

## They Made You Perfect: A Test of the Social Reaction Model of Perfectionism

Claire Wilson, Simon C. Hunter, Susan Rasmussen Allison McGowan

### Author note:

Claire Wilson, School of Psychological Sciences and Health, University of Strathclyde; Simon C. Hunter, School of Psychological Sciences and Health, University of Strathclyde; Susan Rasmussen, School of Psychological Sciences and Health, University of Strathclyde; Allison McGowan, School of Psychological Sciences and Health, University of Strathclyde.

Correspondence concerning this article should be addressed to Miss Claire Wilson, School of Psychological Sciences and Health, University of Strathclyde, Glasgow, UK, G1 1QE. Email: [claire.wilson.2013@uni.strath.ac.uk](mailto:claire.wilson.2013@uni.strath.ac.uk).

### **Abstract**

Perfectionism serves as a mediator in the relationship between difficult life experiences and psychological distress, but to date no research has examined the effect of recalled peer victimization on perfectionism and adult depressive symptomatology (DS). The present study assessed the Social Reaction Model of Perfectionism (SRMP; Flett, et al., 2002b), which proposes that perfectionism (self-oriented, other-oriented and socially prescribed perfectionism) results from harsh experiences. This may include experiences of peer victimization (physical, verbal and indirect). The model was extended to also include adult DS and rumination (brooding and reflection). Self-report questionnaires measuring recalled childhood experiences of peer victimization (Owens, Daly & Slee, 2005), current trait perfectionism (Hewitt & Flett, 1991), rumination (Nolen-Hoeksema & Morrow, 1991) and DS (Radloff, 1977) were completed by 338 adult participants (54% female). Path-analyses revealed recalled indirect victimization to be associated with adults' self-oriented and socially prescribed perfectionism. However, only socially prescribed perfectionism mediated the relation between recalled indirect victimization and adult DS. Brooding rumination also mediated the effect of socially prescribed perfectionism upon DS. The findings support the SRMP, and extend the theory to include the effects of perfectionism on rumination and DS.

**Keywords:** peer victimization; bullying; depressive symptomatology; perfectionism; rumination.

## **Peer Victimization**

Peer victimization (i.e. bullying), characterised as repeated exposure to intentional aggressive and harmful behavior from one's peers, is experienced by around 30% of young people at any one time in Scotland (Hunter, Boyle, & Warden, 2007). It may include physical, verbal or indirect forms of aggression (Owens, Daly, & Slee, 2005). Physical victimization relates to physically harming an individual, while verbal victimization involves behavior such as insulting or threatening the victim. Indirect victimization differs in that the individual is not directly harassed but instead is socially manipulated (Mynard & Joseph, 2000). This can involve deliberate exclusion from the peer group, refusing to engage in conversation, and spreading rumours about the victim.

Regardless of the form victimization takes, its detrimental effects upon both psychosocial and physical wellbeing are well documented (Badaly, Kelly, Schwartz, & Dabney-Lieras, 2013; Biebl, DiLalla, Davis, Lynch, & Shinn, 2011; Carbone-Lopez, Esbeinsen, & Bradley, 2010; Hunter, Durkin, Heim, Howe, & Bergin, 2010). Meta-analyses implicate peer victimization particularly strongly in the development of depressive symptomatology (DS; Hawker & Boulton, 2000; Ttofi, Farrington, Lösel, & Loeber, 2011). These negative effects can extend into adulthood. Using retrospective recall methods, Allison, Roeger and Reinfeld-Kirkman (2009) found that adults who reported being victimized in childhood were at risk of both mental and physical health problems in adult life. Such findings have been supported in other studies employing the same research design (Boulton, 2013; Rivers, 2001; Schäfer, Korn, Smith, Hunter, Mora-Merchán, Singer, & van der Meulen, 2004). Cohort studies have also provided evidence showing that this remains the case even after controlling for possible confounds such as parental mental illness and socio-economic status (Bebbington, Bhugra, Brugha, Singleton, Farrell, Jenkins, et al., 2004). Though relatively rare, longitudinal studies

following young people from childhood through to adult life also clearly support the presence of long-term maladaptive outcomes, including DS, associated with peer victimization (e.g., Olweus, 1993; Sourander, Jensen, Rønning, Niemelä, Helenius, Sillanmäki, et al., 2007; Ttofi et al., 2011).

While childhood peer victimization is associated with DS in later life (Gladstone, Parker & Malhi, 2006; McCabe, Miller, Laugesen, Antony, & Young, 2010) our understanding of the processes which underpin this relationship is still incomplete (Sinclair et al., 2012). However, personality variables have been implicated in the aetiology of DS (Barnett & Gotlib, 1988). Perfectionism can be considered a personality variable (Hewitt, Caelian, Flett, Sherry, Collins, & Flynn, 2002) and has been shown to act as a mediator in the relationship between other stressful experiences and maladjustment (Enns, Cox, & Clara, 2002). It also appears to play a role in the tendency to ruminate about failures (Flett, Madorsky, Hewitt, & Heisel, 2002) which has also been linked to DS (Teasdale & Barnard, 1993). This suggests a need to examine the effect of perfectionism in the relationship between adults' recalled peer victimization and DS.

### **Recalled Peer Victimization and Perfectionism**

Perfectionism is the striving for perfection and the belief that anything short of this is unacceptable (Flett & Hewitt, 2002). Although it has been conceptualised in a number of ways, it is most often viewed as a multi-dimensional personality trait. Hewitt and Flett (1991) propose that perfectionism comprises three dimensions: an intrapersonal trait, self-oriented perfectionism (SOP), and two interpersonal traits, other-oriented (OOP) and socially prescribed perfectionism (SPP). SOP involves having unrealistic expectations of oneself, and consequently the individual aims to avoid failures and achieve perfection in all accomplishments. In contrast, OOP involves the need for others to be perfect, while SPP

refers to the belief that others expect perfection from us. SPP and SOP have consistently been shown to be maladaptive (e.g., Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000), and these are the two dimensions most relevant to the study of DS.

Although perfectionism is a relatively stable personality feature (Hewitt & Flett, 1991), experiences of peer victimization may shape its development during childhood. This notion forms the basis of the Social Reaction Model of Perfectionism (SRMP; Flett, et al., 2002b). The SRMP states that perfectionism develops as a result of harsh experiences in early life. The individual believes that perfection will enable social acceptance. Perfectionist tendencies therefore develop as a coping mechanism in order to deal with fear of rejection.

