

Bullying in pre-adolescents: Prevalence, emotional intelligence, aggression and resilience

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This paper presents current prevalence rates for bullying and victimisation across grades, genders and bullying types. It also explores mean differences in emotional intelligence (EI), aggression and resilience for bullies, victims and bully/victims. A series of one-way analyses were conducted with EI, aggression and resilience as the dependent variables to identify target areas for intervention and prevention. Early intervention is required to reduce the effect of bullying. Of the 704 primary school students who completed this study, 2.6% reported that they bullied others, 53.7% were victims and 35.9% bully/victims. Prevalence differences across bullying types are discussed. As expected, bully/victims displayed lower scores on EI and resilience and were quick to anger. The pattern of results for victims contradicted expectations. Further investigation on target areas for bullies is required in larger samples. Implications for the development of intervention and prevention programs are discussed.

Introduction

The health and ecological consequences of bullying and victimisation in schools have been extensively reported (Bowes, Maughan, Caspi, Moffitt & Arseneault 2010; Norman, Suetani, Thomas, Sly & Scott, 2017; Nansel, 2004; Wolke & Lereya, 2015). Early intervention and pro-active prevention programs are required to reduce the effects of such acts (Morrison, 2002). Consistent monitoring of bullying prevalence rates calls this need to attention and provides important information regarding how bullying presents in modern schools. Reductions in health expenditures and unemployment rates could account for the resources required to establish empirically based prevention programs within the school curriculum. The current study aimed to provide recent prevalence rates among children and pre-adolescents in Australian primary schools. It also aimed to explore potential target areas for intervention and prevention. Research in this important area informs both the need for, and the efficacy of, prevention programs.

Individuals who cause repeated, intentional, unprovoked harm to someone of lesser strength (e.g., physical, psychological, social, emotional) overtime, are defined as bullies, as operationalised by the pioneering work of Olweus (1978). The target of bullying is called the victim and is said to undergo victimisation, while those who both bully others and are bullied themselves are termed bully/victims (Rigby, 1996). Bullying may be further classified as either direct or indirect/passive bullying according to the behaviours employed to harm less powerful/dominant individuals (Olweus, 1978). Direct bullying consists of overt, aggressive physical (kicking, pushing, hitting), verbal (calling names, threatening) and non-verbal (offensive gestures) behaviours. Indirect bullying involves more covert acts (spreading malicious rumours and causing social isolation and exclusion) which are often committed to alter social standings and group memberships (Olweus, 1978; Wolke, Woods, Stanford & Schulz 2001). Most studies comply with the consensus

that acts must occur 'sometimes (approximately two or three times a month) or more' to be considered bullying. This cut-off was substantiated by Solberg and Olweus (2003), whose series of studies indicated that the most meaningful and unrestricted differences between 'involved' and 'non-involved' students on a number of conceptually related variables was obtained using this cut-off point.

Prevalence

Wolke et al. (2001) reported worldwide prevalence rates for victimisation between 8 - 46% and 2 - 23% for bullies, while Nansel et al. (2004) found prevalence rates of bullies and victims between 5 - 20% and between 1 - 20% for bully/victims. A recent study of Australian youths aged between 11 and 17 years found that 13.3% reported being bullies over the past 12 months, 1.6% reported being victims and 1.9% bully/victims (Thomas, Connor, Lawrence, Hafekost, Zubrick & Scott, 2017). Similar levels of bullying behaviours (being hit, excluded and 'picked on') were reported by the parents/guardians of American youths aged between six and 11 years (21%) and aged between 12 and 17 years (22.4%) (Lebrun-Harris, Sherman & Miller, 2020). Furthermore, a recent study of students in South Africa aged between 10 and 12 years, a large proportion of children, across regions experienced being hit (22.5% - 33.3%), excluded (21.6% - 38.5%) and called unpleasant names (37.2% - 48.6%) (Manuel, Adams, Mpilo & Savahl, 2020).

Differences in prevalence rates have been reported across ages, grades, genders and bullying types amongst several other individual and school-level variables (Muijs, 2017; Olweus, 1978; Rigby, 1996; Seals & Young, 2003; Wolke et al., 2009). Frequent monitoring of prevalence rates across demographic variables and bullying types is integral to ensure that intervention and prevention programs are moderated and updated accordingly (Smith, Schneider, Smith & Ananiadou 2004).

