| <b>Perceived behavioral control over victim support</b>                                |   |
| 1 I feel able to help bullied students.  | From 1 ( <i>strongly disagree</i> )     |
| 2 It is difficult for me to defend students who are bullied.                           | to                                      |
| 3 I am confident that I can defend school bullying victims.                            | 9 ( <i>strongly agree</i> )             |
| <b>Intentions to defend bullying victims</b>   |   |
| 1 I intend in the next two months to defend students who are bullied.                  | From 1 ( <i>strongly disagree</i> )     |
| 2 If I see a bullied student in the next two months, I do not plan to support him/her. | to                                      |
| 3 I am likely to help students who are bullied in the next two months.                 | 9 ( <i>strongly agree</i> )             |

*Note.* \* Indicates that the item was removed when the score was computed. For school bullying situations, students were asked to indicate how often they had experienced (victimization), perpetrated (bullying others), and witnessed (witnessing) each of the 12 situations over the past three months. For past reactions to bullying, students were asked to report their reaction to each situation observed.

**Table 2***Sociodemographic Variables and Study Measures compared to Witness Status of Students*

| Variable                                     | Witness Status                  |                                      | Statistic              |
|--|---------------------------------|--------------------------------------|------------------------|
|  | Non-witnesses<br><i>n</i> = 207 | Eligible witnesses<br><i>n</i> = 276 |                        |
| <b>Sociodemographic variables</b>            |                                 |                                      |                        |
| Gender                                       |                                 |                                      | $\chi^2 = 5.96^*$      |
|  | Girls                           | 49.4 (121)                           | 50.6 (124)             |
|  | Boys                            | 38.5 (95)                            | 61.5 (152)             |
| Age  |                                 | 13.22 (1.29)                         | 13.13 (1.21)           |
| Grade  |                                 |                                      | $\chi^2 = 7.42$        |
|  | 6 <sup>th</sup>                 | 48.9 (46)                            | 51.1 (48)              |
|  | 7 <sup>th</sup>                 | 46.3 (62)                            | 53.7 (72)              |
|  | 8 <sup>th</sup>                 | 33.8 (44)                            | 66.2 (86)              |
|  | 9 <sup>th</sup>                 | 47.8 (64)                            | 52.2 (70)              |
| School                                       |                                 |                                      | $\chi^2 = 15.20^{***}$ |
|  | A                               | 36.13 (99)                           | 63.87 (175)            |
|  | B                               | 53.67 (117)                          | 46.33 (101)            |
| <b>School bullying variables</b>             |                                 |                                      |                        |
| Victimization                                |                                 | 1.22 (0.33)                          | 1.33 (0.38)            |
| Bullying others                              |                                 | 1.06 (0.12)                          | 1.19 (0.31)            |
| Witnessing                                   |                                 |                                      | 1.70 (0.49)            |
| <b>Past reactions to witnessing bullying</b> |                                 |                                      |                        |
| Defending reactions                          |                                 |                                      | $F = 121.67^{***}$     |
| Passive reactions                            |                                 |                                      | 34.93 (37.85)          |
| Probullying reactions                        |                                 |                                      | 58.93 (38.09)          |
|  |                                 |                                      | 6.15 (17.03)           |
| <b>TPB variables</b>                         |                                 |                                      |                        |
| Attitude                                     |                                 | 7.57 (1.76)                          | 7.56 (1.88)            |
| Subjective norms                             |                                 | 5.49 (2.45)                          | 5.29 (2.63)            |
| Perceived behavioral control                 |                                 | 6.01 (2.01)                          | 6.30 (2.03)            |
| Intentions                                   |                                 | 6.51 (1.83)                          | 6.21 (2.10)            |

*Note.* *N* = 483. For gender, school, and grade, data show percentages (*n*). For age, data show means (*SD*). For school bullying variables, data show means (*SD*) of 12 items on a 5-point type scale. For TPB variables, data show means (*SD*) of three items for attitudes, perceived behavioral control and intentions, and two items for subjective norms on a 9-point type scale. TPB: Theory of Planned Behavior. Post-hoc comparisons are computed with Bonferroni t-tests for continuous variables. Statistically significant at \* *p* <.05; \*\* *p* <.01; \*\*\* *p* <.001.

