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Responsive bystander behaviour in cyberbullying: A path through self-efficacy

Abstract

Bystander behaviour and self-efficacy beliefs play an important role in cyberbullying incidence. This study tested the relationship between the Bystander Intervention Model phases and the mediating role of adolescents' self-efficacy beliefs. Children from the fifth to twelfth grades ($N = 676$) participated in this study by responding to questionnaires concerning the various phases of the bystander Intervention Model and self-efficacy beliefs to resolve cyberbullying-related problems. Through structural equation modelling, noticing an incident of cyberbullying had a direct and indirect effect on aggressive behaviour, and an indirect effect on reporting and problem-solving behaviour. The indirect effect of interpreting the event through attributing responsibility was significant for aggressive and problem-solving behaviour. The mediator role of reflective decision-making had a stronger effect on direct problem-solving. Self-efficacy beliefs significantly affected the relationship between interpreting the event and all behaviour, but stronger for direct problem-solving. These findings help explain empirically how bystanders respond to incidents of cyberbullying.

Keywords: Cyberbullying; bystander intervention; aggressive behaviour; prosocial behaviour; self-efficacy

1. Introduction

Cyberbullying is a complex phenomenon in which adolescent bystanders may choose to intervene or not in different manners (DeSmet et al. 2016). Similar to face-to-face bullying, cyberbullying may be considered as intentional repeated harmful acts towards peers through the use of digital technologies (Hinduja and Patchin 2009). How these adolescents behave when confronted with cyberbullying incidents has not been exhaustively studied in the adolescent literature (Alisson and Bussey 2016) and the behaviour in question may depend on numerous social aspects (DeSmet et al. 2016). Decision-making and the ability to understand one's own and others' perspectives is in development during adolescence (Blakemore 2012), which may explain adolescents' difficulty in regulating their behaviour when confronted with these incidents (López del Pino, Sánchez, Pérez, and Fernández 2008).

This study provides an important contribution to the literature on adolescence behaviour and information technology in educational contexts by aiming to empirically test the direct and indirect (mediator) relationships between all of the phases of the Bystander Intervention Model (BIM). From our knowledge, this study constitutes a first attempt to empirically test the proposed theoretical model in its entirety. The hypothesised model appears as a reflective decision-making process, considering adolescents' self-efficacy beliefs as a mediator within an integrated approach. We propose to do so with respect to adolescents' aggressive, problem-solving and reporting bystander behaviour. Specifically, we propose to understand whether there is an impulsive path, a self-reflective path (through the different phases of the BIM), or both, that lead to these different types of behaviour in adolescence and whether self-efficacy beliefs explains this relationship.

1.1. The Bystander Intervention Model in cyberbullying

The BIM proposed by Latané and Darley (1970) was developed to examine bystander behaviour in emergency situations. It emphasises five successive phases which an individual must experience to intervene, namely, noticing the event, interpreting the event as an emergency, assuming responsibility for intervening, knowing how to intervene or provide help, and lastly, implementing intervention decisions. Specifically in ambiguous situations, bystanders observe others for social cues to determine how to act. For instance, if other bystanders do not intervene, they may also not respond (Alisson and Bussey 2016; Bastiaensens et al. 2015).

Previous research has investigated this model with regards to single situations, as Latané and Darley (1970) did when they tested it for the first time. These investigations inspired recent research to take the model further and study a single phenomenon of contemporary times, which is cyberbullying (DeSmet et al. 2016). In fact, due to the complexity of this phenomenon, in the current study, different types of behaviour that characterize cyberbullying were considered in a single construct (Francisco, Veiga Simão, Ferreira, and Martins 2015). Moreover, since cyberbullying has been defined not as a single situation, but rather, as a phenomenon which is characterized by its repeated acts of aggression towards others with the intent to harm others, usually peers (Hinduja and Patchin 2009), we have considered cyberbullying as a single phenomenon, but with the complexity that defines it. Our intent was thus, not to understand bystander behaviour within a single act of aggression, but rather, in cyberbullying.

Latané and Darley (1970) mentioned that the Bystander Intervention Model is more appropriate in rare or unusual and unpredictable or unexpected emergencies where there is a threat or actual harm, and ultimately, where bystanders have various options in terms of

reaction available to them and where immediate action is necessary. Therefore, cyberbullying is a phenomenon which fits this criteria for its unpredictable and harmful, but also unusual nature.

In terms of the phases proposed by Latané and Darley (1970), as we have mentioned previously, an individual must first notice something is occurring in order to undergo the remaining phases. Therefore, even though bystanders may be exposed to cyberbullying behaviour because it can occur as they interact with others online, they must inevitably observe this behaviour to then engage in the interpretation of the situation at hand between the bully(ies) and victim(s). In cyberbullying, the situation between those involved is prolonged in time through the manifestation of various behaviour. Bystanders' perceptions of this behaviour (their interpretation of the situation) is then needed for them to either assume responsibility, attribute it to someone else or diffuse it, to then make the decision of whether to provide help and how. In line with this, Dillon and Bushman (2015) investigated the first phase of the BIM with an experiment including adult participants as bystanders who witnessed multiple episodes of cyberbullying. They concluded that noticing cyberbullying behaviour predicted both bystander direct and indirect intervention. Accordingly, they suggested that the use of the BIM is appropriate for investigating computer-mediated settings. Moreover, they recommended that future research should investigate the decision processes of bystanders who observe cyberbullying behaviour. In view of these suggestions, we considered the BIM appropriate to investigate observed cyberbullying behaviour, which may lead to either aggressive or prosocial behaviour.

Further research is needed to examine bystander behaviour and its intervening variables considering the BIM (Alisson and Bussey 2016). Most studies have not yet examined how adolescents' aggressive, reporting and direct problem-solving bystander

behaviour may be related to noticing the cyberbullying incident, interpreting the event, self-efficacy beliefs, assuming responsibility or not and reflective decision-making from an integrated perspective. In light of this, the dynamic relationship between these variables within an integrated approach of structural paths, and from which different types of bystander behaviour emerge, is not well understood. Investigating these relationships within an integrated perspective holds prospects of an enhanced psychological understanding of different bystander intervention, such as aggressive, reporting and direct problem-solving behaviour. Taking into account that self-efficacy plays an important role in bystanders' behaviour in incidents of cyberbullying (DeSmet et al. 2014), we propose to investigate its mediating role within the BIM.