Grade

Grade was employed instead of age due to the controversial nature of converting a continuous variable into a nominal variable (Tóth-Király, Bõthe, Rigó & Orosz, 2017). Grade provides practical utility should programs require variation across year levels.

Bullying tends to peak between the ages of nine and 15 years (Carney & Merrell, 2001). Rigby and Slee (1993) stated that bullying increases throughout childhood into pre-adolescence but slightly declines in grade six when students are at the head of the school before showing a large increase in the transition to year seven (high school) and continues to peak until the age of 15 years. Children and pre-adolescents go through important social and emotional developmental changes from the age nine to 12 years (Besag, 2006; Centers for Disease Control and Prevention, 2021; Department of Human Services, Victoria, 2007; Mishna, Wiener & Pepler, 2008). They strive for greater autonomy from their family whilst relying on forming and maintaining group membership amongst peers for social support and security. This undoubtedly influences bullying prevalence rates. Nevertheless, this change is also a time during which females, in particular, are subjected to and conduct more indirect, relational and friendship bullying (Besag, 2006; Jacobsen & Bauman, 2007). Concurrently, Manuel et al. (2020) found that 12-year-old students

experienced a greater degree of verbal bullying which was the most prevalent form of bullying. Thus, there may be competing findings regarding the rate of bullying across grades. Boys were also more likely to be involved in bullying activities. Further insight into the forms of bullying experienced in modern schools during different developmental stages is required.

Gender

Craig et al. (2009) investigated bullying rates across 40 countries for students aged 11, 13 and 15 years and found boys to be bullies more frequently, than girls across ages and bullying types. They also found that females were more likely to be victimised in 29 countries.

Baldry's (2003) findings also suggest that boys are more likely to be involved in direct bullying and victimisation and girls as victims of social exclusion. Baldry found that 50% of males reported employing direct bullying behaviours and 31.3% admitted to indirect bullying, whereas 23.3% of girls directly bullied others and 26.3% used indirect methods. Rigby (1996) found girls to be bullied more frequently by both genders and groups of people, whereas males were almost always bullied by a single male. This gender difference may have important implications for the social and emotional development of girls. Relational and friendship bullying may be more common in girls (Besag, 2006; Jacobsen & Bauman, 2007; Monks & Smith, 2006).

Bullying type

Verbal bullying, including name-calling, taunts and threats, is the most common form of bullying experienced, which is frequently followed by physical acts (Baldry, 2003; Kshirsagar & Bavdekar, 2006; Rigby, 1996; Seals & Young, 2003). Variations can arise across individual and school-level variables (Bunnett, 2021, p.61). Williams, Chambers, Logan and Robinson (1996) found that of 458 year four students, the most common form of victimisation was being physically hurt (36.2%), followed by using bad words (29.9%), being hurt and being called bad words (18.1%), being threatened (7.9%) and being isolated (3.5%) or other combinations of these acts (4.4%).

Emotional intelligence, aggression and resilience

Emotional intelligence and resilience programs are gaining increasing attention within the school system. The benefits that social and emotional learning, resilience and EI programs bring to the academic performance of students have become more apparent recently (Droppert et al., 2019; MacCann et al., 2019). Empirical evidence of constructs that are associated with improved peer relations and school cultures provide important insight that can inform policies and procedures. School policies that address bullying in a positive and inclusive manner and that are informed by students, teachers, parents, researchers and others within the school community are one of the most important factors for improved rates of bullying and victimisation (Muijs, 2017). Integrating programs aimed at improving relevant constructs in socio-emotional curricula throughout students' school lives can help lower prevalence (Kyriakides & Creemers, 2013). The social, emotional and subsequent ecological savings and advantages, provided by implementing early intervention programs,

enables Governments to justify investing the time and money required to produce and employ curriculum changes based on this methodologically-sound evidence. Emotional intelligence, resilience and aggression are included as important constructs for consideration in the current study.

The current study focuses on Mayer and Salovey's (1997) ability EI model as it provides an avenue for change (Livingstone & Day, 2005; Mayer, Salovey & Caruso, 2012). Mayer and Salovey's model presents the four branches of EI: perception, appraisal and expression of emotion (PAEE; Branch 1), emotional facilitation of thinking (EFT; Branch 2), understanding and awareness of emotion (UAE; Branch 3) and reflective regulation of emotion (RRE; Branch 4). Each branch encompasses four more specific abilities. However, the current study focuses on students' overall EI scores. Each more specific ability, and thus branch, is proposed to develop in a progressive, continuous manner from the most basic to the most complex ability, as shown in Table 1, specifically, the perception, awareness, use, regulation, control, management, understanding, expression and reasoning of emotional information.

