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Does authentic self-esteem buffer the negative effects of bullying victimization on social anxiety and classroom concentration? Evidence from a short-term longitudinal study with early adolescents

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Abstract

Background: Bullying victimization is a risk factor for social anxiety and disrupted classroom concentration among young people. Self-esteem has been implicated as a protective factor, but extant literature is sparse.

Aims: Aim of present study was to test if a new measure of authentic self-esteem can buffer the negative effects of bullying victimization on social anxiety and disrupted classroom concentration concurrently and across time.

Sample: A short-term longitudinal questionnaire design was employed with 836 12- and 13-year-olds.

Methods: Peer nominations of bullying victimization and self-reports of authentic self-esteem were collected during winter term, and self-reports of social anxiety and disrupted classroom concentration were solicited then and also 5 months later.

Results: Hierarchical multiple regression models indicated that authentic self-esteem moderated the association between bullying victimization and (i) social anxiety both concurrently and longitudinally and (ii) disrupted classroom concentration longitudinally. The Johnson-Neyman technique identified where on its scale authentic self-esteem had its buffering effects, and these were found to be at relatively low or moderate levels.

Conclusions: Even moderate levels of authentic self-esteem can mitigate the association between being bullied and (i) social anxiety and (ii) disrupted classroom concentration. Efforts to monitor and where necessary enhance the authentic self-esteem of young people are warranted.

INTRODUCTION

Social anxiety is one of the most common forms of internalizing problem experienced across the lifespan and many calls have been made to address it going back several decades (Aron et al., 2005; Zimbardo, 1977). Social anxiety has been defined in the DSM-V as when 'the individual is fearful or anxious about or avoidant of social interactions and situations that involve the possibility of being scrutinised' (American Psychiatric Association, 2013, p. 190). It is a further concern that levels appear to be increasing among young people (Ormel et al., 2015; Pechorro et al., 2016). Previous prevalence rates suggest social anxiety is a common experience during the adolescent developmental period, with 10%–15% of young people being diagnosed with this disorder (Essau et al., 1999; Heimberg et al., 2000; Merikangas et al., 2010). More recently, Jefferies and Ungar (2020) in their self-report prevalence study of 6825 participants aged 16–29 years reported that social anxiety is more prevalent than previously reported, with more than 1 in 3 participants meeting the criteria for social anxiety.

There is ongoing debate around the nature of social anxiety (Heeren & McNally, 2018) and it is often used almost interchangeably with other terms such as shyness and social phobia. What seems to be in agreement is that elevated fear and avoidance of social situations and contexts that characterizes social anxiety can be problematic and precipitate other forms of psychological distress and social/relational problems (Coelho & Romão, 2018). From a theoretical viewpoint, the integrative network model visualizes social anxiety as a complex network, comprising of nodes (i.e., symptoms) and edges (i.e., the associations) linking them (Heeren & McNally, 2018). In other words, the network of symptoms associated with social anxiety can vary in strength of associated connections. For instance, young people with social anxiety may have a node representing 'avoidance of social interactions', which is strongly associated with a node representing 'fear of being scrutinised' and nodes of 'fear talking to strangers' and 'being negatively judged by others' but may be weakly connected to nodes of 'going to the shop' or 'talking to someone on the phone'. Research on social anxiety has found that nodes of fear and avoidance were highly connected, supporting the integrative network model (Heeren & McNally, 2016). Social anxiety is clearly an important aspect of children's adjustment generally and to school in particular.

So too is the extent to which a young person experiences bullying victimization. Bullying victims are subjected to repeated, intentional acts of hostility that can vary in form and which are delivered by more powerful perpetrators (Olweus, 1993). A large and diverse literature involving at least nine reviews and meta-analyses attests to robust concurrent and longitudinal associations between bullying victimization and psychological distress (Moore et al., 2017). Of particular concern to the present study is the link between bullying victimization and social anxiety. Pontillo et al.'s (2019) review identified 17 studies that examined this issue and they concluded, 'All studies showed that peer victimization is positively correlated to … social anxiety' (p. 1).