1.2. The mediator role of self-efficacy

The literature has indicated that specific cognitive processes such as self-efficacy, are linked to specific social behaviour (Bandura 1986). In particular, self-efficacy beliefs have been linked to bystander intervention (Anker and Feeley 2011). Considered as individuals' beliefs in their ability and approach to handle specific situations to achieve desired goals, self-efficacy is a main concept of social cognitive theory which includes the personal perception of external social factors (Bandura 1977). Specifically, it originates from external experiences and self-perception and has an influence on the outcome of different incidents.

The literature has demonstrated that perceived efficacy is a prevalent mechanism through which psychosocial influences generate their effects (Bandura 1977). Moreover, self-efficacy beliefs yield effects through cognitive, motivational, affective, and selection processes and have an influence on stress, depression and the choices individuals make (Pastorelli et al. 2001). In addition, those with high self-efficacy tend to regulate the effort

necessary to reach goals and overcome obstacles or threats. In stressful situations, perceived self-efficacy relates to both coping capabilities and individuals' ability to control stressful sequences of thought (Bandura 1988). Accordingly, deciding on how to behave in diverse situations is in part determined by judgments of self-efficacy because individuals will undertake challenges they feel capable of managing and avoid those in which they believe they cannot succeed.

In cyberbullying specifically, since online interactions may have offline implications (DeSmet et al. 2012; Macháčková, Debkova, Seycikova, and Cerna 2013; Teachman and Allen 2007), it is fundamental to understand how self-efficacy plays a role in bystander behaviour because it has been noted as a precise predictor of behaviour toward unfamiliar threats (Bandura 1977). For instance, in a cyberbullying situation, bystanders may not intervene because they may feel that they will not be able to help effectively, or they may feel fear of retaliation from others, including the aggressors and other bystanders (Alisson and Bussey 2016; Dillon and Bushman 2015).

Individuals reflect on different information regarding their capability and regulate their behaviour (Bandura 1977). In light of this, it is expected that such individual characteristics may be associated with specific prosocial behaviour as well (Carlo, Hausmann, Christiansen, and Randall 2003). To our knowledge, research has not investigated the central theoretical role of self-efficacy in explaining the relationship between how adolescents interpret an event, such as cyberbullying, and their reflective decision-making process to engage either in aggressive, direct problem-solving or reporting behaviour. Moreover, self-efficacy is fundamental in understanding bystander behaviour. We expect that due to its emotional and impulsive nature (Crick and Dodge 1996; Stadler, Poustka, and Sterzer 2010), the decision to engage in aggressive behaviour may be less

dependent on self-efficacy beliefs than other outcomes, such as the capacity to solve problems and report the event. Therefore, we propose to investigate the mediating role of self-efficacy beliefs in the relationship between interpreting an event of cyberbullying and the reflective decision-making process of determining how to behave and thus, include this variable in our hypotheses below.

1.3. Aggressive and prosocial behaviour

We consider aggressive behaviour in this study as a behavioural style which aims to deliberately harm others (Nagin and Tremblay 1999). We proposed to focus on this type of behaviour because while physical aggression is more prevalent in early childhood, other forms of covert conduct problems tend to increase in adolescence (Achenbach, Howell, Quay, and Conners 1991; Loeber and Farrington 1998).

Children and adolescents can engage in reactive aggression (Crick and Dodge 1996; Stadler et al. 2010). This type of aggression is not goal directed and has been defined as a defensive response to a threat, frustration or provocation and is associated with impulsivity (Crick and Dodge 1996; Stadler et al. 2010). Children and adolescents can also engage in proactive aggression, which has been considered as deliberate, planned and coercive behaviour guided by the anticipation of reward to obtain a desired goal (Crick and Dodge 1996; Stadler et al. 2010). Moreover, reactive and proactive aggression differ with regards to motive, the goal behind the aggressive behaviour (Buchmann, Hohmann, Brandeis, Tobias, and Poustka 2014), have different antecedents, are directed by diverse social-cognitive and emotional processes, are related to different social experiences and may lead to different behaviour outcomes (Hubbard, McAuliffe, Morrow, and Romano 2010). Therefore, we propose that adolescent bystanders who engage in aggressive behaviour, may incur either in an impulsive reaction or in a self-reflective reaction. To be precise, those

who witness an incident of cyberbullying may impulsively react by engaging in aggressive behaviour, or may react and engage in this type of behaviour through a self-reflective path which constitutes interpreting the event, attributing responsibility, determining what to do and finally, acting. To understand this relationship and based on the previous literature, which has demonstrated how adolescent bystanders may engage in negative behaviour (Bastiaensens et al. 2016; DeSmet et al. 2016; Erreygers, Pabian, Vandebosch, and Baillien 2016), we hypothesise that:

H1: If adolescent bystanders notice cyberbullying behaviour, they may directly or indirectly (through interpreting the event, self-efficacy, attributing responsibility and reflective decision-making) engage in aggressive behaviour, such that the indirect effect will be lower than the direct effect.

Although adolescents often engage in antisocial behaviour, such as aggression, they may also engage in pro-social behaviour (Carlo and Randall 2001). By prosocial, we mean behaviour that benefits others (Böckler, Tusche, and Singer 2016). The literature has indicated that although the development of pro-social behaviour has been widely investigated with regards to children, it still needs further research concerning adolescents (Carlo et al. 2003). Moreover, although pro-social behaviour may be considered as a general social tendency and measured as one aspect of social competence, its multidimensionality may also be considered due to the possible different types of pro-social behaviour (Böckler et al. 2016; Carlo and Randall 2001; Carlo et al. 2003). In light of this multidimensionality, and bearing in mind that research on cyberbullying has identified pro-social behaviour as a bystander response (e.g., DeSmet et al. 2016), our study will focus on pro-social behaviour, such as reporting and direct problem-solving behaviour.

Adolescents have increased opportunities to choose to engage in pro-social behaviour because of their cognitive and emotive development, as well as new interpersonal relationships they experience and the changes in their surrounding social environment (Fabes, Carlo, Kupanoff, and Laible 1999). For instance, new and changing relationships with adults and peers may influence adolescents' engagement in prosocial behaviour because they are exposed to new belief systems, behaviour of others and values (Carlo, et al. 2003). Moreover, adolescents' social-cognitive and socioemotional skills are in development and thus, these individuals have the potential to engage in forethought, perspective taking, abstract thinking skills, hypothetical-deductive reasoning skills, which in turn, are associated with increased moral reasoning, sympathy and pro-social behaviour (Eisenberg and Fabes 1998; Hoffman 1991; Selman 1980; Tomlinson-Keasey and Keasey 1974).