In a non-clinical sample, Miller and Vaillancourt (2007) found mixed support for the SRMP. Specifically, young women's recalled indirect peer victimization was positively related to their levels of SPP and SOP. The authors argued that high levels of perfectionism are the result of an attempt to avoid similar experiences occurring in adulthood. The individual strives to become 'perfect' to prevent more rejection. However, in a bid to achieve such perfection, rumination and DS are elevated due to the negative functioning of perfectionism (e.g., Ashby et al., 2012; Flett & Hewitt, 2002). Miller and Vaillancourt (2007) also report a negative relationship between recalled indirect victimization and OOP yet a positive relationship between verbal victimization and OOP. The reasons for these apparently contradictory results are unclear, and one supplementary aim of our study was to investigate whether these findings would be replicable in a different sample. In contrast to the predictions of the SRMP, Miller and Vaillancourt (2007) found no association between recalled direct (physical or verbal) victimization and perfectionism in a sample of young women. This may reflect the causes and consequences of indirect victimization for this group as it is especially distressing for girls (Coyne, Archer, & Eslea, 2006). An association

between direct victimization and perfectionism may therefore not have been found because only women were included. The association between direct victimization and perfectionism might be found in men only. As no previous work has examined this, our study sought to investigate possible differentiation of the relationships according to gender.

Other studies investigating links between peer victimization and perfectionism have supported the presence of these effects despite being restricted to samples of children with obsessive compulsive disorder (Ye, Rice, & Storch, 2008) or attention deficit hyperactivity disorder (Humphrey, Storch, & Geffken, 2007). Roxborough et al. (2012) report finding no relationship within their sample of psychiatric outpatient young people. Only Miller and Vaillancourt (2007) investigated this issue with a typically developing sample, yet given the prevalence of victimization in community samples, it is critical that we learn more about these relationships and how they unfold in non-clinical samples. Given the maladaptive effects of perfectionism, it is also important to examine the consequences of the development of perfectionist tendencies such as how these influence the development of rumination and DS.

### **Perfectionism, Rumination and DS**

Perfectionism may increase vulnerability to DS (Hewitt & Flett, 1993). DS is a disorder in which sufferers experience feelings of low self-worth (Israel, 2006). Such feelings are elevated in those high in SOP and SPP (Flett, Hewitt, Blankstein, & O'Brien, 1991). OOP however, may not relate to DS as this involves perceptions of other peoples' failures rather than the individual's own failings (Hewitt & Flett, 1991). Empirical work has consistently supported this argument (Flett, Druckman, Hewitt, & Wekerle, 2012; Mirzai, Hosseini, Ahmadi, & Ali, 2012; Olson & Kwon, 2008). We therefore expect that only SOP and SPP will act as mediators of the effect of victimization upon subsequent DS. There is, however, a

need to examine the mechanisms by which perfectionism has these detrimental effects. To do this, it is important to look at the role of cognition.

Beck (1967, 1987) and Abramson, Metalsky and Alloy (1989) argue that negative views of the world and self can result in DS. Repeatedly focusing attention to such negative thoughts has been found to increase the likelihood that individuals will develop DS (Teasdale & Barnard, 1993). This suggests a role for ruminative tendencies as a risk factor for DS. For example, Response Styles Theory (RST; Nolen-Hoeksema, 1991) argues that rumination is a cognitive process in which individuals engage in repetitive thinking regarding the possible reasons and outcomes of their DS. RST also claims that rumination can worsen and prolong DS as the individuals cannot rid themselves of negative self-evaluations. Empirical work has supported this contention, consistently finding a positive link between rumination and DS (e.g. Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Watkins, 2008). Further, Flett et al. (2002a) proposed that there is a clear relationship between perfectionism and rumination in that individuals high in perfectionism become absorbed in ruminating about their failures. This idea that rumination mediates the relationship between perfectionism and DS has been supported in both cross-sectional (Harris et al., 2008) and prospective research (O'Connor, O'Connor, & Marshall, 2007).

Rumination itself is also multi-dimensional, consisting of both a brooding element and a reflection element (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Brooding involves comparing one's current situation with an unachieved one and focusing attention on negative, self-blaming thoughts. Engaging in reflection however, focuses attention on more neutral content leading to contemplation about how to solve problems. The individual therefore attempts to understand the causes of his or hers negative thinking (Treyner et al., 2003). Research indicates a relationship between brooding and DS (Burwell & Shirk, 2007; Cox,

Funasaki, Smith, & Mezulis, 2012; Treynor et al., 2003) and shows it can act as a mediator in the relation between perfectionism (SOP, SPP) and DS (O'Connor et al., 2007). While reflection does not involve engaging in such negative thoughts, its relation to DS is less clear. Some support this association (e.g. Whitmer & Gotlib, 2011) while others reject the finding (e.g. Burwell & Shirk, 2007; Treynor et al., 2003). As a result, we therefore expected that the effects of peer victimization upon DS would be mediated via perfectionism and both brooding and reflection rumination as evidence to reject the relation between reflection and DS is equivocal. Further, the effect of perfectionism upon DS would be mediated via rumination (brooding and reflection).

### **The Current Study**

No study has evaluated whether perfectionism mediates the effect of childhood peer victimization on DS, despite there being a strong theoretical and empirical basis for this proposal. The aims of this study were two-fold: 1) to explore the association between different types of recalled peer victimization (physical, verbal, indirect) and different types of perfectionism (SOP, SPP, OOP) in a non-clinical sample of both men and women; and 2) to examine whether perfectionism (SOP, SPP, OOP) and rumination (brooding, reflection) mediated the associations between childhood peer victimization and DS.

Regarding the study's first aim it is expected that; 1a) recalled physical, verbal and indirect peer victimization will be positively related to two perfectionism dimensions, SPP and SOP; 1b) a negative relationship between recalled indirect victimization and OOP will exist while a positive relationship between verbal victimization and OOP will be found; 1c) gender will moderate the association between victimization and perfectionism. With regards to the second aim of the study we expect that 2a) perfectionism (SOP, SPP) and rumination (brooding and reflection) will sequentially mediate the associations between recalled peer



victimization and DS; 2b) the effect of perfectionism upon DS will be mediated via rumination (brooding and reflection); and 2c) OOP will not mediate the relationship between recalled victimization and DS.