Table 1: The four abilities representing each branch of Mayer and Salovey's (1997) ability EI model

Branch	Ability 1	Ability 2	Ability 3	Ability 4
PAEE	Identify emotion in one's feelings, thoughts and physical states	Identify emotions in artwork, language, designs, sounds, appearances, actions and vocalisations	Accurately express emotions and express needs relative to one's feelings	Distinguish between accurate and inaccurate, honest and dishonest emotions
EFT	Use of emotions to direct attention to important information and prioritise thoughts	Perceive emotions vividly and readily generate them to aid memory and judgment	Employ mood swings to adapt one's perspective	Understanding how emotions alter approaches to problems
UAE	Label emotions and identify how they relate to one another	Interpret emotional meanings	Understand complex and blended emotions	Recognise transitions between emotions
RRE	Being open to pleasant and unpleasant emotions	Reflectively engage and disengage emotions	Monitor emotions reflectively	Manage emotions accurately

PAEE: Perception, awareness and expression of emotion; EFT: Emotional facilitation of thinking; UAE: Understanding and awareness of emotion; RRE: Reflective regulation of emotion.

Empirical evidence of the benefits that EI programs may have on bullying and victimisation in primary schools has not yet been reported. There has been some preliminary evidence indicating that adolescents with lower EI scores are more likely to become bullies and victims (Lomas, Stough, Hansen & Downey, 2012; Schokman et al., 2014). Moreover, Barconelli and Ciucci (2014) found that low levels of EI predicted involvement in both traditional and cyber-bullying, however the relationship indicated that students involved in various forms of bullying display distinct EI profiles. That is, they

exhibited disparate mean scores on the four branches underlying EI (Mayer & Salovey, 1997). Individuals scoring lower on EI have been shown to display greater levels of depression, aggression, anxiety, maladaptive coping and poorer social, attitudinal and behavioural problems (Downey, Johnston, Hansen, Birney & Stough, 2010; Parker, Summerfeldt, Hogan & Majeski 2004). Students with higher EI tend to cope more adaptively and display greater life satisfaction and success (Downey et al., 2010; Extremera, Duran & Rey 2007). Introducing social and emotional learning programs has also shown promise (Smith & Low, 2013). However, they have not implemented EI training.

Bullies tend to be more proactively aggressive than their peers, whereas bully/victims are commonly both reactively aggressive and proactively aggressive (Runions, Salmivalli, Shaw, Burns & Cross, 2018; Salmivalli & Nieminen, 2002; Camodeca, Goossens, Terwogt & Schuengel, 2002). Proactive aggression is goal-oriented and calm-headed. Reactive aggression occurs in response to a perceived threat and is often irrational, excessive and long-lasting (Runions et al., 2018). Comparatively, victims are commonly passive, timid, withdrawn and unprovoking (Carney & Merrell, 2001; Salmivalli & Nieminen, 2002). Van den Bedem, Dockrell, van Alphen, Kalicharan and Rieffe (2018) found students who displayed greater levels of fear and sadness to be more commonly victimised. While those who were more emotionally competent were less likely to be victimised, comparatively, students who were less emotionally competent and displayed more anger were more likely to bully others. It is important to distinguish between general aggressive tendencies and bullying behaviours when developing whole school approaches towards intervention and prevention, as students with generally more troublesome temperament concerns may require additional assistance and as such outliers may influence the data obtained, resulting in the development of less effective and targeted programs.

Resilience programs have been more frequently included within school curriculum as they have been shown to improve students' success and well-being (Droppert et al., 2019; MacCann et al., 2019). The resiliency scales for children and adolescents (RSCA; Prince-Embury, 2006) present three key dimensions of resilience. Firstly, sense of mastery (SM) presents the degree to which individuals deem themselves competent in life. Secondly, sense of relatedness (SR) represents the soundness of individuals' social supports. Lastly, emotional reactivity (ER) is the degree to which participants display intense, destructive, uncontrollable reactions to perceived slights. Lower scores on the first two factors represent greater resilience, whilst higher scores on ER indicate poorer resilience. Prince-Embury (2006) found that students who are high on ER are more likely to be bullies, especially boys. Boys who score low on SR and are higher on ER tend to become bully/victims. Girls who perceive they have greater SM and SR are less likely to be victimised. Those with lower scores are more likely to bully others. Extending current programs implemented in schools to improve peer relations may encourage social and emotional learning curriculum changes, through reducing governmental costs of implementing these important interventions and preventions within the school system.