Given this evidence, we propose that pro-social behaviour, such as reporting and direct-problem solving, rely mostly on self-reflective reactive behaviour through a self-reflective path which constitutes interpreting the event, attributing responsibility, deciding what to do and finally, acting. To understand this relationship and based on the previous literature, which has demonstrated how adolescent bystanders may engage in positive behaviour (Bastiaensens et al. 2016; DeSmet et al. 2016; Erreygers et al. 2016), we hypothesise that:

H2: If adolescent bystanders notice cyberbullying behaviour, they may indirectly (through interpreting the event, self-efficacy, attributing responsibility and reflective decision-making) engage in pro-social problem-solving behaviour, such that this indirect effect will be positive.

H3: If adolescent bystanders notice cyberbullying behaviour, they may indirectly (through interpreting the event, self-efficacy, attributing responsibility and reflective decision-making) engage in pro-social reporting behaviour, such that this indirect effect will be positive.

Our conceptual model proposes to provide an understanding of the dynamic direct and indirect relationships between the different phases of the BIM (Darley and Latané 1968) and self-efficacy in adolescence with regards to aggressive, reporting and problem-solving bystander behaviour (see figure 1).

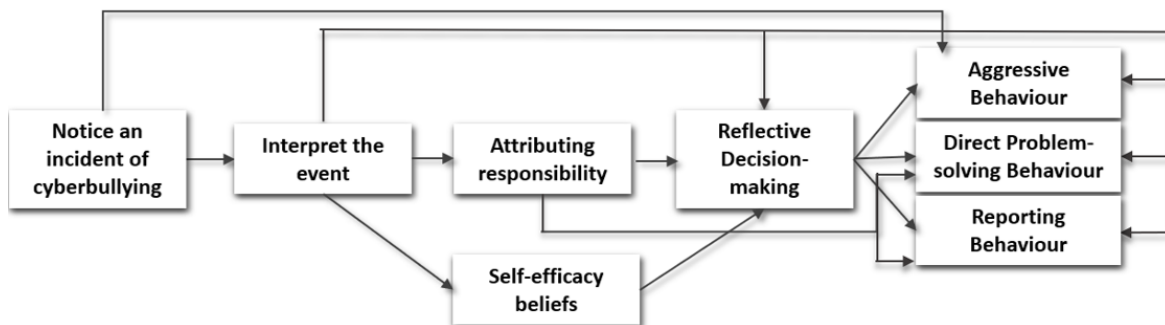


Figure 1. The BIM with interpreting the event, attributing responsibility, self-efficacy beliefs and reflective decision-making as mediators of reporting, direct problem-solving and aggressive behaviour.

2. Method

2.1. Participants and procedures

In a first phase of this study, we gathered data from 529 7th to 12th grade students ($M_{age} = 14,27$; $SD = 1,69$; 53,7% were female) from a school in the centre of Portugal to perform Exploratory Factor Analyses (EFA) of the Noticing the Event Questionnaire, The Event Interpretation Questionnaire, The Attributing Responsibility Questionnaire, The Reflective Decision-making Questionnaire and The Bystander Intervention Questionnaire.

In a second phase, we had the participation of 402 5th to 12th grade students ($M_{age} = 13,12$; $SD = 2,19$; 55,7% were female) from three groups of schools in the centre and southern area of Portugal to proceed with Confirmatory Factor Analyses (CFA) of these questionnaires and EFA of the Adolescent Self-efficacy Questionnaire to Solve Cyberbullying Situations.

To perform the main analyses for this study, we asked 676 5th to 12th grade students ($M_{age} = 14,10$; $SD = 2,74$; 55,5% were male) from three groups of schools in the centre and southern area of Portugal, to participate in this study. With this sample we proceeded with CFA of the Adolescent Self-efficacy Questionnaire to Solve Cyberbullying Situations and test our empirical models of the BIM (Darley and Latané 1968). These students also reported on the technological means through which they witnessed incidents of cyberbullying, namely: 63,6% reported to have witnessed cyberbullying behaviour on social networks, 31,2% in chatrooms, 27,7% in games, 26,8% through SMS, 12,4% through phone calls, and 11% through email.

Written authorisation to conduct this study was granted by The Ethical Commission of the Faculty of Psychology of the University of Lisbon, the Ministry of Education of Portugal, the Portuguese National Commission of Data Protection, the schools' boards of directors, the teachers, the parents and the adolescents themselves. The questionnaires were administered by researchers in a classroom context with computers with Internet access in their own schools. All adolescents were informed that they had psychological assistance (i.e. with a professional psychologist) available to them and were told they could quit the inventory any time they wished to.

2.2. Instruments

Five questionnaires pertaining to the BIM and one questionnaire referring to self-efficacy were developed and validated through EFA and CFA, Rasch Analyses and reliability indicators for Portuguese adolescents and used in this study (contact authors for full report). All items were generated according to theoretical recommendations and empirical evidence, as suggested in the literature (Mehari, Farrell, and Le 2014).

We made sure both the instructions and the items on observed cyberbullying behaviour reflected intent to harm through electronic media and that participants were given the opportunity to report the repetition (the frequency) with which they observed these, as suggested in the literature (Patchin and Hinduja 2015). We specifically named the mode (i.e. electronically), so that participants did not confuse cyberbullying with bullying, as recommended in the literature (Ybarra et al. 2012). Moreover, we did not provide a definition of what cyberbullying is according to the literature in the questionnaire itself, as evidence has been provided by previous research that such practice does not yield more accurate/rigorous measures of cyberbullying (Ybarra et al. 2012). In addition, Ybarra and colleagues (2012) suggest researchers use the word ‘bully’ in the instruments that measure cyberbullying in the context of English-speaking countries. In Portugal, where the study was conducted, we used its equivalent in Portuguese, which is ‘aggressor’.

Each questionnaire was validated separately, as they are independent instruments and not all were applied in the same phase of the investigation to perform EFA and CFA. We also made sure that we conducted rigorous statistical procedures that enabled us to present a sound instrument which would capture observed cyberbullying behaviour. As Berne and colleagues (2013) mentioned, instruments measuring cyberbullying should invest in statistical procedures, which could provide validity to our measures. We provided exploratory and confirmatory analyses, as well as reliability statistics. Specifically, we used

Cronbach's alpha to measure our instruments' internal consistency. From our Cronbach's alpha values, we considered our measures reliable. Since a high alpha value does not imply that the measure is unidimensional, we provided evidence through the exploratory and confirmatory factor analyses that the measures were unidimensional. However, due to possible concerns of high alpha values, we additionally performed Rasch Analyses to determine more specifically the performance of our instruments. Responses were given in continuous scales since this type of response have higher measurement precision than those resulting from dichotomous scoring (Jiao, Liu, Haynie, Woo, and Gorham 2012). An initial questionnaire asking for demographic data and technology use was also used.