## Method

### Participants

The study recruited a sample of 338 adult participants, 183 females and 154 males (one participant did not provide gender information). Age ranged from 18-65 years (mean age= 28.35, S.D= 11.47). A third of participants were full-time students (32.84%), 3.55% were part-time students and 63.61% were not in education. Half of the participants (49.41%) were in full-time employment, 36.98% in part-time employment, and 13.61% were unemployed.

### Measures

**Recalled childhood victimization.** A modified version of Bjorkqvist, Lagerspetz and Osterman's (1992) Direct and Indirect Aggression Scale (DIAS) was used. This was amended by Owens et al. (2005) and measures three types of recalled peer victimization (physical, verbal, and indirect victimization). The questionnaire included 18 items, five measuring direct physical victimization ('e.g. being hit'), five measuring direct verbal victimization (e.g. 'being called names'), and eight measuring indirect victimization (e.g. 'being excluded'). The item 'receiving nasty texts' was not used when creating the indirect victimization score for participants over 30 years old because they would not have had mobile phones at school (Sundaram & Umarhathab, 2011). Respondents reported how often they experienced each form of victimization during their time at school, with responses on a 5-point Likert scale (0 = 'never'; 4 = 'very often'). The information sheet instructed participants to think of childhood peer experiences thus it is mostly likely that participants

would recall experiences from primary or secondary school (approximate ages 5 to 17). A mean score for each type of victimization was calculated for each participant, and higher scores indicated a higher rate of victimization. Cronbach's alpha coefficient was 0.85 for physical victimization, 0.87 for verbal victimization, and 0.90 for indirect victimization (0.89 without the 'receiving nasty texts' item).

**Perfectionism.** The Multi-Dimensional Perfectionism Scale (MPS: Hewitt & Flett, 1991) has 15 items measuring SOP (e.g. 'when I work on something, I cannot relax until it is perfect'), 15 items assessing OOP (e.g. 'I am not likely to criticize someone for giving up too easily'), and 15 items measuring SPP (e.g. 'I find it difficult to meet others' expectations of me'). Participants indicated how strongly they agreed or disagreed with each statement on a 7-point Likert scale (1 = '*strongly disagree*'; 7 = '*strongly agree*'). Eighteen items were reverse scored. Items on each subscale were summed to produce a total score for each dimension of perfectionism. Higher scores indicated higher levels of perfectionism with the minimum score being 15 and the maximum being 105 for each subscale. Internal consistency was excellent: Cronbach's alpha = 0.90 for SOP, 0.75 for OOP and 0.83 for SPP.

**DS.** The Centre for Epidemiologic Studies Depression Scale (CES-D: Radloff, 1977) is a 20-item self-report measure assessing symptoms that have been linked to DS in community samples. Participants indicated how often they had felt this way during the past week. Responses were measured on a 4-point Likert scale (0 = '*rarely or none of the time (less than 1 day)*'; 3 = '*most or all of the time (5-7 days)*'). Four items were reverse scored. Items were summed to produce a total score, which ranged from 0 to 60. In the present study, excellent reliability was also demonstrated ( $\alpha=0.93$ ).

**Rumination.** Participants' ruminative tendencies were assessed using the Response Style Questionnaire (Nolen-Hoeksema & Morrow, 1991). Participants are presented with 22 items, each of which reflects a response to feeling sad or depressed (e.g. "Think about your

feelings of fatigue and achiness”). For each item, participants indicated how often they engaged in the named response using a 4-point Likert scale (1 = ‘*almost never*’; 4 = ‘*almost always*’). Based on the work of Tryenor et al. (2003) the measure was divided into two subscales; five items assessing brooding ( $\alpha=0.86$ ) and five items measuring reflection ( $\alpha=0.84$ ). The remaining items were omitted.

### **Procedure**

Ethical approval was obtained from an institutional ethics review board. The study was advertised on Twitter. Participants completed either paper or online versions of the survey, and they were asked to choose which method they would prefer. It was common for those who were geographically closer to the university to choose to complete paper questionnaires and return these to the researcher whereas others found it more convenient to complete the questionnaire online. All participants read an information sheet to ensure they were aware of what the study involved and gave consent to participate before they began the study. Completion time was approximately 20 minutes and all data were anonymous. No compensation was offered for participation.

### **Analytic strategy**

Data analysis proceeded in three stages. First, SPSS 21 was used to screen all variables for missing data and for skew. Where appropriate, data transformations were applied to address skew. Next, again using SPSS 21, descriptive statistics were obtained, including variable means, standard deviations, and bivariate correlations. Third, AMOS 21 was used to conduct bootstrapped path analyses examine the relationships between the study variables, and to evaluate our hypothesis regarding the mediation of victimization effects upon DS via perfectionism and rumination. Path analysis is a flexible extension of multiple regression which takes into account residual error in scores (Meyers, Gamst, & Guarino,

2005) and allows correlations between dependent variables to be explicitly modeled.

Bootstrapping allows researchers to generate bias-corrected 95% confidence intervals around the total, direct, and the indirect effects, allowing us to test whether indirect effects are accounting for a significant portion of variance (Byrne, 2010). We also conducted multi-group analyses to evaluate whether key paths in our model were moderated by gender. Finally, the significance of specific serial mediation pathways in our model were assessed using Hayes (2012) PROCESS macro for SPSS 21.

Physical peer victimization (skew = 1.25, S.E. = .14,  $p < .001$ ), verbal peer victimization (skew = 0.54, S.E. = .14,  $p < .001$ ), indirect peer victimization (skew = 1.01, S.E. = .14,  $p < .001$ ), depressive symptoms (skew = 0.89, S.E. = .14,  $p < .001$ ), and both rumination sub-scales (skew<sub>brooding</sub> = 0.71, S.E. = .14,  $p < .001$ ; skew<sub>reflection</sub> = 1.07, S.E. = .14,  $p < .001$ ) were all significantly skewed. Natural logarithm transformation addressed the skew of indirect victimization (post-transformation skew = 0.24, S.E. = 0.14, *n.s.*) and brooding (post-transformation = 0.08, S.E. = 0.14, *n.s.*). Square root transformation addressed the skew of verbal victimization (post-transformation skew = 0.15, S.E. = 0.14, *n.s.*) and depressive symptoms (post-transformation skew = 0.15, S.E. = 0.14, *n.s.*). Skew could not be entirely eliminated from either the reflection subscale or the physical victimization subscale, though the log transformation reduced these (post-transformation skew<sub>reflection</sub> = 0.38, S.E. = 0.14,  $p < .01$ ; post-transformation skew<sub>victimization</sub> = 0.29, S.E. = 0.14,  $p < .05$ ). However, the use of bootstrapping in AMOS is an additional method to approach non-normal data (Byrne, 2010, p. 333).