**Table 3**

*Means, Standard Deviations of Study Measures compared on Sociodemographic Variables*

| Variable                         | Gender                  |                        | <i>t</i> | Grade                            |                                  |                                  |                                  | <i>F</i><br>(Post-hoc)  | <i>r</i> | School              |                     | <i>t</i> |
|----------------------------------|-------------------------|------------------------|----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---|----------|---------------------|---------------------|----------|
|                                  | Girls<br><i>n</i> = 124 | Boys<br><i>n</i> = 152 |          | 6 <sup>th</sup><br><i>n</i> = 48 | 7 <sup>th</sup><br><i>n</i> = 72 | 8 <sup>th</sup><br><i>n</i> = 86 | 9 <sup>th</sup><br><i>n</i> = 70 |   |          | A<br><i>n</i> = 175 | B<br><i>n</i> = 101 |          |
| <b>School bullying variables</b> |                         |                        |          |                                  |                                  |                                  |                                  |   |          |                     |                     |          |
| Victimization                    | 1.33<br>(0.35)          | 1.33<br>(0.39)         | 0.07     | 1.40<br>(0.40)                   | 1.35<br>(0.39)                   | 1.28<br>(0.37)                   | 1.31<br>(0.36)                   | 1.15  | -0.02    | 1.31<br>(0.365)     | 1.36<br>(0.399)     | -0.95    |
| Bullying others                  | 1.15<br>(0.27)          | 1.21<br>(0.34)         | -1.55    | 1.14<br>(0.31)                   | 1.14<br>(0.20)                   | 1.27<br>(0.42)                   | 1.17<br>(0.21)                   | 2.94*   | 0.06     | 1.21<br>(0.340)     | 1.14<br>(0.251)     | 1.88     |
| Witnessing                       | 1.68<br>(0.44)          | 1.72<br>(0.55)         | -0.65    | 1.51<br>(0.37)                   | 1.68<br>(0.40)                   | 1.85<br>(0.63)                   | 1.67<br>(0.38)                   | 5.67***<br>(6 <sup>th</sup> > 8 <sup>th</sup> )                   | 0.13*    | 1.73<br>(0.532)     | 1.66<br>(0.397)     | 1.19     |
| <b>Past reactions</b>            |                         |                        |          |                                  |                                  |                                  |                                  |   |          |                     |                     |          |
| Defending reactions              | 38.58<br>(38.39)        | 31.95<br>(37.27)       | 1.45     | 46.06<br>(42.33)                 | 42.64<br>(36.88)                 | 26.36<br>(34.61)                 | 29.88<br>(36.73)                 | 4.42**<br>(6 <sup>th</sup> ; 7 <sup>th</sup> > 8 <sup>th</sup> *) | -0.14*   | 33.14<br>(37.12)    | 38.03<br>(39.07)    | -1.03    |
| Passive reactions                | 55.27<br>(38.82)        | 61.92<br>(37.35)       | -1.44    | 50.60<br>(44.16)                 | 53.35<br>(36.87)                 | 64.56<br>(36.42)                 | 63.45<br>(37.40)                 | 2.27  | 0.13*    | 58.97<br>(37.65)    | 58.87<br>(39.04)    | 0.02     |
| Pro-bullying reactions           | 6.15<br>(17.71)         | 6.14<br>(16.53)        | 0.01     | 3.33<br>(13.10)                  | 4.01<br>(14.02)                  | 9.08<br>(19.75)                  | 6.67<br>(18.31)                  | 1.70  | 0.03     | 7.90<br>(19.52)     | 3.11<br>(10.96)     | 2.23*    |
| <b>TPB variables</b>             |                         |                        |          |                                  |                                  |                                  |                                  |   |          |                     |                     |          |
| Attitude                         | 7.59<br>(2.04)          | 7.37<br>(2.25)         | 0.86     | 7.40<br>(2.32)                   | 7.81<br>(2.01)                   | 7.33<br>(2.02)                   | 7.33<br>(2.35)                   | 0.80  | 0.001    | 7.33<br>(2.19)      | 7.70<br>(2.09)      | -1.37    |
| Subjective norms                 | 5.23<br>(2.57)          | 5.34<br>(2.69)         | -0.36    | 5.79<br>(2.67)                   | 5.61<br>(2.51)                   | 5.10<br>(2.82)                   | 4.84<br>(2.42)                   | 1.80  | -0.13*   | 5.31<br>(2.54)      | 5.25<br>(2.79)      | 0.19     |
| PBC                              | 6.39<br>(2.19)          | 6.27<br>(2.32)         | 0.48     | 6.24<br>(2.46)                   | 6.68<br>(2.03)                   | 6.23<br>(2.22)                   | 6.10<br>(2.39)                   | 0.90  | -0.03    | 6.25<br>(2.29)      | 6.43<br>(2.20)      | -0.62    |
| Intention                        | 6.28<br>(1.96)          | 6.16<br>(2.21)         | 0.48     | 6.35<br>(1.96)                   | 6.41<br>(2.21)                   | 6.15<br>(1.96)                   | 5.99<br>(2.21)                   | 0.56  | -0.03    | 6.07<br>(2.14)      | 6.45<br>(2.01)      | -1.45    |

