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Self-esteem, Bullying Perpetration/ Victimization and Perceived Parental Support in a Nationally Representative Sample of Australian Students

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Abstract

The purpose of this study was to explore the inter-relationships among students' self-esteem, bullying victimization/perpetration behaviours, and perceived parental support, with a focus on how self-esteem mediates the association of parental support and bullying behaviours and how bullying mediates the association of parental support and self-esteem. We employed structural equation modelling to analyse the secondary data collected in "Young Minds Matter: The Second Australian Child and Adolescent Survey of Mental Health and Wellbeing" funded by the Australian Government Department of Health. Analyses were performed

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on 431 adolescent students selected from 2967 adolescents aged 11-17 years. Our findings revealed that parental support has a direct positive association with self-esteem and a direct negative association with bullying behaviours. This study highlights the importance of parental support in both lowering bullying perpetration/victimization and enhancing student's self-esteem. Findings of this study could improve anti-bullying programs.

Introduction

For adolescents and school youth, bullying is a growing problem in all over the world (Chan & Wong 2015; Cook, Williams, Guerra &Kim 2009; Liang, Fisher & Lombard, 2007). All forms of bullying are found to have been related to increased psychological problems (Thomas *et al*., 2017) Bullying is also associated with psychosocial maladjustments of both the bullies and the victims (Estevez, Murgui & Musitu 2009; Hawker & Boulton 2000; Nansel, Haynie & Simonsmorton 2003).

Bullying perpetration can be defined as specific types of aggressive behaviours that are intended to cause harm, through repeated actions, and targeted at persons who cannot defend him/herself (Olweus 1993). Bullying victimization refers to being a victim of those types of aggressive behaviours that are harm-doing, repeatedly performed over time, and involving an imbalance in power (Luukkonen, Rasanen, Hakko, & Riala, 2009).

Luk *et al*. (2016) suggested that bullying perpetration and victimization may respectively serve as externalizing and internalizing pathways through which parenting styles and self-esteem are linked to depression and alcohol-related outcomes. Behavior problems, unhappiness, and substance abuse are among the externalizing problems of the bullying perpetrators (Kretschmer *et al*., 2018; Rivers, Poteat, Noret, & Ashurst, 2009). Low self-esteem, high anxiety, and depression are among the long-term internalizing problems of the victims of bullying (Arseneault, 2018; Reijntjes, Kamphuis, Prinzie & Telch 2010). Both bullies and victims feel negative emotions after the bullying incidents (Byrne, Dooley, Fitzgerald, & Dolphin 2016; Estevez *et al*., 2009). However, especially the victims of bullying report the strongest negative feelings (Estevez *et al*., 2009) and present weaker self-conceptions, which is detrimental to their self-esteem (Houbre, Tarquinio, & Lanfranchi, 2010).

The literature suggests that self-esteem is a critical concept during adolescence, regarding bullying perpetration/victimization, because physical appearance, peer acceptance, and peer relations are getting more important and make them aggressive in response to the threats against their self-image during that period (Twenge &

Campbell, 2001). Another critical concept among the etiological elements of student bullying in adolescence is perceived parental support, which has been paid insufficient attention in the literature (Bibou-Nakou *et al.*, 2013). Thus, this study aims to fill the gap in the literature, examining the roles of perceived parental support and self-esteem of adolescents in the discourse of bullying perpetration/ victimization in schools.

Many studies indicate that the parental style has an effect on both bullying victimization and perpetration showing that both bullies and victims are coming from unsupportive family atmosphere (Bibou-Nakou *et al.*, 2013; Claes *et al.*, 2015; Guo, 2016; Schwartz *et al*, 2000; Mishna *et al.*, 2016; Sawyer *et al.*, 2011; Stives *et al.*, 2019; Gomez-Ortiz, Del Rey, Casas, & Ortega-Ruiz, 2014; Gomez-Ortiz, Romera, & Ortega-Ruiz, 2016; Shetgiri, Lin, Avila, Flores, 2012). Holt, Kantor and Finkelhor (2008) found out that the youth who live in supportive families could conveniently tell their parents about peer victimization and the bullying ones got in trouble at home for perpetration. The parents' discipline approaches in the family environment has a significant effect on children's involvement in bullying and the parents' unwillingness to help their children solve their problems in school settings also affects students' involvement in bullying (Papanikolaou, Chatzikosma & Kleio 2011). Parental communication, interaction, involvement, and support were related to both less bullying victimization and bullying perpetration (Kowalski *et al.,* 2014; Lereya, Samara, & Wolke, 2013; Van Niejenhuis, Huitsing, & Veenstra, 2019; Zych, Farrington, & Ttofi, 2019). Therefore, we can hypothesize that;

H1: Perceived parental support has a negative effect on bullying perpetration/ victimization.