Levels of missing data ranged from .3% to 2.4%. Across the data set, 21 individual participants had missing data (6.2%). In order to conduct bootstrapping in AMOS 21 a complete data set is required. We therefore deleted the cases where there was incomplete data and this meant a final sample size of 317 participants.

## Results

### Descriptive Statistics

The mean, standard deviation and bivariate correlations of the variables measured are presented in Table 1. All three forms of victimization were positively correlated with each other, with DS, and both forms of rumination. All three forms were also positively correlated with SPP, though none were correlated with OOP and only indirect victimization was correlated with SOP. Only SPP was significantly positively correlated with DS, while OOP and SOP were not. Finally, SPP was positively correlated with both forms of rumination, SOP was positively correlated with brooding rumination only, and OOP was correlated with neither form of rumination.

[Table 1 about here]

### Path Analyses

The path model was specified such that there were direct paths from each form of victimization to all three perfectionism scores, DS scores, and both rumination scores. There were also direct paths from all three perfectionism scores to the DS and both rumination scores, and from both rumination scores to DS. All three perfectionism scores, the DS score, and both rumination scores had residual error terms, and the effects of both gender and age were controlled by entering these variables into the model as predictors of rumination and DS, and as covariates of all three forms of victimization. The three victimization scores were allowed to covary, as were the three error terms associated with the three measures of perfectionism and the two error terms associated with rumination and brooding.

Model fit was assessed using chi square,  $\chi^2$  (non-significant values reflect good fit), the Comparative Fit Index (CFI, above 0.95 represents good fit), the Root Mean Square Error of Approximation (RMSEA, 0.05 or lower suggests good fit) and the CMIN/DF ratio which should be a maximum of 2 (Hoyle, 1995). Bootstrapping was performed using 2000 bootstrap

samples and the ML estimator (Byrne, 2010). The model demonstrated excellent fit:  $\chi^2$  (df=7) = 13.96,  $p = .052$ ; CMIN/DF = 1.99; CFI = 0.994; RMSEA = 0.056 (95% Confidence Intervals = .000, .099). The squared multiple correlations indicated that the model did not account for a significant portion of the variance in OOP, but accounted for 8.5% of the variance SPP (95% CI = .030, .144), 5.3% of SOP (95% CI = .013, .102), 22.1% of brooding (95% CI = .131, .283), 15.6% of reflection (95% CI = .068, .216) and 56.1% of the variance in DS (95% CI = .467, .626).

**Direct effects.** Recalled indirect peer victimization had a significant direct effect on both SOP and SPP, but not on OOP (see Figure 1). There were no significant direct effects of any form of victimization upon DS. Indirect victimization had a direct effect upon reflection but no other effects were present between victimization variables and reflection or brooding. Verbal or physical victimization had no direct effects on any variable. Regarding links between perfectionism and rumination, OOP and SPP both had significant direct effects upon brooding, and SPP also influenced reflection. Finally, SPP, brooding, and reflection all had significant direct effects upon DS.

**Indirect effects.** There was a significant indirect effect of recalled indirect peer victimization upon DS ( $\beta = .18$ , 95% CI = .05, .30), brooding ( $\beta = .12$ , 95% CI = .05, .19) and reflection ( $\beta = .06$ , 95% CI = .02, .12). There was also a significant indirect effect of OOP on DS via the two rumination variables ( $\beta = -.09$ , 95% CI = -.17, -.02) and of SPP on DS via the two rumination variables ( $\beta = .21$ , 95% CI = .14, .28). All other indirect effects were non-significant.

**Multi-group analyses.** We assessed whether any of the path coefficients in the model were moderated by gender. To achieve this, we removed gender from the path analysis outlined above and compared it across men and women. Critical Ratios for Differences Between Parameters test the hypothesis that any two model parameters (i.e. paths in the

model) are equal in the population. In order to control for Type I errors in these tests (finding a significant effect when no such effect exists in the population),  $p$  was set at .01, and there were no differences across men and women on any model parameters.

**Sequential mediation analyses.** Given the pattern of significant direct effects reported above, the significant indirect effects of indirect victimization can only logically pass through SPP then brooding and/or reflection. To assess this proposed serial multiple mediating model, we used Hayes (2012) PROCESS macros for SPSS. Using bootstrapping methodology, PROCESS has the capacity to test mediation models with several mediators. First, we evaluated whether indirect victimization had an effect via SPP and brooding while entering age, gender, physical victimization, verbal victimization and reflection as covariates. Second, we re-ran this analysis but swapped brooding and reflection so that it was possible to evaluate whether both forms of rumination might be acting as mediators. The first of these two analyses revealed that indirect victimization had a significant indirect effect upon DS via SPP, and that there was a significant serial multiple mediating pathway via first SPP and then brooding. There was no simple mediation of indirect victimization on DS via brooding only. The second analysis indicated that there was no significant serial mediating effect present, but that the effects of indirect victimization upon DS are mediated via SPP and via reflection separately. The final model is shown in Figure 1.

[Figure 1 about here]

## **Discussion**

This study assessed the direct and indirect relationships between three forms of recalled peer victimization (physical, verbal, and indirect), current levels of perfectionism (SOP, OOP, and SPP), rumination (reflection and brooding), and DS in a community sample of both men and women. Results supported the suggestion that recalled peer victimization is associated with DS in adult life, and that this is first mediated via perfectionism (SPP) and then rumination (brooding). We also found reflection to be an additional, separate mediator in the effect of recalled indirect victimization upon current DS.