*Note.* *N* = 276. For school bullying variables, data show means (*SD*) of 12 items on a 5-point type scale. For past reactions to witnessing bullying, data show ratios in percentage (*SDs*). Ratio were computed between the number of defending, passive, and probullying reactions and the number of observed situations. For TPB variables, data show means (*SD*) of three items for attitudes, perceived behavioral control and intentions, and two items for subjective norms on a 9-point type scale. TPB: Theory of Planned Behavior. PBC: Perceived Behavioral Control. Post-hoc comparisons are computed with Bonferroni t-tests for continuous variables. Statistically significance at \* *p* <.05; \*\* *p* <.01; \*\*\* *p* <.001.

**Table 4**  
*Comparisons Between the Five Witness Clusters*

| Variable                          | Min-Max    | Cluster 1                               | Cluster 2                                | Cluster 3                               | Cluster 4   | Cluster 5                                 | F/ $\chi^2$ | $\eta^2$ | Comparisons      |
|-----------------------------------|------------|---|--|---|---|---|-------------|----------|------------------|
|                                   |            | Prodefense witnesses<br>n = 64 (23.19%) | Antidefense witnesses<br>n = 49 (17.75%) | Probullying witnesses<br>n = 25 (9.06%) | Conflicting beliefs' witnesses<br>n = 57 (20.65%) | Inconsistent witnesses<br>n = 81 (29.35%) |             |          |                  |
| <b>Cluster profiles</b>           |            |   |  |   |   |   |             |          |                  |
| <i>TPB variables</i>              |            |   |  |   |   |   |             |          |                  |
| Attitude                          | -3.49–0.77 | 0.38 (0.63)                             | -1.40 (89)                               | -0.93 (1.12)                            | 0.42 (0.39)                                       | 0.54 (0.37)                               | 96.39***    | 0.59     | C2=C3<C1=C4=C4   |
| Subjective norms                  | -1.62–1.41 | 0.50 (0.90)                             | -0.64 (0.79)                             | -0.22 (1.00)                            | -0.89 (0.57)                                      | -0.71 (0.57)                              | 56.01***    | 0.53     | C4=C2=C3<C1=C5   |
| PBC                               | -3.22–0.71 | 0.35 (0.58)                             | -1.29 (0.82)                             | -0.86 (1.03)                            | 0.39 (0.36)                                       | 0.50 (0.34)                               | 12.08***    | 0.45     | C2<C3(=C4)<C1=C5 |
| <i>Past reactions to bullying</i> |            |   |  |   |   |   |             |          |                  |
| Defending reactions               | -0.92–1.72 | 1.52 (0.35)                             | -0.72 (0.50)                             | -0.49 (0.58)                            | -0.07 (0.63)                                      | -0.56 (0.48)                              | 199.63***   | 0.75     | C2=C5=C3<C4<C1   |
| Passive reactions                 | -1.55–1.08 | -1.35 (0.35)                            | 0.82 (0.52)                              | -0.74 (0.63)                            | 0.17 (0.62)                                       | 0.69 (0.49)                               | 192.40***   | 0.74     | C1<C3<C4<C5=C2   |
| Pro-bullying reactions            | -0.36–5.51 | -0.35 (0.10)                            | -0.22 (0.35)                             | 2.74 (1.34)                             | -0.22 (0.44)                                      | -0.28 (0.31)                              | 206.60***   | 0.75     | C1=C5=C4=C2<C3   |
| <b>External correlates</b>        |            |   |  |   |   |   |             |          |                  |
| Intention to defend victims       | -2.48–1.33 | 0.51 (0.83)                             | -0.95 (0.78)                             | -0.70 (1.05)                            | -0.04 (0.84)                                      | 0.41 (0.79)                               | 31.51***    | 0.32     | C2=C3<C4<C5=C1   |