Aims and hypotheses

The current study aimed to explore the prevalence rates of bullies, victims and bully/victims across grades, genders and bullying types. This study also investigated mean differences in EI, aggression and resilience to identify target areas for intervention.

Firstly, it was predicted that males would be more likely to bully others and females would more frequently report victimisation. Secondly, males were expected to be more involved in direct bullying. Thirdly, it was hypothesised that more females would be involved in indirect bullying, than males. Fourthly, bullies, victims and bully/victims were expected to present lower EI scores. Fifthly, it was predicted that bullies would present greater levels of proactive aggression, whilst bully victims would score higher on both reactive and proactive aggression. Victims were not expected to display statistically significant levels of aggression, compared to their peers. Lastly, bullies, victims and bully/victims were expected to display significantly greater ER. Victims and bully/victims were also hypothesised to display lower SR and SM scores than peers.

Method

Participants

Students who obtained parental consent and opted-in to the study were recruited from nine government primary schools in Victoria, Australia. The total sample size was relatively small ($N = 704$), representing a response rate between 40% to 70% reflecting the ethically mandated, opt-in consent process. Participants comprised 364 girls, 333 boys and seven students who preferred not to state their gender. Students were aged between nine and 13 years ($M = 10.69$, $SD = .04$) and were completing grades four (31.1%), grade five (36.6%) and grade six (32%).

Materials

Participants were required to complete a questionnaire battery consisting of the following scales and several demographic questions.

Peer Relations Assessment Questionnaire - Revised

The junior scale of the Peer Relations Assessment Questionnaire - Revised (PRAQ-R; Rigby, 1996) was used to assess bullying and victimisation. The 14 multiple-choice and two open-ended questions regarding peer relations at school were employed. Cartoon pictures were presented to help students with poor reading comprehension and use in younger children. Bully and victim scales were scored by equating the PRAQ-R items (mostly used for school reports monitoring bullying behaviours) with those of the Bullying Prevalence Questionnaire (Rigby & Slee, 1993) (more commonly used for empirical assessment). The scales exhibited acceptable, near satisfactory internal reliabilities (both Cronbach's $\alpha = .54$), particularly given the truncated range of the scale and the potentially diverse forms of bullying included within the one scale (Taber, 2018). The scores were used to compile bully, victim and bully/victim scales.

The Revised - Swinburne University Emotional Intelligence Test Early Years

The Revised-SUEITEY (Bunnett, 2021, p.75) poses 36 5-point Likert scale, self-report items, rated from 1 'Not at all like me' to 5 'Exactly like me'. The scale also comprises 19 multiple-choice, objective/performance questions. Performance items present emotional scenarios. Participants must choose the feeling they believe is the most correct depiction of the characters' experience. The overall EI scale is highly internally reliable (.87). Bunnett, (2021, p.75) concluded that an ESEM provided the most accurate depiction of EI in children and pre-adolescents.

Reactive-Proactive Aggression Questionnaire

The Reactive-Proactive Aggression Questionnaire (RPQ; Raine et al., 2006) exhibits 12 items measuring proactive aggression and 11 reactive aggression. Items are rated from 0 = "never", to 1 = "sometimes", and 2 = "often". Responses indicate how frequently the respondent conducts each aggressive act. The questions are presented at a grade-three reading level for use in young children (i.e., eight years and older). The scale is a reliable and valid measure of aggression in children and adolescents (e.g., Raine et al., 2006).

The resiliency scales for children and adolescents (RSCA)

The RSCA (Prince-Embury, 2006) incorporates 63 self-report items that measure SM, SR and ER. The scales were developed for use in participants aged between eight and 18 years. Items are rated on a 5-point scale from 0 'Never' to 4 'Almost always'. Prince-Embury has provided extensive evidence of the scales' internal reliability (Cronbach's alpha between .85 and .91) and validity.

Procedure

Testing was scheduled with the aid of leadership, administration and academic staff as questionnaire completion occurred during class time. A single tester completed all testing sessions across schools for consistency. The tester read the instructions aloud and answered questions prior to continuing. The tester read all questions aloud. Test completion took 50 minutes, on average.