Rosenberg (1965) defined self-esteem as "a favorable or unfavorable attitude toward the self" (p. 15). Individuals' self-esteem is closely related to their relationships with others (Thompson 2006). Notably, parents are crucial figures for children and adolescents in the development of their self-esteem (Keizer, Helmerhorst, & van Rijn-van Gelderen, 2019). Children's and adolescents' relationships with their parents provide a secure base for them in order to develop their psychological capacities and to be autonomous individuals (Allen, 2016). The research suggests that strong and secure parental attachment in adolescence is positively associated with self-esteem (Chen *et al.*, 2017; Pan *et al.*, 2017; Ju, Liu, & Fang, 2011; Keizer *et al.*, 2019). The similar results were also found out in the studies of Bulanda and Majumdar (2009) who indicated the positive associations of one parent's involvement and high-quality relations with self-esteem grow stronger in the presence of high involvement and relationship quality of the second parent. Mulyadi, Rahardjo & Basuki (2016) found out indirect effect from a parent-child relationship to academic stress through self-esteem. Therefore, we can hypothesize that;

H2: Perceived parental support has a positive effect on self-esteem.

Individuals with low self-esteem are assumed to display bullying behaviours more frequently than those with high self-esteem because low self-esteem is associated with various antisocial and negative adjustments (Salmivalli, 2001). Reversely, bullying has a negative effect on the self-esteem of the victims in the long-term (Blood & Blood, 2016). Empirical evidence shows that the self-esteem of school children and adolescents is negatively related to both bullying perpetration and peer victimization (Hawker & Boulton, 2000; Tsaousis, 2016). Wolke, Skuse, and Reilly (2006) found that bullying victimization was negatively correlated with social self-concept and global self-esteem. Fanti and Henrich (2015) found that low self-esteem with high narcissism contributes to both bullying and victimization in adolescents. Lee (2017) found that self-esteem and self-resilience were positively related to each other and negatively related to depression and bullying victimization. Schoeler *et al*. (2018) found in their meta-analysis that many studies show the short- and long-term negative consequences of bullying victimization in terms of academic difficulties, internalizing symptoms, and externalizing symptoms; including depression, anxiety, increased emotional dysregulation, withdrawal from social contacts, loneliness, and reduction in self-esteem. Therefore, we can hypothesize that;

H3: There is a negative relationship between self-esteem and bullying perpetration/victimization.

Rauskas, Rubiano, Offen, and Wayland (2015) supported the conclusion that the interaction of self-efficacy and self-esteem may moderate the relationship between peer victimization and academic performance. More specifically, Luk *et al*. (2016) found that self-esteem is a mediator in the relationship between parenting styles and bullying. Their findings revealed that the youth whose parents are authoritative have higher levels of self-esteem, which plays as a protective factor against bully victimization and depression (Luk *et al*., 2016). Empirical evidence showed that both bullying and victimization are predicted by low levels of self-esteem (Guerra, Williams, & Sadek, 2011). Given the importance of parental support in building self-esteem in adolescence (Krauss, Orth, & Robins, 2019), we can hypothesize that parental support would help the adolescents build self-esteem and thus decrease the bullying perpetration/victimization. In other words, we can hypothesize that;

H4: Self-esteem is a mediator in the relationship between perceived parental support and bullying perpetration/victimization.