The Noticing the Event Questionnaire ($\alpha = .90$) was used to measure observed cyberbullying behaviour. It consisted of 9 items and asked adolescents (on a Likert-type scale of 1 = never to 5 = various times per day) to remember if in the last six months they had observed/witnessed cyberbullying behaviour, such as someone being threatened, harassed with sexual content, insulted, etc. through written messages and/or photos, e-mails, Chat, *Messenger*, *Skype*, *Facebook*, *Youtube*, Blogs, *WhatsApp* and online games (example item: 'I saw someone harassing someone else.'). As Tokunaga (2010) mentioned, cyberbullying is behaviour that transmits aggressive/hostile messages to cause harm in others through digital media. Thus, we tried to capture this type of behaviour. Specifically, we asked participants to remember if and how frequently they observed cyberbullying behaviour against a peer(s) in the past six months through the use of digital technologies (i.e., 'I saw someone being threatened. '; 'I saw someone being harassed with sexual content. '; 'I saw rumors being spread about someone. '; 'I saw someone pretending to be someone else. '; 'I saw someone being made fun of. '; 'I saw someone being insulted. '; 'I saw someone demonstrating they had information about the other person's life that may

affect his/her psychological well-being.’; ‘I saw someone revealing data about someone’s private life.’; ‘I saw someone using another person’s image without his/her authorization.’). These items reflected both relational and verbal cyberbullying (Ybarra et al. 2012). The items included in our questionnaire were developed based on the Cyberbullying Inventory for College Students (Francisco et al. 2015), which was developed from semi-structured interviews with college students. Our items were then adapted, and face and content validity were provided with the help of three adolescents, two full university professors, two assistant professors and two researchers studying the field. We also made sure that these items were according to recommendations in the literature, namely, that they fully covered cyberbullying behaviour, as opposed to one single general item asking participants if they had witnessed cyberbullying (Gradinger, Strohmeier, and Speil 2010). In fact, research has provided evidence that measuring cyberbullying with specific items is more accurate than using a single item, as the latter does not cover cyberbullying behaviour extensively and ends in underestimated evaluation of the phenomenon (Gradinger, Strohmeier, and Speil 2010). Berne and colleagues (2013) mentioned 22 instruments measuring cyberbullying which were multi-item. CFA values include $\chi^2 (23) = 58.32, p < .00, \chi^2/df = 2.54, CFI = .91, GFI = .92, IFI = .91, RMSEA = .06, LO = .04, HI = .08, SRMR = .05, AIC = 102.32$.

The Event Interpretation Questionnaire ($\alpha = .95$) consisted of 6 items and asked adolescents (on a Likert-type scale of 1 = not applicable to 6 = always, as the remaining phases of the BIM) to remember the specific cyberbullying behaviour which they had observed and to respond to items regarding how they interpreted the incidents (i.e., ‘I worried about understanding the gravity of the situation.’; ‘I worried about the opinion of those who observed the same I did.’; ‘I thought it was important to observe those who

observed the same I did.’; I thought it was important to notice if other people observed what I did.’; ‘I thought it was important to see what those people [who observed the same I did] did.’). For analysis purpose, the ‘not applicable’ was not included in the models, but only provided to participants as an option. CFA values include $\chi^2 (06) = 6.55, p = .36, \chi^2/df = 1.09, CFI = .99, GFI = .99, IFI = .99, RMSEA = .01, LO=.00, HI=.06, SRMR = .01, AIC = 36.55$.

The Attributing Responsibility Questionnaire ($\alpha = .76$) consisted of 7 items and asked adolescents to remember what they had thought when they observed the specific cyberbullying behaviour by responding to items regarding responsibility (i.e., ‘I thought it was a matter for adults to resolve.’; ‘I thought it was a matter for teachers to resolve.’; ‘I thought it was a matter for the victims’ parents to resolve.’; ‘I thought it was a matter for the authorities to resolve.’; ‘I thought the situation had to be resolved.’; ‘I was embarrassed to intervene.’). CFA values include $\chi^2 (09) = 15.26, p = .08, \chi^2/df = 1.69, CFI = .99, GFI = .99, IFI = .99, RMSEA = .04, LO=.00, HI=.07, SRMR = .02, AIC = 53.26$.

The Reflective Decision-making Questionnaire ($\alpha = .93$) consisted of 5 items and asked adolescents to remember the decisions they made after having observed the specific cyberbullying behaviour by responding to items concerning their decision-making process in determining what to do (i.e., ‘I decided to intervene in the situation.’; ‘I kept paying attention to those who observed the same I did.’; ‘I decided to help the victim.’; ‘I decided to act the same way as those who observed the same I did.’; ‘I decided to notice if there were other people observing the same I did.’). CFA values include $\chi^2 (02) = 0.18, p = .91, \chi^2/df = .09, CFI = 1.00, GFI = 1.00, IFI = 1.00, RMSEA = .00, LO=.00, HI=.04, SRMR = .00, AIC = 26.18$.

The Bystander Intervention Questionnaire (Problem-solving Behaviour Scale with 7 items: $\alpha = .97$; Aggressive Behaviour Scale with 3 items: $\alpha = .93$; Reporting Behaviour Scale with 5 items: $\alpha = .91$) asked adolescents to remember what they did after observing the specific cyberbullying behaviour and to respond to items pertaining to the behaviour they adopted (i.e., Problem-solving Behaviour Scale: ‘I supported the victim, just as those who observed the same I did.’; ‘I prevented the bully from engaging in more of that behaviour.’; ‘I advised the victim to tell someone they trusted.’; ‘I supported the victim.’; ‘I stopped the bullying behaviour as it was occurring.’; ‘I spoke with someone I trusted.’; ‘I dissuaded the bully, just as those who observed the same I did.’; Aggressive Behaviour Scale: ‘I also attacked the victim.’; ‘I did the same to the bully’; ‘I attacked the victim as those who observed the same I did.’; Reporting Behaviour Scale: ‘I reported the behaviour to those responsible for the Internet services [e.g., site manager, Internet provider, etc.]’; ‘I told the victim’s parents’; ‘I told the bully’s parents’; ‘I denounced the bully.’; ‘I reported the behaviour the authorities [police, school director, school security, etc.]’). CFA values include $\chi^2 (76) = 265.19, p < .00, \chi^2/df = 3.48, CFI = .97, GFI = .92, IFI = .97, RMSEA = .07, LO=.06, HI=.08, SRMR = .04, AIC = 353.19$.