Results

Data was analysed using SPSS v27. Data was missing completely at random (Little's MCAR $\chi^2_{(485390)} = 48178.11, p = .877$). Full information maximum likelihood regression was employed to impute missing values. A series of frequency, cross-tabulation and analyses of variances (ANOVAs) were run to explore the current findings and address the hypotheses.

Univariate normality was violated. This may be expected given the frequency of socially desirable responding in this age group and thus target population (Measelle et al., 2005). Violations were only weak-moderate. Analyses were run over 1000 bootstraps.

Power analyses indicated that the sample size for bullies was not statistically powerful enough (n required = 34). To ensure that no data was lost analyses were run for each group separately. This decision was also based on the large difference in sample sizes across groups (victims = 377, bully/victims = 253, non-involved = 56) and the statistical power required (40 per group, just below the non-involved sample size). Analyses run across the three remaining groups displayed the same pattern. They displayed slightly less adaptive scores on EI and resilience for victims; however, these results did not reach significance. Further research with a larger sample size is required.

Levene's test of homogeneity of variance indicated that sphericity could not be assumed across several analyses for EI, aggression and resilience. Welch's corrected values are reported for all ANOVAs for consistency across analyses. Descriptive statistics are shown amongst the tables of findings.

Table 2: Prevalence and cross tabulations for bullying, victimisation, bullying types, gender and grade

Prevalence	Group	n	Bully	Victim	Bully/victim	Direct bully	Indirect bully	Direct victim	Indirect victim
Overall		704	2.6%	53.7%	35.9%	18.3%	2.6%	74.1%	29.1%
Grade	4	219	1.8%	53.0%	41.1%	18.3%	4.1%	80.4%	38.4%
	5	258	3.1%	51.2%	37.6%	17.8%	0.8%	72.5%	28.7%
	6	226	2.7%	57.5%	28.4%	19.0%	3.1%	69.9%	20.4%
All grades	χ^2	702	$\chi^2_{(2)} = .78$, $p = .68$	$\chi^2_{(2)} = 2.25$, $p = .330$	$\chi^2_{(2)} = 8.34$, $p = .015^*$	$\chi^2_{(2)} = .06$, $p = .972$	$\chi^2_{(2)} = 5.67$, $p = .059$	$\chi^2_{(2)} = 7.72$, $p = .021^*$	$\chi^2_{(2)} = 18.20$, $p < .001^{***}$
Grade 4 to 5	χ^2				$\chi^2_{(1)} = .61$, $p = .435$			$\chi^2_{(1)} = 4.56$, $p = .033^*$	$\chi^2_{(1)} = 5.00$, $p = .025^*$
Grade 4 to 6	χ^2				$\chi^2_{(1)} = 7.84$, $p = .005^{**}$			$\chi^2_{(1)} = 7.26$, $p = .007^{**}$	$\chi^2_{(1)} = 18.14$, $p < .001^{***}$
Grade 5 to 6	χ^2				$\chi^2_{(1)} = 4.53$, $p = .033^*$			$\chi^2_{(1)} = .43$, $p = .513$	$\chi^2_{(1)} = 4.88$, $p = .027^*$
Gender	Male	333	4.2%	45.3%	27.5%	26.7%	1.5%	76.6%	30.6%
	Female	364	.8%	62.1%	44.4%	9.9%	3.6%	71.7%	27.2%
	χ^2	697	$\chi^2_{(1)} = 8.35$, $p = .004^{**}$	$\chi^2_{(1)} = 19.63$, $p < .001^{***}$	$\chi^2_{(1)} = 21.86$, $p < .001^{***}$	$\chi^2_{(1)} = 33.50$, $p < .001^{***}$	$\chi^2_{(1)} = 2.96$, $p = .085$	$\chi^2_{(1)} = 2.15$, $p = .143$	$\chi^2_{(1)} = 1.00$, $p = .318$

Note: χ^2 = Pearson chi-square cross tabulation significance test. * $p < .05$; ** $p < .01$; *** $p < .001$.

Prevalence

Table 2 presents the prevalence rates of bullies, victims and bully/victims across groups. Grade-four students were the most likely to be victims of direct and indirect bullying.

Grade-six students were the least likely to become bully/victims and were less likely to report being a direct victim than grade-four students and an indirect victim than both grade-four and five students.