The negative effect of perceived parental support on bullying penetration/ victimization is well-documented in the literature (Claes *et al*., 2015; Schwartz *et al*., 2000; Mishna *et al*., 2016; Stives *et al*., 2019; Gomez-Ortiz *et al*., 2014; Gomez-Ortiz *et al*., 2016; Van Niejenhuis *et al*., 2019; Zych *et al*. 2019). Besides, previous studies showed that the bullied students at school reported lower levels of

self-esteem, less attached to their peer-group, teachers and school, and had lower levels of motivation (Blood & Blood, 2016; Lee, 2017; Malecki *et al*., 2015; Skues, Cunningham, & Pokharel, 2005; Wolke *et al*., 2006). Alternatively, to the fourth hypothesis, we also hypothesize that the adolescents who perceive more parental support are less likely to involve in bullying perpetration or victimization and, thus, have higher levels of self-esteem. In other words, we can hypothesize that;

H5: Bullying perpetration/victimization is a mediator in the relationship between perceived parental support and self-esteem.
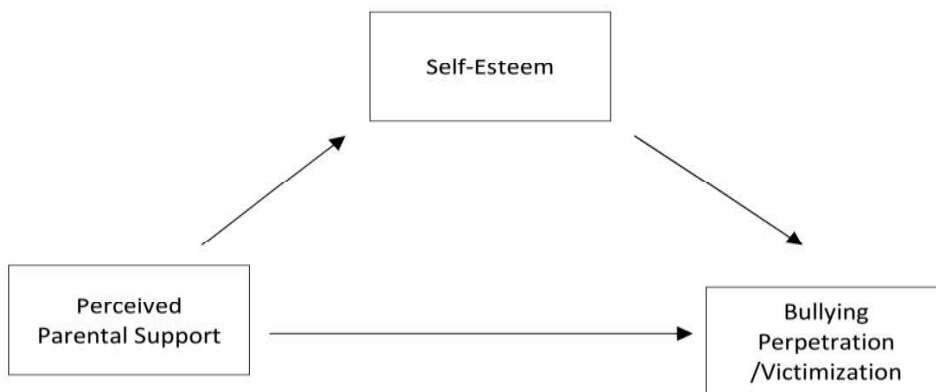
To the best of our knowledge, there is no study has been done to examine the mediating effect of self-esteem in the relationship between parental support and bullying perpetration/victimization; and the mediating effect of bullying perpetration/victimization in the relationship between parental support and self-esteem.

Purpose and Proposed Models

The purpose of this study was to investigate the mediating role of children's self-esteem, based on the relationship between children' perceived parental support and children's bullying victimization/perpetration behaviors; in addition to the mediating role of bullying victimization/perpetration behaviors based on the relationship between children' perceived parental support and self-esteem.

We hypothesize that parental support would predict higher levels of self-esteem, which would, in turn, predict weakened bullying perpetration/victimization.

Alternatively, we also hypothesize that parental support would predict lower levels of bullying perpetration/victimization, which would, in turn, increase self-esteem. The theoretical models which are alternative to each other are illustrated in *Figure 1* and *Figure 2*.

Figure 1. Theoretical model presenting the mediating effect of self-esteem in the relationship between perceived parental support and bullying perpetration/victimization
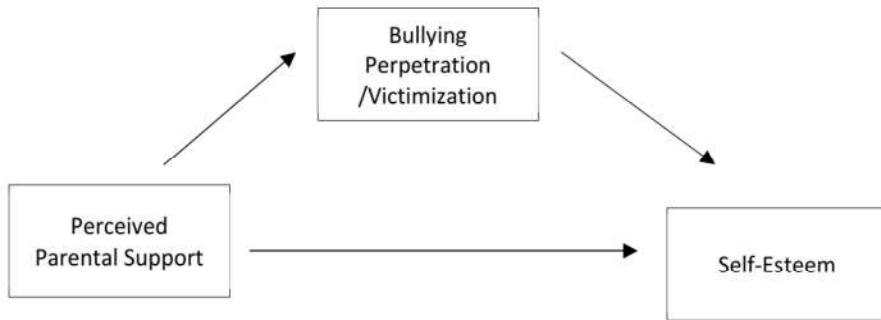
Figure 2. Theoretical model presenting the mediating effect of bullying perpetration/ victimization in the relationship between perceived parental support and self-esteem

Methodology

Participants and Procedure

This study is based on the analysis of secondary data collected in "Young Minds Matter: The second Australian Child and Adolescent Survey of Mental Health and Wellbeing". Young Minds Matter was funded by the Australian Government Department of Health and was run by the Telethon Kids Institute at the University of Western Australia in partnership with Roy Morgan Research.