| <i>School bullying variables</i>  |            |   |  |   |   |   |             |          |                  |
| Victimization                     | -0.87–5.72 | 0.02 (1.15)                             | -0.07 (1.00)                             | 0.04 (1.21)                             | 0.26 (0.93)                                       | -0.17 (0.82)                              | 1.71        | 0.03     |                  |
| Bullying others                   | -0.60–7.27 | -0.33 (0.45)                            | 0.20 (1.35)                              | 0.92 (1.53)                             | 0.02 (0.77)                                       | -0.15 (0.82)                              | 8.93***     | 0.12     | C1(<C2)=C4=C5<C3 |
| Witnessing                        | -1.31–5.02 | -0.38 (0.73)                            | 0.05 (1.26)                              | 0.40 (1.26)                             | 0.25 (0.88)                                       | -0.04 (0.91)                              | 4.41**      | 0.06     | C1<C2<C3         |
| <i>Sociodemographic variables</i> |            |   |  |   |   |   |             |          |                  |
| Gender (% males)                  |            | 53.13                                   | 67.35                                    | 52.00                                   | 47.37   | 55.56                                     | 4.55        |          |                  |
| Age                               | 11 – 16    | 12.8 (1.33)                             | 13.1 (1.11)                              | 13.3 (1.02)                             | 13.2 (1.23)                                       | 13.3 (1.21)                               | 1.52        | 0.02     |                  |
| Grade (%)                         |            |   |  |   |   |   | 22.30*      |          |                  |
| 9 <sup>th</sup>                   |            | 18.57                                   | 17.14                                    | 10.00                                   | 25.71   | 28.57                                     |             |          |                  |
| 8 <sup>th</sup>                   |            | 15.12                                   | 24.42                                    | 13.95                                   | 16.28   | 30.23                                     |             |          |                  |
| 7 <sup>th</sup>                   |            | 27.78                                   | 9.72                                     | 4.17                                    | 26.39   | 31.94                                     |             |          |                  |
| 6 <sup>th</sup>                   |            | 37.50*                                  | 18.75                                    | 6.25                                    | 12.50   | 25.00                                     |             |          |                  |
| School (% B)                      |            | 39.06                                   | 26.53                                    | 20.00                                   | 33.33   | 48.15                                     | 10.20*      |          |                  |

*Note.* N = 276. For school bullying variables, data show z-score means (SD) of 12 items on a 5-point type scale. For past reactions to witnessing bullying, data show z-score ratios in percentage (SD). Ratio were computed between the number of defending, passive, and probullying reactions and the number of observed situations. For TPB variables, data show z-score means (SD) of three items for attitudes, perceived behavioral control and intentions, and two items for subjective norms on a 9-point type scale. TPB: Theory of Planned Behavior. PBC: Perceived Behavioral Control. Post-hoc comparisons are computed with Bonferroni t-tests for continuous variables. Statistically significant at \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

**Table 5**

*Comparison Between Witness Clusters and Non-witnesses' Group (nW) on TPB Variables*