The seven participants who wished not to indicate their gender were excluded from the analyses assessing gender differences. While this data may provide integral information regarding bullying incidences (i.e., especially for students of the LGBTQI community) the sample size was not powerful enough to generate reliable findings (Tabachnick & Fidell, 2007).

As expected, males were more likely to bully others and females were significantly more likely to be victims (Table 2). Males were more likely to conduct direct bullying. Females were more likely to become bully/victims.

Participants were most likely to be classified as victims, across grades and genders. This is closely followed by students who reported both bullying others and being bullied themselves. Direct bullying and direct victimisation are also most frequently reported across grades and genders. Females and grade-four and six students report greater use of indirect bullying, which may relate to developmental changes that in turn have important implications for intervention (Department of Human Services, 2007). As hypothesised, there was a slight trend towards girls committing a greater amount of indirect bullying, than boys ($p = .085$). However, this distinction failed to reach statistical significance. Further research with a larger sample is required to confirm this difference.

Analyses of variance

Mean differences in EI, aggression and resilience were explored to inform potential target areas for intervention and the prevention of bullying and victimisation in schools. The sample of bullies failed to display adequate statistical power. The results relating to this subgroup may not be indicative of true results. Future research should investigate these relationships in a larger sample. A series of one-way ANOVAs were conducted with EI, aggression and resilience dimensions as the dependent variable and group (bully, victim, bully/victim) as the independent variables. Tables 3, 4 and 5 display the results for each dependent variable, respectively.

Contrary to expectations, victims displayed significantly greater EI than their peers (see Table 3), which may be indicative of the large number of bully/victims in the sample. As expected, bully/victims displayed significantly lower scores on EI than their peers.

Victims displayed significantly less proactive and reactive aggression than other students as displayed in Table 4. Nevertheless, bully/victims were more proactively and reactively aggressive than the remainder of participants (see Table 4).

Table 3: Analyses of variance of emotional intelligence for bullies, victims, and bully/victims

		<i>M</i>	<i>SD</i>	<i>N</i>	<i>F</i>	<i>df 1</i>	<i>df 2</i>	<i>p</i>	<i>Partial eta²</i>	Upper CI	Lower CI
Victim	No	35.17	4.55	326	28.46	1	633.86	<.001	.04	.02	.07
	Yes	36.87	3.78	378							
Bully/victim	No	36.79	3.91	451	33.24	1	462.01	<.001	.05	.02	.08
	Yes	34.84	4.52	253							

Table 4: Analyses of variance of proactive and reactive aggression

		<i>M</i>	<i>SD</i>	<i>N</i>	<i>F</i>	<i>df 1</i>	<i>df 2</i>	<i>p</i>	<i>Partial eta²</i>	Lower CI	Upper CI	
Proactive	Victim	No	2.34	3.34	326	65.32	1	399.1	<.001	.09	.06	.14
		Yes	.76	1.22	378							
	Bully/victim	No	.73	1.19	451	82.27	1	283.0	<.001	.16	.11	.21
		Yes	2.84	3.60	253							
Reactive	Victim	No	7.12	4.60	326	64.84	1	564.5	<.001	.09	.05	.13
		Yes	4.69	3.17	378							
	Bully/victim	No	4.70	3.30	451	90.10	1	403.0	<.001	.13	.09	.18
		Yes	7.80	4.56	253							

Table 5: Analyses of variance of resilience dimensions

		<i>M</i>	<i>SD</i>	<i>N</i>	<i>F</i>	<i>df 1</i>	<i>df 2</i>	<i>p</i>	<i>Partial eta²</i>	Lower CI	Upper CI		
SM	Victim	No	53.30	13.33	326	15.86	1	636.8	<.001	.02	.01	.05	
		Yes	56.72	11.16	378								
	Bully/victim	No	56.92	11.43	451	29.38	1	464.4	<.001	.04	.02	.08	
		Yes	51.57	13.14	253								
	SR	Victim	No	70.72	16.82	326	16.09	1	640.4	<.001	.02	.01	.05
			Yes	75.47	16.49	378							
	Bully/victim	No	75.79	14.31	451	30.82	1	453.6	<.001	.05	.02	.08	
		Yes	68.79	16.94	253								
ER	Victim	No	29.30	14.59	326	27.38	1	665.0	<.001	.04	.02	.07	
		Yes	23.76	13.53	378								
	Bully/victim	No	23.54	13.23	451	49.11	1	482.0	<.001	.07	.04	.11	
		Yes	31.29	14.54	253								

Note: SM = sense of mastery; SR = sense of relatedness; ER = emotional reactivity.