The conduct of Young Minds Matter was approved by the Australian Government Department of Health Human Research Ethics Committee as the primary ethics committee overseeing the survey. As part of the protocol approved by this committee, researchers may access the Confidentialised Unit Record File (CURF) from Young Minds Matter providing they receive approval to do so from their own relevant ethics body and provided they undertake to maintain respondent confidentiality by using the CURF for specified statistical purposes only and not attempting to identify any particular persons by matching the CURF with any other list of persons or in any other way.

Young Minds Matter included a face-to-face interview with the primary carer of 6,310 Australian children and young people aged 4-17 years, randomly selected from across the country. Where the selected survey child was aged 11 years or over, they were asked to complete a self-reported questionnaire on a tablet computer. The information collected from the 2,967 young people who completed this questionnaire included the Major Depressive Disorder module of the Diagnostic Interview Schedule for Children, the Strengths and Difficulties Questionnaire (SDQ) and the Kessler 10 measure of non-specific psychological distress. The SDQ and the Kessler 10 are both indicators of emotional problems and anxiety

and depression. In this Australia-wide study, the sample consisted of randomly selected 2,967 children aged 11-17 years who completed the Second Australian Child and Adolescent Survey of Mental Health and Wellbeing (Young Minds Matter) for youth questionnaire.

For the current study, we analysed the survey of self-reported bullying behaviors (Olweus Bully–Victim Questionnaire–adapted) and the questions show perceived parental support from the Protective Factors questionnaire and Self-esteem Module. Of the total sample, 1989 students answered the global bullying victimization item "In the past 12 months, how often were you bullied or cyberbullied by another person or group of young people?" and if they said "I was not bullied in 12 months" we removed the data associated with this answer from the data set. So, we used the answers from 978 (49%) students left. Moreover, for the bullying perpetration behaviours, we used the global bullying perpetration item "In the past 12 months, how often did you bully or cyberbully someone?" The response options were starting from 1 "I did not bully others in the last 12 months" to 6 "most days". Because only 431 of the students responded starting from 2 "once or twice in the last 12 months" to 6 "most days" we fixed all data set to 431 by deleting nonrelevant data from 2967 observations. All measurement tools fixed to 431 which is the number of bullying perpetration observations to analyse the data. All statistical analysis was done by using the answers from 431 (21%) students aged between 11-17 years.

This study was based on correlational analysis which involves descriptive statistics, exploratory and confirmatory factor analysis to test the measurement model. A structural equation model was also developed to test each hypothesis. SPSS 21 and AMOS were used to analyse the data. After performing the reliability and validity analyses, a structural equation model was developed with the Maximum Likelihood method through AMOS. Also, the correlation matrix of the variables was summarized before performing the final structural model.

Measures

Self-esteem scale

The Adolescent Self-esteem questionnaire (ASQ) consisted of 13-items on a 5-point Likert scale. Items were both positively and negatively worded. The total score of scale calculated by summing the item scores after positively worded items reverse coded. A higher score shows a higher level of self-esteem.

We ran both exploratory and confirmatory factor analysis. Our results were paralleled with the previous psychometric analysis of ASQ (Hafekost, Boterhoven de Haan, Lawrence, Sawyer, and Zubrick, 2017). We used exploratory factor analysis with oblique rotation. The Kaiser-Meyer-Olkin measure of sampling

adequacy was 0.849 and Bartlett's test of sphericity was significant (df = 78, x^2 = 2378.595, p < 0.000). The communalities were between 0.369 and 0.808 and factor loadings were between 0.509 and 0.890. The exploratory factor analysis results suggested a two-factor solution. The first factor consisted of eight items (3, 5, 7, 8, 9, 10, 12, 13) and the second factor (1, 2, 4, 6, 11) consisted of five items. Because item # 4 (0.176) was loaded very low in the item-total correlation matrix, we dropped it from the final scale. We also recoded the positively worded items so that higher scores can be equal higher self-esteem levels.