The Adolescent Self-efficacy Questionnaire to Solve Cyberbullying Situations ($\alpha = .98$) consisted of 9 items and asked adolescents (on a Likert-type scale of 1 = totally disagree to 5 = totally agree) whether they thought they would be able to resolve a specific cyberbullying situation even if it was difficult for them to do so (example item: ‘I think I am able to resolve the situation if I see someone being threatened.’). These items were aligned with the cyberbullying behaviour they may have observed. CFA values include $\chi^2 (25) = 59.82, p < .00, \chi^2/df = 2.39, CFI = .95, GFI = .94, IFI = .95, RMSEA = .05, LO=.03, HI=.06, SRMR = .05, AIC = 99.82$.

After reaching an interpretable structure of the instruments presented, we opted to also include values from a type of statistical analysis (Item Response Theory – IRT) that is distinct from the Classical Test Theory as in previous studies (Ferreira, Almeida, and Prieto 2011, 2012). The IRT enabled us to better understand the ratings of adolescents regarding the BIM model in cyberbullying and their self-efficacy beliefs to solve cyberbullying situations. Specifically, we used Rasch analysis with the Winsteps program to assess the unidimensionality of the instruments. This analysis allowed us to estimate the students' score on a one-dimensional logit scale and evaluate the properties of the instruments. We used the Rasch polytomous methodology to analyze the instruments and the students' ratings (Rasch, 1980).

All items were examined to understand whether they fit the model ($p < .01$) by revealing infit standardized mean squares lower than 1.5 and outfit standardized mean-squares lower than 2.0, as suggested in the literature (Bond and Fox 2007). None of the items of the instruments revealed an infit/outfit higher than 1.5, as well as z statistic higher than 2.00.

We considered other reliability indicators from the Rasch measures such as Person Separation Reliability and Item Separation Reliability. While the first indicates the proportion of the sample variance which is not explained by the measure error, the second shows the percentage of item variance that is not explained by the measurement error (Smith 2001). The Person Separation Reliability (Noticing the Event Questionnaire: .79; Event Interpretation Questionnaire: .85; Attributing Responsibility Questionnaire: .85; Reflective Decision-making Questionnaire: .81; Bystander Intervention Questionnaire - Problem-solving Behaviour: .87; Aggressive Behaviour: .46; Reporting Behaviour: .84; Self-efficacy to Solve Cyberbullying Situations Questionnaire:) and the Item Separation

Reliability (Noticing the Event Questionnaire: 1.0; Event Interpretation Questionnaire: .96; Attributing Responsibility Questionnaire: .99; Reflective Decision-making Questionnaire: .97; Bystander Intervention Questionnaire - Problem-solving Behaviour: .99; Aggressive Behaviour: .91; Reporting Behaviour: .97; Self-efficacy to Solve Cyberbullying Situations Questionnaire:) for all the scales indicated good internal consistency/reliability (Fox & Jones: 1998), except for the Aggressive Behaviour Scale regarding its Person Separation Reliability, which may indicate participants' difficulty in reporting on this issue.

2.3.Data analysis

For analyses purposes, only those adolescents from the 676 who reported to have witnessed incidents of cyberbullying were considered (74,7%). Firstly, we tested all direct and indirect effects separately, as suggested in the literature (Preacher and Hayes 2008), which yield significant values. We tested the BIM (Darley and Latané 1968) with regards to adolescents' Aggressive, Reporting and Direct Problem-solving Behaviour as bystanders of cyberbullying incidents. Specifically, considering the principles of parsimony in structural equation modelling (Raykov and Marcoulides 1999), we tested various causal models of noticing a cyberbullying incident on adolescents' aggressive, reporting and problem-solving behaviour as bystanders, opting for one with the best values. These models are presented in the results section.

The significance of the regression coefficients was evaluated with AMOS (v. 23, SPSS Inc., Chicago, IL) after estimating the parameters through the asymptotically distribution-free method due to the non-normal distribution of the data, which is characteristic of cyberbullying data. The normality of the variables was evaluated with the univariate and multivariate Skewness and Kurtosis. The significance of the total, direct and

indirect effects was assessed with X^2 tests (Marôco 2010). We considered effects $p < 0.05$ significant. Lastly, we used the bootstrapping method (2000 samples, CI 90%) to test for mediation effects (Preacher and Hayes 2008).

2.3.1. *Plan of Analysis*

In a first phase, we tested all predictor variables (direct and indirect affects individually) and control variables age and gender (Olenik-Shemesh, Heiman, and Eden 2017; Patterson et al. 2016) for aggressive, reporting and problem-solving behaviour, as suggested in the literature (Preacher and Hayes 2008). During this phase, self-efficacy constituted itself as a strong predictor variable of reflective decision-making ($\beta = 0.76$ with an effect size of 0.60) and pro-social behaviour (problem-solving behaviour: $\beta = 0.86$ with an effect size of 0.78 and reporting behaviour: $\beta = 0.41$ with an effect size of 0.50) and a mild predictor of aggressive behaviour ($\beta = 0.18$ with an effect size of 0.14).

Although several models were tested, only seven of these causal models (with the best fit indices) for aggressive and pro-social behaviour (reporting and direct problem-solving) with the BIM model and self-efficacy to solve cyberbullying situations are presented. Table 1 shows the fit indices of the models presented.

The models tested were based on the fact that aggressive behaviour can be both impulsive and reactive (Crick and Dodge 1996; Stadler et al. 2010) and that prosocial behaviour is usually reflected (Eisenberg and Fabes 1998; Hoffman 1991; Selman 1980; Tomlinson-Keasey and Keasey 1974). Moreover, individuals' perceived contributions to making a difference in the outcome of a situation may determine their attributed responsibility in that situation (Gerstenberg and Lagnado 2014). Attributing responsibility to others, such as adults, could be linked to problem-solving strategies, therefore, it can be directly related to direct problem-solving and reporting behaviour. If children and

adolescents consider for example, that adults can be part of the solution and it is also their responsibility to intervene, then it could be easier for them to provide assistance as well. Accordingly, attributing responsibility to others may not be directly related to aggressive behaviour, but rather, through reflective decision-making only. Furthermore, as those with high self-efficacy beliefs seem to regulate the effort necessary to reach goals and overcome obstacles or threats (Bandura, 1988), this variable was considered in the models as a mediator.