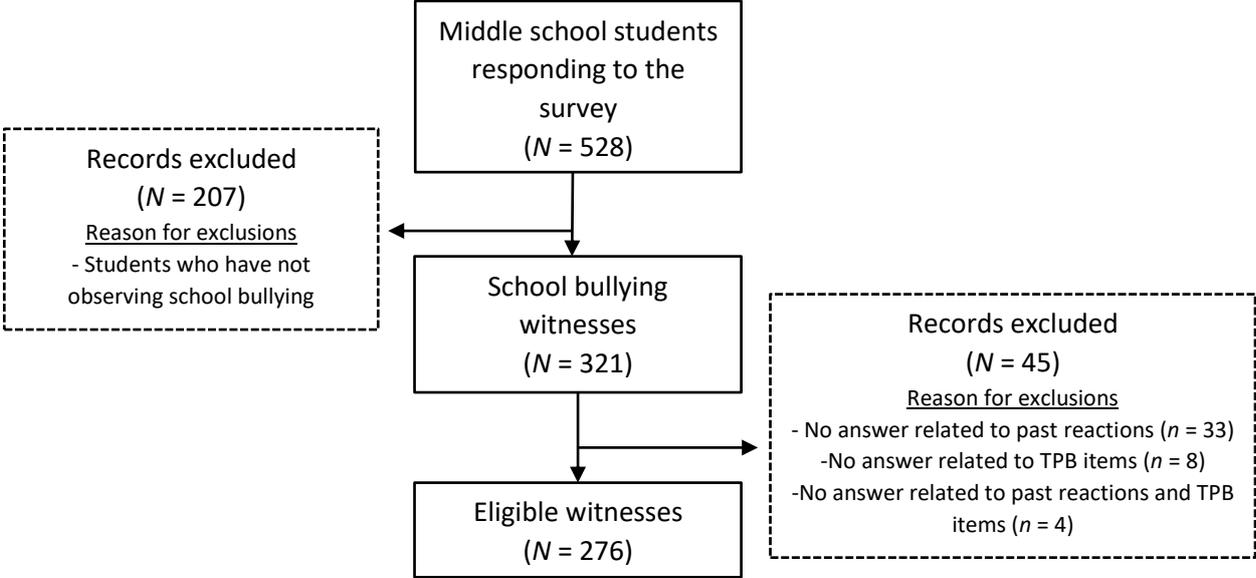
| Variable  | Cluster 1                             | Cluster 2                              | Cluster 3                              | Cluster 4                                       | Cluster 5                               | Control group                   |          |         |          |         |           |         |
|-----------|---------------------------------------|--|--|---|---|---------------------------------|----------|---------|----------|---------|-----------|---------|
|           | Prodefense witnesses<br><i>n</i> = 64 | Antidefense witnesses<br><i>n</i> = 49 | Probullying witnesses<br><i>n</i> = 25 | Conflicting beliefs' witnesses<br><i>n</i> = 57 | Inconsistent witnesses<br><i>n</i> = 81 | Non-Witnesses<br><i>n</i> = 207 | <i>F</i> | C1-nW   | C2-nW    | C3-nW   | C4-nW     | C5-nW   |
| Attitude  | 8.28 (1.19)                           | 4.92 (1.68)                            | 5.80 (2.11)                            | 8.34 (0.742)                                    | 8.57 (0.696)                            | 7.57 (1.76)                     | 20.58*** | 2.23*   | -2.88**  | -1.01   | 1.45      | 2.68**  |
| SN        | 6.60 (2.38)                           | 3.58 (2.08)                            | 4.70 (2.64)                            | 2.91 (1.51)                                     | 7.14 (1.51)                             | 5.49 (2.45)                     | 57.63*** | 3.87*** | -7.47*** | -2.55*  | -10.51*** | 6.59*** |
| PBC       | 6.79 (2.05)                           | 4.85 (1.86)                            | 5.48 (2.16)                            | 6.37 (1.89)                                     | 6.97 (1.68)                             | 6.01 (2.01)                     | 5.58***  | -2.43*  | -4.92*** | -1.07   | -1.99*    | -0.70   |
| Intention | 7.29 (1.73)                           | 4.22 (1.64)                            | 4.74 (2.20)                            | 6.13 (1.76)                                     | 7.08 (1.65)                             | 6.51 (1.83)                     | 14.22*** | 2.46*   | -6.31*** | -2.76** | -1.96*    | 1.74    |

*Note.* *N* = 483. Data show means (*SD*) of three items for attitudes, perceived behavioral control and intentions, and two items for subjective norms on a 9-point type scale. nW: Non-witnesses' group TPB: Theory of Planned Behavior. SN: Subjective norms. PBC: Perceived behavioral control. Comparisons between the five clusters and the non-witnesses' group are computed with the simple contrast. Statistically significant at \* *p* <.05; \*\* *p* <.01; \*\*\* *p* <.001.