As noted, a key feature of social anxiety is that it adversely affects normal functioning in diverse social situations. One way it can do so is via disrupting concentration (Grossbard et al., 2009). Consistent with this, and with the robust link between bullying victimization and social anxiety, is Boulton et al.'s (2008) finding that nine separate measures of bullying victimization that varied by type (physical, verbal and social exclusion) and source of informant (self- versus peer-reports) all predicted disrupted classroom concentration. Another study also found a significant association between bullying victimization and disrupted classroom concentration (Boulton et al., 2012). Surprisingly, being so closely allied to the common problem of social anxiety and having such a central role to play in overall adjustment to school and academic success, disrupted classroom concentration has received relatively little attention from scholars generally and even less from those interested in the developmental and adjustment consequences of bullying

victimization. In addition to its association with bullying victimization, Boulton et al. (2008) also reported that more than 1 in 20 children (more than one student per class on average) exhibited a disturbingly high level of disrupted classroom concentration, again suggesting it is worthy of study.

Clearly, bullying victimization, social anxiety and disrupted classroom concentration represent problems – often overlapping – for a considerable proportion of young people. While direction of effects is still being debated (Coelho & Romão, 2018), and while Pontillo et al.'s (2019) review highlighted evidence for bi-directional associations, the latter noted that current evidence is stronger for bullying victimization *preceding* social anxiety than the other way round. This finding, together with the fact that despite considerable efforts, levels of bullying victimization remain disturbingly high, has prompted researchers and practitioners alike to search for buffering or protective factors. A rationale is that until such time as bullying can be eradicated, bullying victims can be supported by ensuring that factors that can mitigate its effects are in place for them where that is possible. A common method for identifying attenuating factors is to test for *moderators* of the association between a variable hypothesized as a risk factor and a variable thought to be an outcome of it. In this sense, a moderator is a variable that can influence the strength and possibly the direction of the association of interest (Baron & Kenny, 1986).

The meaning of self-esteem has been implicated in the literature whereby some definitions focus on values, such as self-respect, while others may focus on feelings such as attitudes. For instance, Rosenberg (1965) defined self-esteem as the positive and negative attitudes or feelings one has towards the self. While self-worth is a related concept, researchers have defined it as a broader concept of self-esteem that is less influenced by the thoughts and/or feelings one may hold but is focused on the core beliefs one has about their worth and value (Crocker & Knight, 2005; Ghoul et al., 2013). There are some grounds for suggesting that self-esteem may act as a moderator between bullying victimization and social anxiety. Indirect support comes from the findings that lower self-esteem may precipitate, and higher self-esteem may attenuate, anxiety symptoms (La Greca & Fetter, 1995). Direct support was initially provided by Grills and Ollendick's (2002) finding that among boys, but not girls, who reported high levels of bullying victimization, anxiety symptoms were higher for those with low self-esteem than for those with high self-esteem. They called for replications to more substantially test self-esteem's potential to act as a buffer between bullying victimization and anxiety. Despite this, a recent review (Pontillo et al., 2019) identified five studies published between 2011 and 2018 that sought to identify moderators of the links between bullying victimization and social anxiety involving children and adolescents, and *only one* focused on self-esteem. Ghoul et al. (2013) examined *contingent* self-worth, an aspect of self-esteem that is often seen as undesirable (see below) because it relies on factors outside of the self, such as the perceptions of others (Crocker & Knight, 2005). Ghoul et al. (2013) found that contingent self-worth moderated the impact of bullying victimization on generalized anxiety and separately social phobia (closely related to social anxiety) and that for the latter, the effect was stronger in boys than girls. It is important to note that in this study, it was *high* levels of contingent self-worth that *amplified* the effects of bullying victimization on adjustment. This makes theoretical sense, given that contingent self-worth can be highly detrimental to well-being (Ghoul et al., 2013). This prompted us to consider what *types* of self-esteem may be especially helpful in buffering the harmful effects of bullying victimization.