Victims' self-reported results indicated that they had greater self-efficacy, social supports and emotional control than other students' self-reports, as seen in Table 5. As hypothesised, bully/victims reported that they were less competent, had fewer social supports and tended to react to perceived slights and threats with greater intensity and had difficulty calming down following such events (Prince-Embury, 2006).

Discussion

The current paper explored the prevalence of bullies, victims and bully/victims in children and pre-adolescents. The hypotheses are discussed throughout the results section. The current sample reported an unusually high percentage of victims and bully/victims. The findings indicate that a large percentage of students experienced bullying and victimisation at least sometimes or more often. The results were in contrast with those presented by Thomas et al. (2017) who found higher rates of bullying and a far lower rate of victims and bully/victims. Together these studies provide clear evidence of the need for innovative approaches to intervention and prevention of bullying and victimisation in schools. The potential health outcomes, performance issues and reduced social and emotional development following such adversities can continue throughout life (Wolke & Lereya, 2015).

The results partially support the first hypothesis that grade-six students would be least involved in bullying. They also partially support Rigby and Slee's (1993) finding that there is a general decrease in the prevalence of bullying and victimisation among grade-six students as they are the head of the school and gain dominance and power through this standing. Discrepancies in the current finding may be attributed to the unusually high proportion of individuals that reported being bully/victims. Further investigation is required employing additional measures to identify the reason for this distinction. Higher levels of direct bullying by grade six students may represent their greater levels of power and strength, perhaps suggesting that children more openly reported their use of this dominance compared to previous studies. Furthermore, there may be some counterbalancing occurring in support of previous findings that indirect means of bullying and victimisation increase with age, while direct means decrease (Besag, 2006; Jacobsen & Bauman, 2007; Manuel et al., 2020). Nevertheless, the expected trend in prevalence across grades is evidenced in reports of bully/victim status.

As expected, males were more likely to conduct bullying of any form, and specifically through the use of direct forms of bullying acts. This may reflect the relative physical strength of males and females and the varied development changes that they are experiencing (Besag, 2006; Centers for Disease Control and Prevention, 2020; Jacobsen & Bauman, 2007; Monks & Smith, 2006). Females undergo puberty at an earlier age than males and experience physical and hormonal changes during pre-adolescence (Department of Human Services, 2007). They are also more socially inclined to develop exclusive friendship groups, as seen through the slight trend towards females conducting greater amounts of indirect bullying (Besag; Mishna et al., 2008). However, this trend was not significant in the current study. Further longitudinal research is required to identify the relationship between bullying behaviours and developmental changes across grades.

The current findings provide preliminary evidence of the beneficial effects that EI and resilience training may have on improving peer relations within primary schools. This manuscript extends the findings of Lomas et al. (2012) and Schokman et al. (2014) from adolescent students attending Australian secondary schools, to students in primary schools. Specifically, as expected bully/victims scored lower on EI than their peers.

However, victims reported higher levels of EI, contrary to expectations. Victims may be more emotionally aware and controlling in attempt to form social bonds, yet less capable of perceiving, expressing and understanding their peers' emotions (Bunnett & Stough, 2021, p.90). Victims may thus be agitating, annoying, socially inept and disliked by peers, inviting victimisation, despite remaining relatively unaggressive (Manring et al., 2018). A full structural equation model (SEM) of the relationship between the four branches of Mayer and Salovey's (1997) Ability EI as accessed by the Revised SUEITEY (Bunnett, , 2021, p.75) is beyond the scope of this paper (see Bunnett, 2021, p.90).

Victims generally stated that they were less willing to employ aggressive tactics to gain social dominance, status, security and support, possibly making them more vulnerable targets for bullies (Olweus, 1978). This supports previous findings that victims are commonly timid, unprovocative, passive, shy and withdrawn (Crawford & Manassis, 2011; Morrison, 2002; Olweus; Rigby, 2007). Nevertheless, bully/victims indicated that they more frequently employed proactive and reactive aggression. Such findings support previous research (Runions et al., 2018). It is important to identify differences in tendencies towards a general (non-bullying related) aggressive temperament alongside involvement in bullying as these students may require additional support and access to counsellors within the school system (Morrison, 2002; Vreeman & Carroll, 2007).