For the reliability analysis, we calculated Cronbach's Alpha coefficient as 0.83. The confirmatory factor analysis results using Maximum likelihood suggested that some items (#1, #2, #3, #6, #11) were needed to be removed from the scale because of the high values in the standardized residual covariance matrix. We completed the confirmatory factor analysis with one factor structure with seven items (#5, #7, #8, #9, #10, #12, #13). The factor loadings were between .52 and .81. The one factor model (χ^2/df = 3.558, *p* < .000; GFI= 0.96, AGFI= 0.93, CFI = 0.95, RMSEA (90% CI) = 0.077 (0.058-0.097) fitted to the data well.

Bullying perpetration/victimization scale

In the context of the Young Minds Matter project, the bullying scale consisted of different questionnaires such as single global items and multi-item scales adapted from Olweus Bully–Victim Questionnaire and the Cyber Friendly Schools program (Cross *et al.*, 2016). In this current study, we used two global bullying behaviour items. The first one was for bullying victimization item ("In the past 12 months, how often were you bullied or cyberbullied by another person or group of young people?") with the 6-point Likert type scale from "all the time" to "once or twice in the last 12 months". The second one was for the bullying perpetration item ("In the past 12 months, how often did you bully or cyberbully someone?") with the same response range from the first question. We used the global bullying victimization/ perpetration items as an indicator of being bullied by others or bully someone.

We ran the exploratory factor analysis which yielded the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.500 and Bartlett's test of sphericity was significant (df = 1, x^2 = 284.141, p < 0.000). The communalities were the same for both questions as 0.832 and the same with the factor loadings which is 0.912. For the reliability analysis, we calculated Cronbach's Alpha coefficient as 0.78. It shows good reliability level. The reliability analysis result was consistent with the previous study result has done by Thomas *et al.* (2017). Due to the fact that the bullying scale has two observed variables, the confirmatory factor analysis has not been run for it since the confirmatory factor analysis requires at least three observed variables under a latent variable (Hair, Black, Babin and Anderson 2010; Kelloway 2015).

Parental support scale

We used two global questions to assess parental support as "How much do your parents know about what you are doing?" and "How much do your parents know about how you are feeling?". We ran the exploratory factor analysis which yielded with Kaiser-Meyer-Olkin measure of sampling adequacy was 0.500 and Bartlett's test of sphericity was significant (df = 1, x2 = 1567.629, p < 0.000). The communalities were the same for both questions as 0.994 and the same with the factor loadings which is 0.997. It was a one-dimension scale which has 0.99 for Cronbach's Alpha coefficient. Due to the fact that the parental support scale has two observed variables, the confirmatory factor analysis has not been run for it. The confirmatory factor analysis requires at least three observed variables under a latent variable (Hair *et al*., 2010; Kelloway, 2015).

Results

Descriptive Statistics and Correlation Analysis

Means, standard deviations and correlation coefficients for all measures are summarised in Table 1. The results suggested that the self-esteem was positively correlated with parental support (1) ($r = .291, p < .001$) and parental support (2) ($r = .281, p < .001$). Self-esteem was negatively correlated with both bullying victimization ($r = -.146, p < .001$) and bullying perpetration ($r = -.307, p < .001$). In addition, parental support (1) and (2) were negatively correlated respectively with bullying perpetration ($r = -.924, p < .001; r = -.919, p < .001$) and bullying victimization ($r = -.768, p < .001; r = -.766, p < .001$). Lastly, the bullying victimization was positively correlated with bullying perpetration ($r = .663, p < .001$).

Table 1. Means, Standard Deviations and Correlations among the variables

| Measures	Means	Standard Deviations	1	2	3	4	5
1.Self-esteem	28.628	4.029	1				
2.Parental support (1)	3.478	0.932	.291**	1			
3.Parental support (2)	3.501	0.901	.281**	.987**	1		
4.Bullying Behaviours (Vic)	4.248	1.241	-.146**	-.768**	-.766**	1	
5. Bullying Behaviours (Pert)	2.457	0.975	-.307**	-.924**	-.919**	.663**	1

**p<.01.*

Measurement Model

The confirmatory factor analysis (CFA) was run to assess the measurement model to understand if the data fitted with the theoretical model. The full measurement model has three latent variables with each has observed variables respectively "self-esteem with seven observed variables", "parental support with two observed variables", "bullying behaviours with two observed variables". Hair *et al*. (2010) suggested that for the sample size more than 250, the Chi-Square should be significant and RMSEA should be smaller than 0.70 with CFI of 0.92 or higher. The CFA results suggested the measurement model has great fit with the data (χ^2/df = 3.64, *p* < .001; GFI= 0.94, AGFI= 0.90, CFI = 0.97, RMSEA (90% CI) = 0.078 (0.065-0.092).