A key reason why contingent self-worth may be unhelpful psychologically is because it relies on factors *outside* of the self, such as the perceptions/praise of others (Crocker & Knight, 2005). Both theoretical and empirical considerations highlight the important role of autonomy in healthy psychological development, especially starting during early adolescence (Erikson, 1968; Osterman, 2000). Contingent self-worth and desire for autonomy are clearly incompatible. Mindful of these two principles together – self-worth contingent on external factors can be detrimental *and* the striving for autonomy – we conceptualized a new 'type' of self-esteem that we call 'authentic self-esteem'. A more detailed rationale for it is presented elsewhere (Boulton & Macaulay, 2022) but of salience to the present study is the notion that it is characterized and influenced by *internal contingencies that align with autonomy*. Simply put, positive self-evaluations that arise out of past, present and potential future experiences of personal challenges, problems, difficulties, etc. amalgamate/coalesce into a coherent self-schema that becomes a central part of the larger internal working model self-schema. We concur with Crocker and Knight's (2005) suggestion that, 'the

importance of self-esteem lies less in whether it is high or low, and more in what people believe they need to be or do to have value and worth as a person' (p. 200, see also Harter, 1993). The plausibility that doing well at significant challenges and problems in one's life meets this criterion is, in our view, strong.

Prior research has identified gender differences among bullying victimization, social anxiety, disrupted classroom concentration and their associations although findings are often null, inconsistent or even contradictory. For example, Grossbard et al. (2009) using a sample of 540 male and 498 female participants aged 9–14-years-old reported that boys had significantly higher levels of disrupted classroom concentration but lower levels of worry than girls, and Ghoul et al. (2013) using a sample of 716 participants reported girls had higher levels of bullying victimization, contingent self-esteem (a marker of maladjustment) and internalizing problems. While self-report bias is a widely regarded concern (Furnham, 1986), self-reports still offer a key insight into how participants feel at that time. In addition, Boulton et al. (2008), via interview and self-reports of 485 pupils 10–11-years-old found no evidence for gender differences in their measures of bullying victimization, fear of future bullying (a proxy for social anxiety) and disrupted classroom concentration, nor that gender acted to moderate any of the predictive relations between them. They stated that this was 'not wholly surprising given that inconsistent findings concerning (gender) differences in associations between victimization and other variables is a feature of the literature' (p. 484). As noted above, the two studies examining the moderating role of self-esteem on the association between bullying victimization and social anxiety report differences between girls and boys for some combinations of variables but similarities for others. Together, this often-inconsistent literature prompted us to examine gender differences in our models but in the absence of firm hypotheses.

The present study extends the pair of innovative studies of the moderating role of self-esteem on the association between bullying victimization and social anxiety (Ghoul et al., 2013; Grills & Ollendick, 2002) in several important ways. Ours is the first *longitudinal* study and this provides stronger evidence for likely direction of effects of bullying victimization based on the principle of temporal precedence, as noted by Hawker and Boulton (2000); (see also Hill, 2015; Stewart, 2003). Unlike previous studies, we also controlled for shared method variance that can over-inflate associations between bullying victimization and measures of adjustment (Hawker & Boulton, 2000). Another way we extend the literature is by including disrupted classroom concentration as an outcome measure for the first time. This is important given its central role in young people's school adjustment and success, and its conceptual close relationship with social anxiety.

The primary aim of the present study was to test if authentic self-esteem moderates the concurrent and short-term longitudinal relationship between bullying victimization and (i) social anxiety and (ii) disrupted classroom concentration. A secondary aim was to test for gender differences in any moderation effects, if they were found.

METHOD

Participants

The sample consisted of 836 students (46% girls) from the first 2 years (aged 12–14 years) of three secondary schools in the UK selected on a convenience basis. Pupils from classes that were available to provide data during our field work made up the sample. The ethnic composition was predominantly White (80%) with Asian (6%), Black (8%) and Other (6%) ethnic groups represented; this reflected the broad ethnic make-up of the schools' catchment areas. Informed consent was obtained from all participants, and from parents/Head Teachers acting in loco parentis. The study was presented to students as something they could chose to opt in or out of at their discretion and as a way to offer their views and experiences regarding bullying and other aspects of well-being. They were informed that their responses would remain confidential unless any responses indicated that they were in danger of harm or substantial distress. Sources of support, such as free telephone helplines and school pastoral services, were highlighted. As self-report measures were collected on a whole class basis, pupils were encouraged to seat

themselves so as not to be able to see each other's responses and discouraged from trying to do so. Pupils were asked to put their names on their questionnaires so that they could be matched with the peer nominations and they were told the data would be made anonymous as soon as possible. Due to the highly sensitive nature of peer nominations of victims of bullying, these data were collected in individual interviews and participants were discouraged from sharing their responses. Ethical approval for the study was granted by the Department of Psychology Ethics Committee of the author's host university.