### **Associations between Recalled Peer Victimization and Perfectionism**

Using a community sample of both men and women, our results extend Miller and Vaillancourt's (2007) reported association between recalled indirect peer victimization and levels of SOP and SPP among young women. We support the SRMP which argues that interpersonal experiences in early life are related to the expression of perfectionism in adulthood (Blatt, 1995; Zuroff, Mongrain, & Santor, 2004). It is also important to note that the model focuses primarily on harsh family experiences in childhood and how these result in the development of perfectionist tendencies (Flett et al., 2002b). Our findings demonstrate that this is not limited to family experiences and can be extended to include negative peer relations in the development of this personality trait. In addition, our results extend the model to implicate the development of rumination and DS as a result of heightened perfectionism. Victimized individuals may believe that perfection makes it less likely that others will dislike them. Our findings, and those of Miller and Vaillancourt, suggest that this goal manifests in two ways; such individuals become stricter in both their evaluations of themselves (SOP) and their perceptions of other's assessment of them (SPP).



These results are particularly striking when considering that we did not find any unique effects of physical or verbal victimization on perfectionism. Miller and Vaillancourt (2007) found the same pattern of results and posited that indirect victimization attacks the core values held by girls because of their specific gender-oriented social and interpersonal goals. However, our sample included both men and women, and found no moderation of these effects by gender, indicating that such attacks are important considerations for all young people in this context. It may be the case that attacks on social and interpersonal goals are equally important for adolescent boys, or that some other explanation underpins the relationship between indirect victimization and perfectionism.

Another explanation for this finding be that indirect victimization influences the individual's psychological state more than does direct victimization as the former aims to belittle and isolate the individual (Rigby, 1999). While direct victimization may still lead to negative psychological effects, these may be less severe or as long-lasting. The current study found no association between this type of victimization in its effects on DS through perfectionism and rumination. Direct victimization however, could be related to negative adult outcomes that were not measured in this study.

Miller and Vaillancourt (2007) found a negative relationship between recalled indirect victimization and OOP (having high expectations of others: Hewitt & Flett, 1991), but a positive relationship between verbal victimization and this perfectionism dimension. We did not replicate these effects ( $r = -.04$ ,  $p = .524$ ), and it may be that the original findings reflected a Type I error. Although the authors suggest that those high in OOP may be more likely to be indirectly aggressive and inflict this on others rather than being a victim, they provide no support for this. Further, this interpretation does not account for the positive relationship between verbal victimization and OOP. Additional research is required to

confirm the extent to which there is any association between childhood peer victimization and OOP and to provide an explanation for why any such relationship exists.

### **DS and Indirect Peer Victimization: The Role of SPP and Rumination**

This study provides the first attempt to examine perfectionism as a mediator in the effect of childhood peer victimization on DS. The findings indicate that only recalled indirect victimization had an indirect effect on later DS. This emphasizes the importance of considering different forms of victimization when investigating adult outcomes as different forms of victimization may have differential effects. The finding that SPP mediates the relationship between recalled indirect peer victimization and current DS supports existing evidence documenting the negative effects of SPP (e.g. Ashby et al., 2012; Chang & Sanna, 2001; Huprich, 2003; Mirzai et al., 2012), and highlights the role of indirect victimization in the development of this problematic personality trait.

Findings from the sequential mediation analysis show that the effect of SPP on DS occurs through brooding rumination. SPP initiates brooding tendencies, meaning that people are likely to engage in self-blaming thoughts, continuously replaying negative thoughts in their mind, comparing the current situation with an unachieved one. In his cognitive theory, Beck (1967, 1987) argues that DS is a disorder of thinking and it is clear that brooding initiates negative thoughts. Our findings support previous research showing a relationship between brooding and DS (Burwell & Shirk, 2007; Cox, Funasaki, Smith, & Mezulis, 2012; Treynor et al., 2003) and show that brooding acts as a mediator in the relation between perfectionism (SOP, SPP) and DS (O'Connor et al., 2007). This finding provides an understanding the relations between perfectionism, brooding rumination and DS.

We also found reflection rumination to be an additional but separate mediator in the effect of recalled indirect victimization upon current DS. In addition to brooding rumination, those who experienced indirect victimization in childhood are likely to reflect on the causes

of his or her negative thinking in an attempt to solve these causes. Although previous research has shown that reflection is not related to DS (e.g. Burwell & Shirk, 2007; Treynor et al., 2003), our findings do not support this and we argue that there is a relationship between reflection and DS. Whitmer and Gotlib (2011) argue that for individuals who are currently not depressed, brooding and reflection are independent constructs. However, for those who are currently depressed, both components worsen each other and become difficult to distinguish. Thus it is possible that like brooding, reflection becomes more maladaptive in individuals experiencing high levels of DS. This may provide an explanation for why findings are equivocal regarding reflection: DS levels of the recruited population influence the results. It should be noted that we found the relationship between reflection and DS to be weaker than the relation between brooding and DS. This would therefore suggest that brooding is more maladaptive.

### **DS and Indirect Peer Victimization: The Role of SOP and OOP**

With regards to SOP and DS, the present study found that while SOP is associated with recalled indirect peer victimization, it is not related to DS. Such a pattern of results offers support for the argument that SOP may not always be maladaptive (Flett, Endler, Tassone, & Hewitt, 1994). The individual may strive for excellence in an attempt to reduce the likelihood of future victimization. O'Connor et al. (2010) argued that goal striving is an adaptive component of SOP, though it is acknowledged that SOP is not entirely adaptive. For example, SOP appears to comprise reflection in that the individual aims to identify ways to reduce the negative thinking and attain his or her goals. However, as we found SOP to be unrelated to rumination and DS, it may be that SOP does not involve negative self-evaluations but instead involves adaptive thinking.

This finding also raises the question of why some find SOP to be associated with DS (e.g. Chang & Sanna, 2001; Mirzai et al., 2012). One difference between the present study

and previous work is that our sample was not restricted to University students. There may be factors relevant to the student population only which influence the relation between SOP and DS, for example placing excessive pressure upon one's self to perform in high-pressure academic contexts.

Our results showed that OOP was not significantly related to DS. This is interesting in light of the finding that there was a negative indirect effect between OOP and DS via brooding rumination. Those high in OOP experience lower ruminative tendencies and thus lower depressive feelings. Flett and Hewitt (2002) argue that such individuals tend to blame others, suggesting that they may be less concerned with their own performance. As our measure of rumination concerned the individual's ruminative tendencies with regards to their own DS, those high in OOP may be less likely to ruminate and become depressed as they do not focus on their own thoughts, concerning themselves more with the perfection of others. It should be noted however that this was the smallest effect found in the model and the effects of OOP are still relatively unknown.