To clarify some unexplored paths aforementioned, we tested other models. Specifically, we tested and compared a model including all direct and indirect paths between variables, namely, noticing the event, interpreting the event, attributing responsibility, self-efficacy beliefs, self-reflected decision-making, aggressive and prosocial problem-solving and reporting behaviour (Model 1) with other models. Other models included the same variables but with no direct path between attributing responsibility and aggressive behaviour (Model 2); with no direct path between attributing responsibility and aggressive behaviour, and between noticing the event and pro-social problem-solving behaviour (Model 3); with no direct path between attributing responsibility and aggressive behaviour, and between noticing the event and pro-social reporting behaviour (Model 4); with no direct path between attributing responsibility and aggressive behaviour, and between noticing the event and pro-social reporting and problem-solving behaviour (Model 5); and with no direct path between attributing responsibility and aggressive behaviour, and between noticing the event and aggressive behaviour (Model 6). Due to the importance of gender and age in bystander intervention (Olenik-Shemesh 2017; Patterson, Allan, and Cross 2016), we also tested a model with no direct path between attributing responsibility and aggressive behaviour, and between

noticing the event and pro-social reporting and problem-solving behaviour with control variables age and gender (Model 7). As suggested by Brown and Cudeck (1989) we analysed the AIC, which enabled a comparison between competitive models and the choice of the model that presented the smallest value. Therefore, we opted for model 5, which revealed an AIC score of 66.36. Subsequent analyses will take into account Model 5.

Table 1.

Models to test the effects of the BIM and self-efficacy beliefs to solve cyberbullying situations on aggressive, reporting and direct problem-solving behavior

Models	χ^2	df	χ^2/df	CFI	GFI	IFI	TLI	RMSEA	LO/HI	AIC	SRMR
1	12.93	7	1.85	.98	.99	.99	.94	.04	.00/.08	70.93	.02
2	13.39	8	1.67	.99	.99	.99	.95	.04	.00/.07	69.39	.02
3	14.08	9	1.57	.99	.99	.99	.96	.03	.00/.07	68.08	.02
4	14.22	9	1.58	.99	.99	.99	.96	.03	.00/.07	68.22	.02
5	14.36	10	1.44	.99	.99	.99	.97	.03	.00/.06	66.36	.02
6	29.14	9	3.24*	.95	.98	.95	.83	.07	.04/.10	83.14	.04
7	24.98	11	2.27*	.97	.99	.97	.87	.05	.01/.07	112.98	.03

Note: * $p < .01$

Table 1 also shows model 7 with reasonable values including the control variables age and gender. Even though this was not the better fitting model, these results revealed that older participants had higher self-efficacy beliefs to solve cyberbullying situations and attributed less responsibility to others. Moreover, girls interpreted the situation more and attributed less responsibility to others. Boys revealed more aggressive behaviour.

3. Results

Model 5 revealed a better fit with positive and significant direct and indirect paths of noticing cyberbullying behaviour on aggressive behaviour and a positive and significant

indirect effect only on reporting and direct problem-solving (see table 2). The indirect effect of noticing cyberbullying behaviour on aggressive behaviour was lower than the direct effect. These results support hypotheses 1, 2 and 3.

To be more precise, this model also revealed positive and significant indirect effects of interpreting the event (i.e. through attributing responsibility, self-efficacy beliefs and reflective decision-making) on aggressive, problem-solving and reporting behaviour, with a greater effect on problem-solving. In addition, this model showed a positive and significant indirect effect of attributing responsibility on aggressive behaviour, and positive and significant direct and an indirect effects on direct problem-solving and reporting behaviour. The indirect effect of attributing responsibility on problem-solving and reporting behaviour through reflective decision making was lower than the direct effect. Moreover, self-efficacy had a positive and significant effect on reflective decision-making and a greater positive and significant indirect effect on problem-solving behaviour, than on reporting behaviour and on aggressive behaviour.

The adjusted model (model 5) presented 23% of the variance relating to adolescents' aggressive bystander behaviour, 58% for problem solving behaviour and 38% for reporting behaviour. The trajectories were positive and statistically significant, except for the direct effect of interpreting the event on aggressive behaviour ($b_{AggressiveInterpreting}=0.07$; $SE_b=0.03$; $Z=1.92$; $p>0.05$), on problem-solving behaviour ($b_{ProblemSolvingInterpreting}=0.04$; $SE_b=0.06$; $Z=0.57$; $p>0.05$) and on reporting behaviour ($b_{reporting}=-0.02$; $SE_b=0.05$; $Z=-0.39$; $p>0.05$), thus supporting the hypotheses of this study, respectively. Table 2 shows the standardized total, direct and indirect effects.

Table 2.

Standardised total, direct and indirect effects of the proposed model

<i>Independent Variables</i>	<i>Dependent variables</i>	Interpreting the event	Self-efficacy Beliefs	Attributing responsibility	Reflective Decision-making	Aggressive Behaviour	Problem-solving Behaviour	Reporting Behaviour
<i>Noticing the event</i>	Total effects	.30*	.07*	.18*	.23*	.30*	.19*	.15*
	Direct effects	.30*				.20*(^o)		
	Indirect effects		.07*	.18*	.23*	.11*	.19*	.15*
	CI90		[LO = 0.04 HI = 0.11]	[LO = 0.12 HI = 0.23]	[LO = 0.16 HI = 0.29]	[LO = 0.07 HI = 0.15]	[LO = 0.13 HI = 0.24]	[LO = 0.10 HI = 0.20]
<i>Interpreting the event</i>	Total effects		.24*	.59*	.75*	.36*	.62*	.49*
	Direct effects		.24*	.59*	.61*	.14	.04	-.03
	Indirect effects				.14*	.22*	.59*	.51*
	CI90				[LO = 0.10 HI = 0.19]	[LO = 0.10 HI = 0.32]	[LO = 0.51 HI = 0.66]	[LO = 0.43 HI = 0.60]
<i>Self-efficacy Beliefs</i>	Total effects				.10*	.03*	.07*	.04*
	Direct effects				.10*			
	Indirect effects					.03*	.07*	.04*
	CI90					[LO = 0.01 HI = 0.06]	[LO = 0.02 HI = 0.11]	[LO = 0.02 HI = 0.07]
<i>Attributing responsibility</i>	Total effects				.20*	.06*	.28*	.42*
	Direct effects				.20*		.15*	.34*
	Indirect effects					.06*	.13*	.08*
	CI90					[LO = 0.03 HI = 0.09]	[LO = 0.09 HI = 0.18]	[LO = 0.05 HI = 0.12]
<i>Reflective Decision-making</i>	Total effects					.29*	.67*	.42*
	Direct effects					.29*	.67*	.42*

Note: * $p < .01$; CI90 refers to the indirect effects.