Measures

Social anxiety

Social anxiety was measured with the 8-item Fear of Negative Evaluation sub-scale of the Social Anxiety Scale for Adolescents, example item 'I worry about what others think of me' (La Greca & Lopez, 1998). Response options were, 'A lot; quite a lot; in the middle; only a bit; not at all', scored 5–1. Cronbach's alpha was .82 and so the mean was used as the measure of social anxiety, with higher scores indicating higher levels.

The Social Anxiety Scale for Adolescents La Greca and Lopez's (1998) contains 18 items (plus four filler items) that are separated into three sub-scales, namely 'Social Avoidance and Distress: New' and 'Social Avoidance and Distress: General', plus the sub-scale we employed, 'Fear of Negative Evaluation'. We chose to employ just the latter sub-scale for two main reasons. One was to keep the number of questions asked of participants to a minimum so as to give them sufficient time to consider and respond to each one, hence reducing ill-considered responses and missing data. The second reason was because the items of this sub-scale seemed more likely to be related to harmful effects of bullying; for example, 'I feel that others make fun of me', 'I worry about being teased' and 'I feel that peers talk about me behind my back'.

Bullying victimization

Bullying victimization was measured as in Boulton et al. (2008) via peer nominations of three types: 'which people in your class get (i) hit or kicked by other kids at school?, (ii) called nasty names by other kids at school? and (iii) left out of games and things by other kids at school?' They were asked to identify the students who were bullied in these kinds of ways after a researcher read out a standard definition of bullying, 'Bullying happens when a stronger or more powerful student (or students) does these kinds of things at least several times to hurt or distress a weaker or less powerful student, who finds it hard to defend themselves'. To control for unequal class sizes, for each participant, the percentage of classmates that nominated her/him on each item separately were computed. The average across them was the measure of bullying victimization, and high scores indicate greater bullying victimization.

As a result of students in the schools changing classes for different academic subjects, 'class' in the above context was the participants' registration group that they consistently met with once or twice each day for registers to be taken and for other administration activities. This increased the likelihood that each participant was familiar to some degree with members of their registration group. Each participant was provided with a list of names of their registration group members. These registration classes were made up of around 25 students.

Authentic self-esteem

Authentic self-esteem was measured with a novel scale reported for the first time in this study after considerable pilot testing over a number of years and with diverse groups of people including students

aged 7–16, parents and therapeutic foster parents and mental health professionals. This involved many different activities. Some of these included presenting an array of the basic premises of the authentic self-esteem construct (e.g., 'engaging in things that are challenging can help people feel good about themselves'; and 'how well we did at challenges we faced months/years ago can still affect how we feel about ourselves now') in Likert-type agree-disagree formats. Other activities involved asking people if they could state past/present challenges/problems that they did/did not do well at that made them feel good/bad about themselves, and also what those challenges/problems actually were. Pilot testing also involved presenting different wordings of items for the scale with different age groups of participants to ensure they could be easily comprehended.

The scale consisted of six items, 'How much do you: (1) LIKE yourself because you can remember doing well at some challenges and problems from quite a long time ago, (2R) NOT LIKE yourself because you can remember NOT doing well at some challenges and problems from quite a long time ago, (3) LIKE yourself because you are doing well at some challenges and problems in your life now, (4R) NOT LIKE yourself because you are NOT doing well at some challenges and problems in your life now (5) LIKE yourself because you know you can do well at some new challenges and problems in the future, and (6R) NOT LIKE yourself because you know you WONT do well at some new challenges and problems in the future'. Response options were, 'A lot; quite a lot; in the middle; only a bit; not at all', scored 1–5 for the positively worded items and 5–1 for the negatively worded items, designated with 'R' above. A principal component analysis indicated one main factor that accounted for 81.5% of the variance and had an eigen value of 4.8. Factor loadings were all high, ranging from .88 to .93. Thus, the mean was used as the measure of authentic self-esteem, with higher scores indicating higher levels.