Contrary to expectations, victims reported higher levels of resilience on all three scales, compared to peers. They may have experienced greater levels of relational and friendship bullying (Jacobsen & Bauman, 2007). Further investigation is required to determine how victims generally present in this age group. Nonetheless, bully/victims were found to be less resilient as measured by each key dimension. The large proportion of students in this group, alongside their relatively reduced resilience and EI, and heightened aggressive tendencies suggests that they require immediate intervention and continued monitoring.

Early intervention is integral, as students who internalise bullying events, particularly victims and bully/victims, tend to ruminate over their fault in causing the behaviour, leading to long-term psychological disorders (e.g., anxiety, depression, eating disorders, psychosis), psychosomatic (e.g., pain, fatigue), physical (e.g., migraines, panic attacks, ulcers), social, emotional, behavioural and psychosexual issues, compared to others (Bowes et al., 2010; Carney & Merrell, 2001; Moore et al., 2017). Bully/victims are particularly vulnerable as they also experience the consequences common to bullies, such as conduct disorders, alcohol and drug abuse, domestic violence and unemployment (Carney & Merrell, 2001; Moore et al., 2017; Wolke & Lereya, 2015). The current study suggested that bully/victims would benefit from advanced training in EI and resilience.

Limitations and implications

The current study may have been limited by the ethically mandated opt-in consent process. Sending paperwork between teachers, students and parents is open to forms being lost, left in bags and forgotten about. This may have greatly reduced the sample size. Further investigation in a larger, more representative sample is required to ascertain the relationships between target areas for intervention for bullies and victims. Longitudinal

and mixed methods approaches may provide more in-depth evidence; however, the practical utility of such methods is particularly limited in the target population. Methodological advancements may assist future research, such as the use of computer adaptive testing. The current manuscript indicates the need for consistent, ongoing monitoring of bullying and victimisation in schools to promote and inform research, policies and procedures regarding these behaviours within the school climate.

Types of bullies and victims should also be investigated in further research to discern important differences in their prototypical presentations. The current study may be limited by the use of the PRAQ-R (Rigby, 1996). Development of a larger, more comprehensive and more internally reliable measure of bullying and victimisation is important to ensure that these acts may be adequately monitored.

The current study provides important awareness into the need for anti-bullying programs that introduce resilience and EI within the school curricula. Whole school approaches are generally more beneficial than targeted interventions (Black, Washington, Trent, Harner & Pollock 2010). Nonetheless, these programs may be bolstered by the inclusion of additional mentors and counsellors for direct intervention concerning extremely vulnerable students (Morrison, 2002; Vreeman & Carroll, 2007). This may be beneficial for bully/victims in particular as they display a greater tendency towards general proactive and reactive aggression, than their peers. Intervention and prevention programs must include parent/guardian and family involvement as children's learning environment is nested within a series of ecological systems (Tofsi & Farrington, 2011). Moreover, as EI develops with age it is recommended that training programs be placed within the school system and persist throughout students' school lives. This supports previous findings that intervention and prevention programs that continue over an extended period of time tend to exhibit better results (Wells, Barlow & Stewart-Brown, 2003). The implementation of programs including classroom curricula (e.g., labelling the emotions displayed in photos, vignettes, videos and interactions), parent/family involved homework tasks (e.g., discussing the most positive and difficult experiences of one's day and the emotions they felt around the dinner table) and peer networking activities, centred on improving EI, resilience and peer relations will likely reduce the incidence and subsequent negative outcomes of bullying and victimisation in schools. For example, providing students with activities that broaden their emotional vocabulary and encouraging them to take other individuals' perspectives, whilst reflecting on their own emotions, may assist them in developing emotional perception and awareness. Therefore, assisting students with deficits associated with increased prevalence rates (Lomas et al., 2012; Schokman et al., 2015; van den Bedem et al., 2018) may be helpful.

Conclusion

The current study presented evidence of the large number of Australian primary school students who are involved in bullying and victimisation. Children and pre-adolescents aged between nine and 13 years were most likely to report being involved in bullying as victims and bully/victims. Future longitudinal research in a large representative sample is required to provide insight into the trajectory of bullying and victimisation in modern

schools. Bully/victims would benefit from EI and resilience training. Anti-bullying programs employing whole school EI, and resilience training programs, that consistently monitor bullying prevalence rates should be implemented within the school curricula and persist throughout their school lives.

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