Structural model

The correlations between the measurements in the current study aligned with the related literature (see Table 1). So, we developed two different structural equation models showing both mediating (indirect) and direct effects of variables. In the first model, we tested the mediating effect of self-esteem in the relationship between perceived parental support and bullying perpetration/victimization. In this model, including the standardized estimates for direct and indirect effects (*Figure 3*), parental support has a direct negative effect on bullying perpetration/victimization (H1; β=-1.04) and a direct positive effect on self-esteem (H2; β=0.30). While the findings supported H1 and H2, there was not a significant relationship between self-esteem and bullying perpetration/victimization (H3; β = -0.017, p = 0.653) and so, we could not find evidence on the mediation effect of self-esteem (H4) in this relationship. After the path from self-esteem to bullying perpetration/victimization was deleted from the model, there was reasonably good fit with the data (χ^2 =149.693; df = 42; p = .001; RMSEA (90% CI) = 0.078 (0.065-0.092); CFI= 0.97; GFI = 0.94 and AGFI= 0.91).
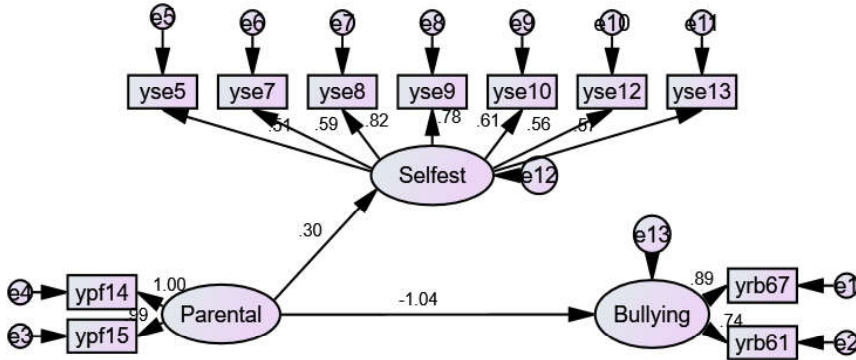
Notes: Factor loadings are standardized. YPF14 and YPF15 = two items of parental support; YSE5, YSE7-YSE12, and YSE13 = seven items of self-esteem; YRB61= bullying victimization and YRB67= bullying perpetration behaviours.

Figure 3. The structural equation model testing the mediating effect of self-esteem in the relationship between perceived parental support and bullying perpetration/victimization

In the second model, we tested the mediating effect of bullying perpetration/ victimization in the relationship between perceived parental support and self-esteem. In this model (*Figure 4*), parental support has a direct negative effect on bullying perpetration/victimization (H1; β=-1.04) and a direct positive effect on self-esteem (H2; β=0.30). Similarly, with the first structural equation model, there was not a significant relationship between self-esteem and bullying perpetration/ victimization (H3, β = 0.12, p = 0.584) and so, we could not find evidence on the mediation effect of bullying perpetration/victimization (H5) in this relationship. After the path from bullying perpetration/victimization to self-esteem was deleted from the model, there was a reasonably good fit with the data (χ^2 =149.693; df = 42; p = .001; RMSEA (90% CI) = 0.078 (0.065-0.092); CFI= 0.97; GFI = 0.94 and AGFI= 0.91).
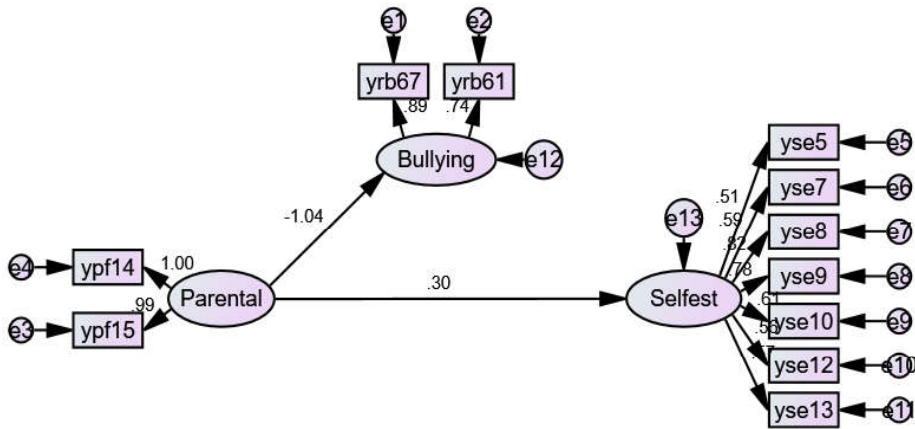
Figure 4. The structural equation model testing the mediating effect of bullying perpetration/ victimization in the relationship between perceived parental support and self-esteem