Disrupted classroom concentration

Disrupted classroom concentration was measured as in Boulton et al. (2008) using their 11 items (e.g., 'Recently, I have not thought clearly about my work in class'), with the same response options and soring as for social anxiety reported above. Cronbach's alpha was .88 and so a mean was computed and used in the analyses, with high scores indicating higher disrupted classroom concentration.

Procedure

Self-report measures were collected on a whole class basis. Peer nominations of bullying victimization were collected in individual interviews in which the interviewer identified each of the three types of victimization one at a time (see above) and invited the interviewee to nominate classmates who were victimized in each way. Standardized instructions were read out indicating that participants were not being tested, that there were no right or wrong answers and that the data would remain confidential unless something indicated a student needed help or support. The researcher provided standard definitions, clarified concepts, answered any questions and read out each item in turn.

All self-report and peer nomination measures were collected during January/February, called Time 1. Our dependent variables, that is, social anxiety and disrupted classroom concentration were also measured during June/July of the same school year, denoted by Time 2, with a lag of about 5 months for each participant. We took steps to minimize missing data, notably by keeping the number of items in the study relatively low so that they had ample time to reflect on and respond to each one, having a researcher read out each and every item and allowing time for participants to go through their response sheets at the end of the session to add their responses to any items they may have initially missed. Initial data screening confirmed that very few participants had any missing data and those that did had only a small number of omissions. Those few cases of missing data for each scale were addressed by calculating an overall scale score as the average of the number of scores a participant provided. For example, if a participant provided responses to only seven rather than the required eight for a sub-scale, their score was calculated as the total of those items divided by seven.

Plan of analysis

Hypotheses were tested with the Baron and Kenny (1986) approach using Hayes and Montoya's (2017) PROCESS script. Four regression models were computed. Models 1 and 2 were tests of concurrent relationships and used Time 1 data. In model 1, authentic self-esteem and bullying victimization were entered at step 1 along with gender, and the authentic self-esteem × bullying victimization product was entered at step 2 as the primary test of moderation. To test for gender differences, the authentic self-esteem × bullying victimization × gender interaction was entered at step 3. Social anxiety was the criterion. Model 2 was similar except that disrupted classroom concentration replaced social anxiety.

Models 3 and 4 were tests of longitudinal associations. In model 3, authentic self-esteem and bullying victimization, along with gender, were entered at step 1 and the authentic self-esteem × bullying victimization product was entered at step 2. The authentic self-esteem × bullying victimization × gender interaction was entered at step 3. Time 2 social anxiety was the criterion and since Time 1 social anxiety was entered as a co-variate, the dependent variable was in effect *change* in social anxiety. Model 4 was similar except that disrupted classroom concentration replaced social anxiety.

Predictors were mean centred. In each model, a significant interaction would indicate moderation, and that was examined using the Johnson-Neyman technique of finding regions of significance, that is, locations on the continuum of the moderator variable where there is (and is not) a significant association between the predictor and dependent variable (Bauer & Curran, 2005).

RESULTS

Descriptive data for our study variables are presented in Table 1. Across the sample as a whole, the mean percentage of classmates who nominated each participant as a victim of bullying was 14.7. The values ranged from 10.9 in one school, via 14.0 in another school, up to 20.0 in the third school. Values for males and females were similar at 14.6 and 14.7, respectively. In these analyses and those that are presented below, the score for each participant represents the percentage of classmates from their registration class that nominated them as a victim of bullying across the three sub-types of bullying stated above (i.e., physical, verbal and social exclusion). Thus, in line with many other studies, our data indicate that bullying remains a problem for many students.