### **Study Strengths and Limitations**

Although our study has many strengths, including a large sample which was not restricted to University students, and a robust analysis, we acknowledge that the following methodological features of our study should be considered. First, the utility of retrospective reports has been the subject of debate, with some authors criticizing them as potentially inaccurate (Hardt & Rutter, 2004). Duncan (1999) argued that participants' mood at the time of completing the questionnaire can bias their responses. Further, Mathews and MacLeod (2005) found that those higher in DS showed better recall for negative rather than positive material. This suggests that those higher in DS may recall more childhood peer victimization, not because they actually experienced this but because they think in a way that enhances recall of negative memories. Although this is a clear limitation, it should be noted that others

consider the use of retrospective reports to be unproblematic (e.g. Rivers, 2001; Strawser, Storch, & Roberti, 2005). It should also be noted that participants were recruited online and while this has several advantages, such as having access to unique populations, and it requires fewer costs (Wright, 2005), generalizability of the results is questionable. Despite this, our participant demographics suggest that this method initiated participation from a wide range of individuals (i.e. wide age range and employment status).

Regardless, it is important for future research to consider the ways in which peer victimization, perfectionism, rumination, and DS are linked using a longitudinal research design. Within this context, the effects of cyber-bullying should also be considered. While our study did consider three forms of victimization, cyberbullying has emerged in the past decade as a class of aggressive behavior which can have negative effects on young people's wellbeing. It has been proposed that cyber-victimization is similar to indirect victimization (Hinduja & Patchin, 2008) which would suggest, from our results, that it will be implicated in the development of DS via perfectionism. Future research should seek to test this hypothesis.

### **Implications of the Findings**

Despite these limitations, our findings may have consequences for clinical professionals in so far as they provide support for the involvement of perfectionist thoughts in DS. Our results indicate support for an account of perfectionism which sees it as subject to change following negative peer interactions. This implies that there are mechanisms which underpin perfectionism which may form the basis of intervention. Indeed, Arpin-Cribbie, Irvine and Ritvo (2012) have shown that it is possible to reduce perfectionism levels, and subsequent DS levels, by employing a web-based cognitive behavioral therapy program. This suggests that a focus on perfectionist strivings may be effective in treating DS, and our findings raise the question of whether such interventions may be particularly pertinent when clients have experience indirect peer victimization in childhood. Given the ubiquity of online

communication for young people, such an intervention may be particularly well suited to this demographic.

## References

- Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review*, *96*, 358–372.  
<http://dx.doi.org/10.1037//0033-295X.96.2.358>.
- Allison, S., Roeger, L., & Reinfeld-Kirkman, N. (2009). Does school bullying affect adult health? Population survey of health-related quality of life and past victimization. *Australian & New Zealand Journal of Psychiatry*, *43*, 1163-1170. doi: 10.3109/00048670903270399.
- Arpin-Cribbie, C., Irvine, J., & Ritvo, P. (2012). Web-based cognitive-behavioral therapy for perfectionism: a randomized controlled trial. *Psychotherapy Research*, *22*, 194-207. doi: 10.1080/10503307.2011.637242.
- Ashby, J. S., Noble, C. L., & Gnilka, P. B. (2012). Multidimensional perfectionism, depression and satisfaction with life: Differences among perfectionists and tests of a stress-mediation model. *Journal of College Counselling*, *15*, 130-143. doi: 10.1002/j.2161-1882.2012.00011.x.
- Badaly, D., Kelly, B. M., Schwartz, D., & Dabney-Lieras, K. (2013). Longitudinal associations of electronic aggression and victimization with social standing during adolescence. *Journal of Youth and Adolescence*, *42*, 891-904. doi: 10.1007/s10964-012-9787-2.
- Barchia, K., & Bussey, K. (2010). The psychological impact of peer victimisation: Exploring social-cognitive mediators of depression. *Journal of Adolescence*, *33*, 615-623. doi: 10.1016/j.adolescence.2009.12.002.

- Barnett, P. A., & Gotlib, I. H. (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. *Psychological Bulletin, 104*, 97-126. doi: 10.1037/0033-2909.104.1.97.
- Bebbington, P. E., Bhugra, D., Brugha, T., Singleton, N., Farrell, M., Jenkins, R., Lewis, G., & Meltzer, H. (2004). Psychosis, victimisation and childhood disadvantage: Evidence from the second British National Survey of Psychiatric Morbidity. *The British Journal of Psychiatry, 185*, 220-226. doi:10.1192/bjp.185.3.220.
- Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York: Harper & Row.
- Beck, A. T. (1987). Cognitive Models of Depression. *Journal of Cognitive Psychotherapy, 1*, 5-37.
- Biebl, S. J., DiLalla, L. F., Davis, E. K., Lynch, K. A., & Shinn, S. O. (2011). Longitudinal associations among peer victimisation and physical and mental health problems. *Journal of Paediatric Psychology, 36*, 868-877. doi: 10.1093/jpepsy/jsr025.
- Bjorkqvist, K., Lagerspetz, K. M. J., & Osterman, K. (1992). *The direct and indirect aggression scales*. Vasa, Finland: Abo Akademi University, Department of Social Sciences.
- Blatt, S. J. (1995). The destructiveness of perfectionism: Implications for the treatment of depression. *American Psychologist, 50*, 1003-1020. doi:10.1037/0003-066X.50.12.
- Boulton, M. J. (2013). Associations between adults' recalled childhood bullying victimisation, current social anxiety, coping, and self-blame: evidence for moderation and indirect effects. *Anxiety, Stress & Coping, 26*, 270-292. doi: 10.1080/10615806.2012.662499.



- Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin*, *113*, 82–98.
- Burwell, R. A., & Shirk, S. R. (2007). Subtypes of rumination in adolescence: associations between brooding, reflection, depressive symptoms, and coping. *Journal of Clinical Child and Adolescent Psychology*, *36*, 56-65.
- Byrne, B. M. (2010). *Structural equation modeling with Amos: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Taylor and Francis Group.
- Carbone-Lopez, K., Esbeinsen, F. A., & Bradley, T. B. (2010). Correlates and consequences of peer victimisation: Gender differences in direct and indirect forms of bullying. *Youth Violence and Juvenile Justice*, *22*, 1-19. doi:10.1177/1541204010362954.
- Chang, E. C., & Sanna, L. J. (2001). Negative attributional style as a moderator of the link between perfectionism and depressive symptoms: Preliminary evidence for an integrative model. *Journal of Counselling Psychology*, *48*, 490-495.  
<http://dx.doi.org/10.1037//0022-0167.48.4.490>.
- Cox, S., Funasaki, K., Smith, L., & Mezulis, A. H. (2012). A Prospective study of brooding and reflection as moderators of the relationship between stress and depressive symptoms in adolescence. *Cognitive Therapy and Research*, *36*, 290-299.  
<http://dx.doi.org/10.1007/s10608-011-9373-z>.
- Coyne, S. M., Archer, J. & Eslea, M. (2006). “We’re not friends anymore! Unless...” The frequency and harmfulness of indirect, relational, and social aggression. *Aggressive Behavior*, *32*(4), 294-307. doi: 10.1002/ab.20126.
- Duncan, R. D. (1999). Maltreatment by parent and peers: The relationship between child abuse, bully victimization, and psychological distress. *Child Maltreatment*, *4*, 45-55.

- Dunkley, D. M., Blankstein, K. R., Halsall, J., Williams, M., & Winkworth, G. (2000). The relation between perfectionism and distress, hassles, coping and perceived social support as mediators and moderators. *Journal of Counselling Psychology, 47*, 437-453. doi: 10.1037/AW22-0167.47.4.437.
- Enns, M. W., Cox, B. J., & Clara, I. (2002). Adaptive and maladaptive perfectionism: developmental origins and associations with depression proneness. *Personality and Individual Differences, 33*, 921-935. [http://dx.doi.org/10.1016/S0191-8869\(01\)00202-1](http://dx.doi.org/10.1016/S0191-8869(01)00202-1).
- Flett, G. L., Druckman, T., Hewitt, P. L., & Wekerle, C. (2012). Perfectionism, coping, social support, and depression in maltreated adolescents. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 30*, 118-131. doi: 10.1007/s10942-011-0132-6.
- Flett, G. L., Endler, N. S., Tassone, C., & Hewitt, P. L. (1994/1995). Perfectionism and components of state and trait anxiety. *Current Psychology, 13*, 326-350. doi: 10.1007/BF02686891.
- Flett, G. L., & Hewitt, P. L. (2002). *Perfectionism; Theory, Research and Treatment*. Washington: American Psychological Association.
- Flett, G. L., Hewitt, P. L., Blankstein, K., & O'Brien, S. (1991). Perfectionism and learned resourcefulness in depression and self-esteem. *Personality and Individual Differences, 12*, 61-68.
- Flett, G. L., Hewitt, P. L., Oliver, J. M., & Macdonald, S. (2002b). Perfectionism in children and their parents: A developmental analysis. In G. L. Flett and P. L. Hewitt (Eds): *Perfectionism: Theory, Research, and Treatment* (pp. 89–132). Washington: American Psychological Association.

- Flett, G. L., Madorsky, D., Hewitt, P. L., & Heisel, M. J. (2002a). Perfectionism cognitions, rumination, and psychological distress. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *20*, 33–47. doi: 10.1023/A:1015128904007.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, *14*, 449-468.  
<http://dx.doi.org/10.1007/BF01172967>.
- Gibb, B. E., Abramson, L. Y., & Alloy, L. B. (2004). Emotional maltreatment from parents, verbal peer victimisation and cognitive vulnerability to depression. *Cognitive Therapy and Research*, *28*, 1-21. <http://dx.doi.org/10.1023/B:COTR.0000016927.18027.c2>.
- Gladstone, G. L., Parker, G. B., & Malhi, G. S. (2006). Do bullied children become anxious and depressed adults? A cross-sectional investigation of the correlates of bullying and anxious depression. *The Journal of Nervous and Mental Disease*, *194*, 201-208.  
<http://dx.doi.org/10.1097/01.nmd.0000202491.99719.c3>.
- Goldstein, S. E., Young, A., & Boyd, C. (2008). Relational aggression at school: Associations with school safety and social climate. *Journal of Youth and Adolescence*, *37*, 641-654. <http://dx.doi.org/10.1007/s10964-007-9192-4>.
- Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: review of the evidence. *Journal of Child Psychology and Psychiatry*, *45*, 260-273. <http://dx.doi.org/10.1111/j.1469-7610.2004.00218.x>.
- Harris, P. W., Pepper, C. M., & Maack, D. J. (2008). The relationship between maladaptive perfectionism and depressive symptoms: The mediating role of rumination. *Personality and Individual Differences*, *44*, 150-160. <http://dx.doi.org/10.1016/j.paid.2007.07.011>.
- Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimisation and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal*

*of Child Psychology and Psychiatry*, 41, 441-455. <http://dx.doi.org/10.1111/1469-7610.00629>.

Hayes, A. F. (2008). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modelling [ White paper ]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.

Hewitt, P. L., Caeliana, C. F., Flett, G. L., Sherry, S. B., Collins, L., & Flynn, C. A. (2002). Perfectionism in children: associations with depression, anxiety, and anger. *Personality and Individual Differences*, 32, 1049-1061.

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456-470. <http://dx.doi.org/10.1037//0022-3514.60.3.456>.

Hewitt, P. L., & Flett, G. L. (1993). Dimensions of perfectionism, daily stress, and depression: A test of the specific vulnerability hypothesis. *Journal of Abnormal Psychology*, 102, 58-65. <http://dx.doi.org/10.1037//0021-843X.102.1.58>.

Hinduja, S., & Patchin, J. W. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimisation. *Deviant Behavior*, 29, 129-156. <http://dx.doi.org/10.1080/01639620701457816>.

Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Sage.

Humphrey, J. L., Storch, E. A., & Geffken, G. R. (2007). Peer victimisation in children with attention-deficit hyperactivity disorder. *Journal of Child Health Care*, 11, 248-60. <http://dx.doi.org/10.1177/1367493507079571>.