Although there was a significant negative relationship between self-esteem and bullying perpetration/victimization in the correlation matrix of the variables, as supporting evidence for H3, we could not find a significant relationship between these two variables at neither of the structural equation models. Both models yielded the same coefficients and thus, we could not find evidence on the mediation effect of neither self-esteem nor bullying perpetration/victimization.

Discussion

In this study, we tested two alternative hypotheses in the relations between perceived parental support, self-esteem, and bullying perpetration/victimization. In the first structural equation model, we tested the mediating role of self-esteem in the relationship between perceived parental support and bullying. In the second model, the mediating role of bullying was tested in the relationship between perceived parental support and self-esteem. Both models showed evidence of the significant influence of perceived parental support on both bullying perpetration/ victimization (H1) and self-esteem (H2). However, neither structural model gave a clue on the relationship between bullying perpetration/victimization and self-esteem (H3). Thus, we could not confirm either of our mediation hypotheses (H4 and H5).

We found a direct negative effect of perceived parental support on bullying perpetration/victimization (H1), corroborating the previous research findings (Claes *et al*., 2015; Gomez-Ortiz *et al*., 2014; Gomez-Ortiz *et al*., 2016; Guo,

2016; Holt *et al.*, 2008; Lereya *et al.*, 2013; Papanikolaou *et al.*, 2011; Sawyer *et al.*, 2011; Schwartz *et al.*, 2016; Shetgiri *et al.*, 2012; Stives *et al.*, 2019; Van Niejenhuis *et al.*, 2019; Zych *et al.*, 2019). Previous research results showed that a positive and supportive family environment (Claes *et al.*, 2015; Gomez-Ortiz *et al.*, 2014; Gomez-Ortiz *et al.*, 2016; Guo, 2016), supervision and monitoring of the parents (Holt *et al.*, 2008; Kowalski *et al.*, 2014), a healthy communication and interaction with the parents, parental warmth and affection, and parental involvement and support (Lereya *et al.*, 2013) were among the protective factors against both bullying perpetration and victimization.

The current results show that the perceived parental support enhances self-esteem of the youth, as evidenced by the other researchers (Bibou-Nakou *et al.*, 2013; Bulanda & Majumdar, 2009; Chen *et al.*, 2017; Ju *et al.*, 2011; Keizer *et al.*, 2019; Mulyadi *et al.*, 2016; Pan *et al.*, 2017). Children who developed supportive and secure relationships with their parents tend to perceive themselves more positively and have higher levels of self-esteem than those who have unsupportive relationships with their parents (Thompson, 2016). Although the adolescents learn to develop attachment relationships with their peers and partners while their emotional and cognitive capacities are developing (Allen 2016), the current findings imply that their supportive relationships with their parents, as an important source of developing autonomy, remain to promote their self-esteem.