T A B L E 1 Descriptive statistics among study variables by gender and school

	Males			Females			
	School 1	School 2	School 3	School 1	School 2	School 3	Total mean (*SD*s)
Bullying Victimization	12.49 (18.96)	12.08 (19.65)	19.76 (26.60)	15.63 (23.28)	9.43 (15.77)	20.39 (26.69)	2.44 (.94)
Authentic self-esteem	2.35 (.88)	2.52 (.85)	2.32 (1.12)	2.44 (.98)	2.56 (.76)	2.46 (1.04)	14.65 (22.21)
Social anxiety at time 1	2.81 (.66)	2.59 (.72)	2.76 (.75)	2.60 (.73)	2.60 (.73)	2.77 (.77)	2.68 (.73)
Social anxiety at time 2	2.90 (.88)	2.70 (.94)	2.92 (1.03)	2.79 (1.04)	2.73 (.86)	2.89 (1.05)	2.82 (.97)
Disrupted concentration time 1	2.74 (1.02)	2.73 (1.01)	2.88 (1.06)	2.78 (1.09)	2.90 (1.03)	2.77 (1.05)	2.80 (1.04)
Disrupted concentration time 1	3.05 (1.18)	3.07 (1.13)	3.24 (1.24)	3.06 (1.31)	3.16 (1.18)	3.10 (1.19)	3.11 (1.19)

TABLE 2 Descriptive statistics and Pearson correlations among the study variables

	Mean (SD)	SA1	SA2	DC1	DC2	ASE
Bullying victimization	14.65 (22.21)	.67	.72	.18	.24	−.33
Social anxiety at time 1 (SA1)	2.68 (.73)	–	.89	.22	.28	−.44
Social anxiety at time 2 (SA2)	2.82 (.97)	–	–	.30	.38	−.57
Disrupted concentration time 1 (DC1)	2.80 (1.04)	–	–	–	.91	−.45
Disrupted concentration time 2 (DC2)	3.11 (1.19)	–	–	–	–	−.59
Authentic self-esteem (ASE)	2.44 (.94)	–	–	–	–	–

Note: All correlations are $p < .001$.

The rationale for the current study was partly based on the view that bullying victimization was a risk factor for social anxiety and disrupted classroom concentration and the correlations support this in our sample; bullying victimization was significantly correlated with concurrent social anxiety (.67) and disrupted classroom concentration (.18) and importantly, with future social anxiety (.72) and disrupted classroom concentration (.24). Likewise, the consistent significant negative correlations between authentic self-esteem on the one hand and bullying victimization (−.33) and both concurrent (−.44) and future social anxiety (−.57) and disrupted classroom concentration on the other hand (−.45 concurrent, −.59 future) support the rationale for testing authentic self-esteem's potential as a buffer (Table 2).

The authentic self-esteem × bullying victimization × gender interaction was not significant in any of the models. Hence, models without gender are reported.

In model 1, the authentic self-esteem × bullying victimization interaction significantly predicted concurrent social anxiety, $F (1, 832) = 48.42$, $p < .001$. The Johnson-Neyman method indicated that there were no statistically significant transition points within the range of authentic self-esteem observed in our study; at all levels of authentic self-esteem the association between bullying victimization and concurrent social anxiety was positive and significant. Hence, we inspected the association between bullying victimization and social anxiety at each level of authentic self-esteem and in line with the hypothesis that authentic self-esteem acts as a buffer, the association became weaker with higher levels of authentic self-esteem.

In model 2, the authentic self-esteem × bullying victimization interaction did not significantly predict concurrent disrupted classroom concentration.

In model 3, the authentic self-esteem × bullying victimization interaction significantly predicted changes in social anxiety, $F (1, 831) = 49.33$, $p < .001$. Among participants with an authentic self-esteem of 3.32 or below (about 78% of the sample), bullying victimization predicted an increase in social anxiety, whereas among those with an authentic self-esteem score of 4.71 or above (about 1% of the sample), bullying victimization predicted a decrease in social anxiety. Among participants scoring between these two authentic self-esteem values, bullying victimization did not significantly predict changes in social anxiety.

In model 4, the authentic self-esteem × bullying victimization interaction significantly predicted changes in disrupted classroom concentration, $F (1, 831) = 6.94$, $p < .01$. Among participants with an authentic self-esteem of 1.77 or below (about 13% of the sample), bullying victimization predicted an increase in disrupted classroom concentration, whereas among those with an authentic self-esteem score of 4.48 or above (about 2% of the sample), bullying victimization predicted a decrease in disrupted classroom concentration. Among participants scoring between these two authentic self-esteem values, bullying victimization did not significantly predict changes in disrupted classroom concentration (Table 3).