Figures

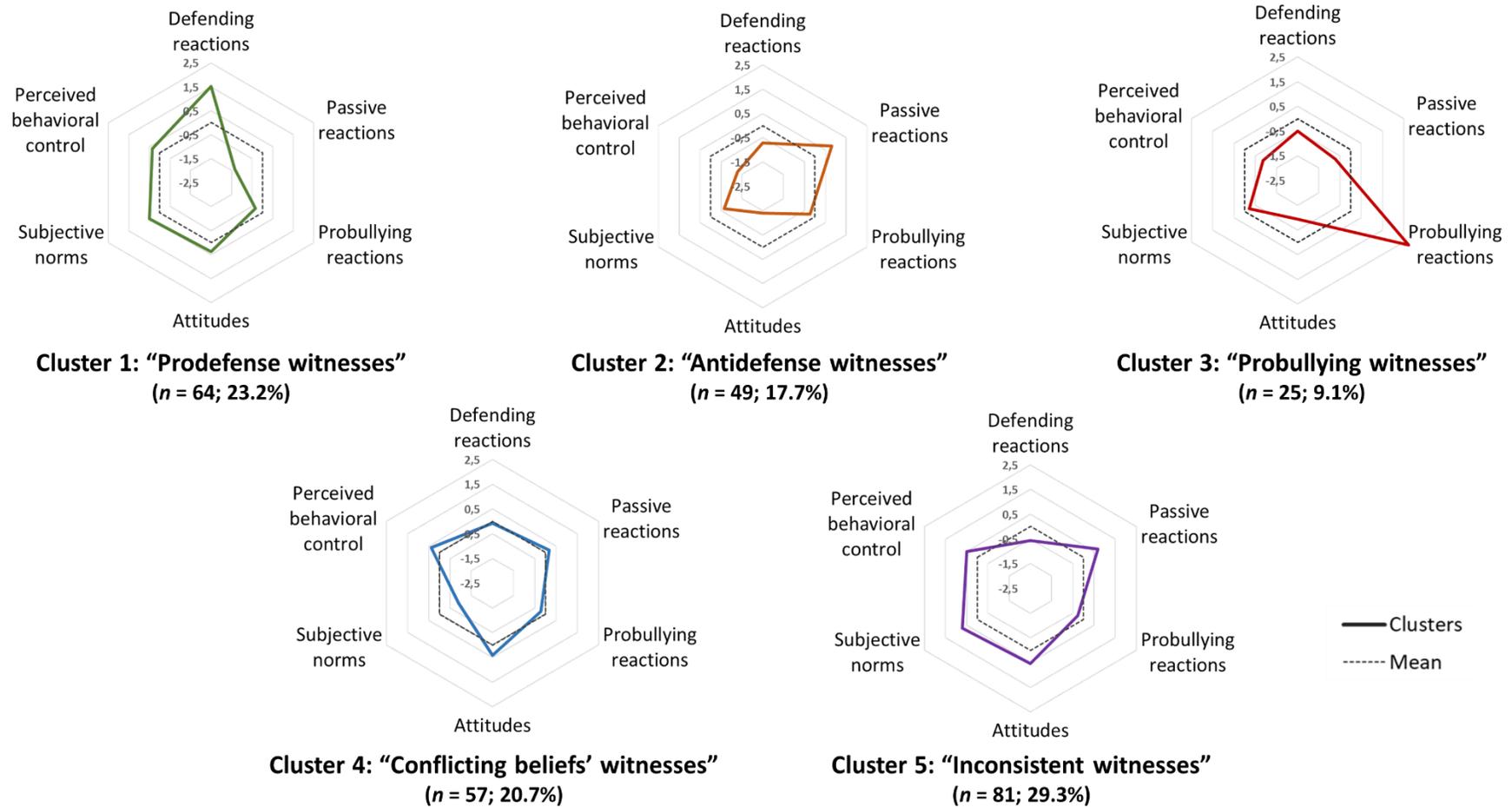
Figure 1

Flow Diagram



**Figure 2**

*The Five School Bullying Witness Clusters*



*Note.* Five profiles of witnesses determined by cluster analysis according to measures of past reactions to bullying (defending, passive and probullying reactions) and TPB variables (attitudes, subjective norms and perceived behavioral control to defend victims).