Although some previous research has examined the mediating role of self-esteem on the relationship between parent-adolescent and depression (Hu & Ai, 2016), dispositional gratitude and well-being (Lin, 2015), mindfulness and well-being (Bajaj, Gupta, & Pande, 2016), authoritative parenting style and aggression (Hesari & Hejazi, 2011), parental attachment and life satisfaction (Chen *et al.*, 2017) and bullying mediation on relationship between social support and self-perception (Mishna *et al.*, 2016), it is an original contribution to the literature to test the mediating role of self-esteem between parental support and bullying perpetration/victimization and also the mediating role of bullying perpetration/victimization between parental support and self-esteem. However, we could not find any supporting evidence neither for the mediation effects of self-esteem (H4) nor bullying perpetration/victimization (H5). At both structural models, the link between self-esteem and bullying perpetration/victimization was missing. It might be because of that there are many other correlates or antecedents of both self-esteem and bullying perpetration/victimization, which we did not include in the current analyses.

Although the correlation analysis corroborated the previous research findings on the negative relationship between self-esteem and bullying perpetration/victimization (Blood & Blood, 2016; Fanti & Henrich, 2015; Hawker & Boulton, 2000; Lee, 2017; Salmivalli, 2001; Schoeler *et al.*, 2018; Tsaousis, 2016; Wolke *et al.*, 2006), the paths between self-esteem and bullying perpetration/victimization were insignificant at both of the structural models. Therefore, we could find enough evidence to support H3.

Although there are contradictory findings in the literature on the relationship between self-esteem and bullying perpetration/victimization, Guerra *et al.* (2011) posited that the link between these two variables is less evident in the relationship between self-esteem and bullying perpetration compared to the one between self-esteem and bullying victimization. For instance, Baumeister, Smart, and Boden (1996) asserted that bullies' self-esteem might be actually high or low, e.g., high but insecure self-esteem increases bullying behaviours as a response to ego threats. Choi and Park (2018) confirmed this contention and found that students with higher self-esteem were more likely to engage in bullying behaviours as a response to ego threats.

In this study, we used a combined and global measure of bullying perpetration/victimization, which might have confused the results. This can be deemed as a limitation of this study. However, there are some similar research findings that the current study corroborates. In an Australian sample of adolescents, Robson and Witenberg (2013) found that self-esteem did not influence either form of bullying. Seals and Young (2003) found that there was no difference between bullies and victims in terms of self-esteem. Moore *et al.* (2017) could not also find a significant relationship between self-esteem and bullying victimization.

As the previous studies indicate, there are many intrapersonal and interpersonal covariates of both self-esteem and bullying perpetration/victimization, other than parental support; such as stress (Estevez *et al.*, 2009), anxiety (Claes *et al.*, 2015; Jones *et al.*, 2017), depression (Hu & Ai, 2016; Lee, 2017), well-being (Lin, 2015), life satisfaction (Blood & Blood, 2016), substance use (Luk *et al.*, 2016), moral disengagement (Robson & Witenberg, 2013), school connectedness and motivation (Skues *et al.*, 2015), peer attachment (Pan *et al.*, 2017), peer support (Kosir *et al.*, 2019), narcissism (Fanti & Henrich, 2015), and self-efficacy (Raskauskas *et al.*, 2015). So, the results of this study should be interpreted with caution, and future studies should include other variables in such a model to reveal the underlying antecedents of self-esteem and bullying perpetration/victimization in adolescents. Longitudinal and experimental studies would be more helpful to clarify the relationships between those variables.

Although the link between self-esteem and bullying perpetration/victimization is blurred in this study, the current findings well-positioned the importance of perceived parental support on both self-esteem and bullying perpetration/victimization in a representative adolescent sample. Intervention strategies can be developed to help parents increase their active monitoring and supervision on their children in terms of their interactions with their peers. Parents can also be trained to enhance their parenting competencies in developing warm, affective, and supportive relationships with their children. Such intervention strategies aiming at enhancing the competencies of parents were proved to be effective in reducing bullying perpetration/victimization in schools (Berry & Hunt, 2009; Cantone *et al.*, 2015; Malti, Ribeaud, & Eisner, 2011). Parents, teachers, and school administrators are advised to work collaboratively to increase parental engagement in order

to strengthen the self-esteem of adolescents and inhibit bullying perpetration/victimization at schools. Education leaders and policymakers are advised to pave the way in order to facilitate parental engagement and gain more support of parents to combat bullying perpetration/victimization which is among the most important problems at the contemporary schools.

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