All of the remaining effects were statistically significant according to a 2000 sampling Bootstrap method ($p < .01$).

We highlight that in the full model noticing cyberbullying behaviour had a low effect size on interpreting the event (0.09) and on self-efficacy (0.06). This model also revealed that noticing cyberbullying behaviour had a medium effect size on attributing responsibility (0.34) through interpreting the situation. Results also indicated a high effect size of noticing cyberbullying behaviour on reflective decision-making through interpreting the situation, attributing responsibility and self-efficacy (0.60). Lastly, the chosen model showed medium to high effect sizes of noticing cyberbullying behaviour on aggressive (0.25), problem-solving (0.62) and reporting (0.43) behaviour through interpreting the situation, attributing responsibility, self-efficacy and reflective decision-making.

4. Discussion

Our results extend previous studies, as they reveal that noticing cyberbullying behaviour had a greater total effect on aggressive behaviour than on reporting or direct-problem solving behaviour (Nickerson, Aloe, Livingston, and Feeley 2014). Furthermore, our results demonstrated how being exposed to cyberbullying behaviour and noticing this behaviour had a direct and indirect effect on aggressive behaviour, and only an indirect effect on reporting and direct problem-solving behaviour, thus, confirming hypotheses one, two and three. Hence, those who noticed an incident of cyberbullying may have engaged in aggressive behaviour impulsively or through reflection, and may have engaged in prosocial behaviour after they interpreted the event. Since the indirect effect of noticing cyberbullying behaviour was lower than the direct effect, we argue that reflecting on the

situation leads to less bystander aggressive behaviour. This may also lead to the interpretation that more frequent exposure to cyberbullying may have led directly to more frequent aggressive responses, while there was no direct effect on prosocial responses. There may be situations where bystanders are exposed to cyberbullying, but they may not notice it, due to various distractions (Dillon, 2014). Hence, understanding whether the frequency of exposure and attention given to this type of behaviour may trigger aggressive behaviour directly, as opposed to pro-social behaviour, is a first step towards explaining how adolescents intervene in these situations.

This evidence is in accordance with studies that show how aggressive behaviour may be reactive (impulsive) or proactive (through reflection) (Crick and Dodge 1996; Dodge, Lochman, Harnish, Bates, and Pettit 1997; Stadler et al. 2010) and prosocial behaviour requires reflective thought (Eisenberg and Fabes 1998; Hoffman 1991; Selman 1980; Tomlinson-Keasey and Keasey 1974). However, we were able to demonstrate this with regards to bystander behaviour in incidents of cyberbullying, which to our knowledge, has not been shown in previous studies. If we consider that those who engaged in aggressive behaviour as having reflected prior to engaging in this type of behaviour, it is fundamental to understand the mediator or moderator roles of the moral disengagement mechanisms in future research (Osofsky, Bandura, and Zimbardo 2005), since the literature has shown that proactive aggression has no association with deficits in moral knowledge (Jambon and Smetana 2017) and therefore, bystanders' outcome expectations and intentions must be considered, as previous studies have suggested (Bandura 1977; DeSmet et al. 2016).

Moreover, our results showed that the indirect effect of interpreting the event through attributing responsibility, self-efficacy beliefs and reflective decision-making was

positive and significant for all three types of behaviour, with a greater effect on problem-solving. These results complement previous studies that have demonstrated how individuals' perceptions of an event may predict intervention (Fischer et al. 2011; Greitemeyer, Fischer, Kastenmüller, and Frey 2006). In this particular study, intervention based on direct-problem solving behaviour. Additionally, the current study corroborates and extends previous research (Sijtsema et al. 2010) by showing that girls interpreted the cyberbullying situation more and attributed less responsibility to others. On the other hand, findings suggested that boys were more prone to having more aggressive behaviour.

According to the literature, individuals may or may not assume responsibility depending on whether there are others present who may take responsibility for intervening, and thus, responsibility is diffused throughout the group (Darley and Latané 1968; Boyd 2014) or allocated to someone else (DeSmet et al. 2016; Osofsky et al. 2005). Our results revealed a positive and significant indirect effect of attributing responsibility on aggressive behaviour, and positive and significant direct and an indirect effects on direct problem-solving and reporting behaviour. The indirect effect of attributing responsibility on problem-solving and reporting behaviour through reflective decision-making was lower than the direct effect. This may indicate that when adolescents reflect on how they are going to intervene, the importance that is given to the fact that they attribute responsibility to others decreases. Thus, reflective decision-making may gain a new level of importance in the type of behaviour that individuals engage in. Moreover, although adolescents have been known to displace responsibility to stronger peers (DeSmet et al. 2014) or the victims' friends (DeSmet et al. 2012; Macháčková et al. 2013), our results showed that they attributed responsibility to adults.

In general, our results contribute to the literature because although adolescents attributed responsibility to others (i.e. adults), this did not hinder them from engaging in reflective decision-making to determine what to do and intervene with different types of behaviour. Specifically, our results revealed that the mediator role of reflective decision-making had a significant, but different effect on the relationship between interpreting the event and the three types of behaviour (i.e. aggressive, problem-solving, and reporting). The effect of reflective decision-making was strongest for direct problem-solving behaviour and then reporting behaviour, which is consistent with the literature that considers adolescence as prospective of pro-social behaviour because of adolescents' social-cognitive and socioemotional development (Fabes et al. 1999). Adolescents' cognitive and emotive development offers them the potential to engage in forethought, perspective taking, abstract thinking skills, hypothetical-deductive reasoning skills, which in turn, are associated with more matured reasoning, sympathy and pro-social behaviour (Eisenberg and Fabes 1998; Hoffman 1991; Selman 1980; Tomlinson-Keasey and Keasey 1974).

Self-efficacy beliefs significantly affected the relationship between interpreting the event and all three types of behaviour, with the strongest effect for direct problem-solving and reporting behaviour. We believe this result extends previous literature that has focused on the importance of self-efficacy in bystander behaviour. Specifically, this finding contributes to the literature that has previously stated that self-efficacy was a significant predictor of bystander intervention (DeSmet et al. 2016). The self-efficacy beliefs of the bystanders in our study explained the relationship between how they interpreted the cyberbullying behaviour and how they decided to engage in direct problem-solving behaviour and reporting better than aggressive behaviour. An interpretation of these findings could be that they may have believed they could help effectively if they intervened

directly or told someone (Alisson and Bussey 2016; Dillon and Bushman 2015), or in the case of aggressive behaviour, they may have negative outcome expectations and/or negative goals behind their intentions (Bandura 1988; Buchmann et al. 2014). We expected that due to its emotional and impulsive nature (Crick and Dodge 1996; Dodge et al. 1997; Stadler et al. 2010), the decision to engage in aggressive behaviour would be less dependent on self-efficacy beliefs than other outcomes, such as the capacity to solve problems and report the event, and in fact, it was.