DISCUSSION

This study has shown that authentic self-esteem moderated the association between bullying victimization and (i) social anxiety and (ii) disrupted classroom concentration. That it did so, especially longitudinally,

TABLE 3   Results of regression models predicting concurrent and changes in (i) SA and (ii) DCC from BV, ASE and their product

Predictor	Model 1	Model 3	Model 4
ASE	−.24*** (.03)	−.21*** (.01)	−.23*** (.01)
BV	.66*** (.03)	.14*** (.02)	.00 (.01)
ASE × BV	.17*** (.02)	−.09*** (.01)	−.03** (.01)

Note: Table values are betas (standard errors in brackets). Model 1: Predicting concurrent SA; Model 3: Predicting changes in SA; Model 4: Predicting changes in DCC. Model 2: Predicting concurrent DCC, ASE × BV interaction was not significant and so results not presented.

Abbreviations: ASE, authentic self-esteem; BV, bullying victimization; DCC, disrupted classroom concentration; SA, social anxiety.

**p < .01; ***p < .001.

attests to authentic self-esteem's potential to act as a buffer or protective factor. Our work extends the two previous studies that also found a buffering role of self-esteem but that were limited by their cross-sectional design and inability to control for shared method variance that inflates associations between bullying victimization and measures of adjustment.

Another key contribution of our study was that it provides the first data on the *levels* at which self-esteem may have buffering effects. For both social anxiety and especially disrupted classroom concentration, even modest levels did so. Moreover, and somewhat unexpectedly, among a small portion of our sample, very high levels of authentic self-esteem acted to *reverse* the oft-found direction of association, such that higher bullying victimization predicted *decreases* (albeit slight) in both social anxiety and disrupted classroom concentration over a 5-month period. However, we acknowledge that our discussion here must be treated cautiously. Darlington and Hayes (2017) noted that 'most (researchers) would be uncomfortable making a claim about the relationship between the focal predictor and the dependent variable in a region of the domain of the moderator where there are … few data' (p. 427), and this caveat applies to our data. Our study provides a good start but future investigations are needed to test the issue of at what point self-esteem starts to convey its buffering effects in greater detail.

Our findings support theories that emphasize the central role of self-esteem in overall mental health and well-being (Harter, 1993) and in relation to social anxiety in particular (Pontillo et al., 2019). A caveat is that externally contingent self-esteem appears to act as a precipitating rather than a protective factor for maladjustment and so the *type* of self-esteem is an important consideration. Ours is the first study to demonstrate that a conception and measurement of self-esteem that focuses on *personal evaluations in the context of challenges and problems* can mitigate social anxiety and its related construct of disrupted classroom concentration that have robustly been found to stem from bullying victimization. This has important implications for interventions (see below). In terms of theory, it is in accord with the recent formulation, supported with data, that more life meaning experiences are associated with reduced stressor-related distress (Ostafin & Proulx, 2020). It is easy to see how authentic self-esteem corresponds with the broader construct of life meaning in this context.

In general terms, our findings support calls for interventions that bolster self-esteem. Previous work shows that these can be successful but that effect sizes are often modest (Bos et al., 2006; Haney & Durlak, 1998). That authentic self-esteem acted as a buffer among two of the most common types of social–emotional problems during adolescence, bullying victimization and social anxiety, adds weight to this call. So too does our finding of a lack of gender differences, as it suggests all young people could potentially benefit. Our conception of authentic self-esteem emphasizes its self-contingent nature or put more simply, that it is *how we evaluate ourselves in relation to our engagement in our own challenges and problems* that largely determines if we have an overall positive or negative view of ourselves. Given this, interventions to bolster this type or aspect of self-esteem could seek to 'provide' challenges that are likely to be within a young person's ability to be successful, but 'only just'. This is analogous to Vygotsky's concept of the zone of proximal development, which emphasizes that learners can be helped to develop optimally when they are presented with challenges just beyond their current capacities (see Wertsch, 1984). We also suggest that following such experiences, intervention providers could help young people 'take ownership' of their successes (for example through authentic personal affirmations) and at the same time, not be too hard of

themselves for their 'failures'. These ideas are explored further, and supportive data provided, by Boulton and Macaulay (2022).

An important point to emphasize is that social anxiety (and disrupted classroom concentration) is a reasonable response to bullying victimization. Readers are invited to consider what it must be like to regularly be faced with more powerful associates with intent on causing harm and distress. Bullying victims (not necessarily provocative victims) are blameless and any efforts to support them should take place alongside of, but not replace, efforts to eradicate bullying. Interventions that are well-received by bullying victims have been found to have considerable positive effects. Boulton and Boulton (2017) argued that given the likely high social anxiety of bullying victims, it behoves facilitators of interventions on their behalf to ensure they do not increase that anxiety any further. Their intervention (i.e., the Cross-age Teaching Zone: CATZ) consisted of inviting bullying victims to work in small groups to deliver an anti-bullying lesson they developed themselves to younger pupils who posed little or no threat to them (see Boulton et al., 2021). In line with a key principle behind authentic self-esteem – that engaging in challenges can facilitate positive self-views – Boulton and Boulton (2017) found that the self-esteem of bullying victims increased significantly after they had planned and delivered their anti-bullying lesson, something they likely saw as a personal challenge. Moreover, self-esteem mediated an increase in their own stated intentions to solicit appropriate social support if they were bullied in the future, something that many bullying victims are reluctant to do.

The integrative network model of anxiety disorders conceptualizes it as a system of nodes that vary in strength of associated connections (Heeren & McNally, 2018). Interventions that target one form of anxiety can have positive effects on other forms (Putwain & von der Embse, 2021). Hence, efforts to enhance authentic self-esteem may also have such generalized positive effects and this is worthy of future research. Future efforts to extend our work are warranted by testing buffering effects among samples diverse in ethnicity/cultural background, age and degree of anxiety-related problems. Indeed, a limitation of our study is the rather homogenous sample. On the other hand, our longitudinal design can be considered a strength that could be extended in future research. We did not include cyber victimization and as this is known to affect a high proportion of young people (Macaulay et al., 2022), which presents a challenge in the school environment and at home (Macaulay et al., 2018), so future studies would benefit from its inclusion. In addition, it is also important to consider the issues associated with the use of peer nomination approaches. Bullying can be perpetrated in a way that is subtle and, therefore, may be difficult for peers to know it is happening to other peers in the classroom (Smith, 2016). In addition, peer nominations focus on the frequency of nominations, but not the seriousness of the situation itself (Olweus, 2013). As such, future research should consider combining self-report measures and peer nomination methods to measure bullying experiences.

With respect to classroom concentration, our data are consistent with previous studies that have shown moderate overall levels across groups of school students *and* a substantial minority with worryingly high scores (Boulton et al., 2008, 2012). Here, overall mean scores were modest (2.8 at Time 1 and 3.1 at Time 2 on a 1–5 scale anchored with 'A lot' and 'Not at all'). More disturbingly, we found that 17.8% at Time 1 and 28.6% at Time 2 had mean scores of 4 or more, corresponding to the 'Quite a lot' response option. As in those previous studies, we also found a significant correlation between disrupted classroom concentration and bullying victimization. Given its obviously central role in students' overall academic success at school, it is clear that more attention needs to be paid to the factors that reduce their capacity of concentrate in class.

In conclusion, this study showed that positive self-views that arise out of engaging in challenges, that we call authentic self-esteem, moderated the association between bullying victimization and two important outcomes of it, social anxiety and disrupted classroom concentration. Importantly, it did so at relatively modest levels among girls and boys. Taking steps to enhance the authentic self-esteem of bullying victims, therefore, has great potential to support them as they negotiate an undoubtedly troublesome combination of threats to their mental health.

AUTHOR CONTRIBUTIONS

Michael J. Boulton: Conceptualization; data curation; formal analysis; investigation; methodology; writing – original draft; writing – review and editing. **Peter J. R. Macaulay:** Formal analysis; investigation; methodology; project administration; writing – original draft; writing – review and editing.

CONFLICT OF INTEREST

There are no competing interests to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, Peter Macaulay, upon reasonable request.

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