4.1. Limitations and future directions

This study is not without limitations. Firstly, the cross-sectional design used in this study hinders the prospect of inferring causal relationships. Moreover, our study includes standardized coefficients with some low effect size scores (e.g., the relationships of noticing cyberbullying behaviour on interpreting the situation and on self-efficacy beliefs). This may be attributed to the non-normal distribution and high standard deviation of the sample that is common when studying cyberbullying behaviour. Therefore, other methodological approaches to measure these constructs associated with some low effect size standardized coefficients may be considered in future studies. That is, future research could also test the model presented here with alternative forms of measuring cyberbullying to replicate our findings. It would be interesting to understand whether a different approach could yield the same findings and conclusions, especially concerning the effects of self-efficacy, which is key factor in the study. In addition, reciprocal or reverse causation between variables cannot be completely excluded. Nonetheless, the fairly consistent and sound literature described in the sections on bystander aggressive and pro-social behaviour (Crick and Dodge 1996; DeSmet et al. 2012; Macháčková et al. 2013; Stadler et al. 2010)

offers theoretical argumentation that supports the sequence presented in the hypothesised models. Understanding the impulsivity that may exist in bystanders' reactions towards observed incidents of cyberbullying, as well as reflective paths, which may lead to both aggressive and/or pro-social behaviour could shed some light on the role of the 'affordances of technology', such as 'mediacy' and 'privacy' (Bastiaensens et al. 2015). For instance, future studies could consider both the impulsive and reflective nature of different responsive bystander behaviour and determine whether it influences their choice of communication modality to intervene. This line of research becomes especially promising for the literature on behaviour and information technology because the majority of the incidents that were reported in this study were witnessed on social networks (see section on participants and procedures). This may suggest that bystander intervention options considering both more impulsive and reflective responses could be incorporated into social networks to guide bystanders to engage in prosocial behaviour online. Investigating the opportunities provided by technological options in social networks to enable bystanders to engage in this type of behaviour online holds prospects for a better understanding of this phenomenon in a contextualised and ecological manner. Also, this study did not focus on exposure *vs.* noticing cyberbullying behaviour. It would be interesting for future research to investigate how bystanders may be exposed to cyberbullying but may not notice it due to distractors. Specifically, it would be interesting to investigate these distractors, which may prevent them from noticing these events.

Future research could focus on identifying the reasons behind the relationships examined in this study with qualitative methods as complementary methods to acquire more in-depth data regarding bystander behaviour in incidents of cyberbullying (Macháčková et al. 2013). Essentially, future research could also focus on longitudinal data,

considering that the model paths we proposed could differ across time. It would also be interesting to do observational studies with real-time data of actual bystander behaviour online when confronted with cyberbullying. Although we tested for gender issues with control variables regarding the examined relationships, other variables could also be included in the models proposed, such as prior experience as a victim and aggressor, and the proximity of the relationship between the bystander and other agents involved in cyberbullying. Cross-cultural issues may also play an interesting role in the studied mechanisms; thus, we suggest the inclusion of adolescent participants from several countries (AUTHORS 2016).

4.2. Further insights and implications for practice

Cyberbullying is a complex phenomenon in which bystanders may choose to intervene or not in different manners, and with a number of different antecedents and outcomes for those involved (DeSmet et al. 2016). Bystander reflective decision-making and intervention may be hindered if individuals lack the necessary intervention skills, strategies and communication modalities that enable them to help victims (Bastiaensens et al. 2015; Burn 2009). In terms of cyberbullying, many adolescents and even adults do not know which strategies to use to resolve a situation of cyberbullying and many do not have the necessary social skills and/or technological skills to solve such problems (Macháčková et al. 2013). Therefore, our results suggest that theoretical developments in bystander behaviour and intervention should consider both the impulsivity that may exist in adolescents' reactions towards observed incidents of cyberbullying, as well as reflective paths, which may lead to both aggressive and/or pro-social behaviour.

Our results regarding the attribution of responsibility bring new light regarding the determinants of whether bystanders intervene because even if they feel that it is not of their

domain to intervene, they do engage in aggressive and/or prosocial behaviour. Although bystanders may not intervene because they may feel that they will not be able to help effectively, or they may feel fear of retaliation from others (Alisson and Bussey 2016; Dillon and Bushman 2015), it is not a question of assuming responsibility that will prevent them from reacting.

Our findings have implications for practice, essentially because parents, teachers and other school professionals are not aware of the detrimental effects of cyberbullying on adolescents' wellbeing and how adolescents' behaviour as bystanders may either resolve or aggravate these incidents, and hence, are unsure about the consequences and how to intervene among all of those involved (AUTHORS 2017). In cyberbullying specifically, online interactions may have offline implications (DeSmet et al. 2012; Macháčková et al. 2013; Teachman and Allen 2007), thus, it is essential that parents and professionals understand how bystander behaviour develops into social interaction. By doing so, educational programs may be tailored to adolescents' needs and attend to the specific dynamics of bystander behaviour online to develop social and emotional learning skills. These skills may be developed through teacher and peer coaching programs teaching authentic social and emotional learning and regulation to improve self-awareness by reflecting on beliefs, behaviour and how these have implications for others (Cohen 2001). Moreover, our results suggest the importance of understanding how adolescent bystanders of cyberbullying incidents allocate responsibility on adults and how this may have an impact on not only their decision-making and behaviour, but on their emotional and psychological well-being as well.

4.3. Conclusion

Due to the complex nature of cyberbullying and the roles of those involved, understanding how bystanders react to this type of behaviour is imperative. This study offers an important contribution for research and practice regarding adolescents' behaviour as bystanders of cyberbullying, as it has provided evidence that noticing cyberbullying behaviour may directly and indirectly lead to aggressive behaviour, or indirectly to prosocial behaviour through reflection. Moreover, professionals could focus on adolescents' self-efficacy beliefs to solve cyberbullying situations when promoting prosocial behaviour. We feel that these findings may help professionals become aware of the overt and covert dynamics of adolescent bystander behaviour in cyberbullying situations. With this type of knowledge schools may adapt programs that could help adolescents find a way through their self-efficacy to adopt responsive bystander behaviour in a pro-social manner in cyberbullying contexts.

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