- Hunter, S. C., Boyle, J. M. E., & Warden, D. (2007). Perceptions and correlates of peer-victimisation and bullying. *British Journal of Educational Psychology, 77*, 797-810. <http://dx.doi.org/10.1348/000709906X171046>.
- Hunter, S. C., Durkin, K., Heim, D., Howe, C., & Bergin, D. (2010). Psychosocial mediators and moderators of the effect of peer-victimisation upon depressive symptomatology. *Journal of Child Psychology & Psychiatry, 51*, 1141-1149. <http://dx.doi.org/10.1111/j.1469-7610.2010.02253.x>.
- Huprich, S. K. (2003). Depressive personality and its relationship to depressed mood, interpersonal loss, negative parental perceptions and perfectionism. *Journal of Nervous and Mental Disease, 191*, 73-79. <http://dx.doi.org/10.1097/01.NMD.0000050935.15349.44>.
- Israel, J. (2006). Remission in depression: Definition and initial treatment approaches. *Journal of Psychopharmacology, 20*, 5-10. <http://dx.doi.org/10.1177/1359786806064306>.
- Mathews, A., & MacLeod, C. (2005). Cognitive vulnerability to emotional disorders. *Annual Review of Clinical Psychology, 1*, 167-95.
- McCabe, R. E., Miller, J. L., Laugesen, N., Antony, M. M., & Young, L. (2010). The relationship between anxiety disorders in adults and recalled childhood teasing. *Journal of Anxiety Disorders, 24*, 238-243. <http://dx.doi.org/10.1016/j.janxdis.2009.11.002>.
- Meyers L. S., Gamst, G., & Guarino, A. J. (2005). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage
- Miller, J. L., & Vaillancourt, T. (2007). Relation between childhood peer victimisation and adult perfectionism: Are victims of indirect aggression more perfectionistic? *Aggressive Behavior, 33*, 230-241. <http://dx.doi.org/10.1002/ab.20183>.

- Mirzai, R. R., Hosseini, N. S. S., Ahmadi, G. M., & Ali, F (2012). Relationship between dimensions of perfectionism with anxiety, depression, social dysfunction and somatic symptoms in college students of Kerman. *Asian Journal of Development Matters*, 6, 284-292.
- Mynard, H. and Joseph, S. (2000). Development of the multidimensional peer-victimisation scale, *Aggressive Behavior*, 26, 169-178. [http://dx.doi.org/10.1002/\(SICI\)1098-2337\(2000\)26:2%3C169::AID-AB3%3E3.0.CO;2-A](http://dx.doi.org/10.1002/(SICI)1098-2337(2000)26:2%3C169::AID-AB3%3E3.0.CO;2-A).
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, 61, 115–121. doi: 10.1037/0022-3514.61.1.115.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3, 400–424.
- O'Connor, D. B., O'Connor, R. C., & Marshall, R. (2007). Perfectionism and psychological distress: evidence of the mediating effects of rumination. *European Journal of Personality*, 21, 429–452. doi: 10.1002/per.616.
- O'Connor, R. C., Rasmussen, S., & Hawton, K. (2010). Predicting depression, anxiety and self-harm in adolescents: The role of perfectionism and acute life stress. *Behavior Research & Therapy*, 48, 52-59. doi: 10.1016/j.brat.2009.09.008.
- Olweus D (1993). Victimization by peers: antecedents and long-term outcomes. In K. H. Rubin and J. B. Asendorpf (Eds). *Social withdrawal, inhibition and shyness in childhood* (pp. 315–342). Lawrence Erlbaum Associates: New Jersey.

- Olson, M. L., & Kwon, P. (2008). Brooding perfectionism: Refining the roles of rumination and perfectionism in the etiology of depression. *Cognitive Therapy and Research, 32*, 788-802. <http://dx.doi.org/10.1007/s10608-007-9173-7>.
- Owens, L., Daly, A., & Slee, P. (2005). Sex and age differences in victimisation and conflict resolution among adolescents in a south Australian school. *Aggressive Behavior, 31*, 1-12. doi: 10.1002/ab.20045.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 386-401. <http://dx.doi.org/10.1177/014662167700100306>.
- Rigby, K. (1999). Peer victimisation at school and the health of secondary school students. *British Journal of Educational Psychology, 69*, 95–104.
- Rivers, I. (2001). Retrospective reports of school bullying: Recall stability and its implications for research. *British Journal of Developmental Psychology, 19*, 129–142. <http://dx.doi.org/10.1348/026151001166001>.
- Rosen, L. H., Underwood, M. K., Gentsch, J. K., Rahdar, A., & Wharton, M. E. (2012). Emerging adults' recollections of peer victimization experiences during middle school. *Journal of Applied Developmental Psychology, 33*, 273-281. DOI: 10.1016/j.appdev.2012.07.006.
- Roxborough, H. M., Hewitt, P. L., Kaldas, J., Flett, G. L., Caelian, C. M., Sherry, S., & Sherry, D. L. (2012). Perfectionist self-presentation, socially prescribed perfectionism and suicide in youth: A test of the perfectionism social disconnection model. *Suicide and Life-Threatening Behaviour, 42*, 217-233. <http://dx.doi.org/10.1111/j.1943-278X.2012.00084.x>.

- Schäfer, M., Korn, S., Smith, P. K., Hunter, S. C., Mora-Merchán, J., Singer, M. M., & van der Meulen, K. (2004). Lonely in the crowd: Recollections of bullying. *British Journal of Developmental Psychology, 22*, 379-394. doi: 10.1348/0261510041552756.
- Sinclair, K. R., Cole, D. A., Dukewich, T., Felton, J., Weitlauf, A. S., Maxwell, M. A., Tilghman-Osborne, C., & Jacky, A. (2012). Impact of physical and relational peer victimisation on depressive cognitions in children and adolescents. *Journal of Clinical Child & Adolescent Psychology, 41*, 570-583.  
<http://dx.doi.org/10.1080/15374416.2012.704841>.
- Sourander, A., Jensen, P., Rönning, J. A., Niemelä, S., Helenius, H., Sillanmäki, L., Kumpulainen, K., Piha J., Tamminen, T., Moilanen, I., & Almqvist, F. (2007). What is the early adulthood outcome of boys who bully or are bullied in childhood? The Finnish “From a Boy to a Man” study. *Pediatrics, 120*, 397-404. doi: 10.1542/peds.2006-2704.
- Strawser, M. S., Storch, E. A., & Roberti, J. W. (2005). The teasing questionnaire revised: Measurement of childhood teasing in adults. *Journal of Anxiety Disorders, 19*, 780-792. <http://dx.doi.org/10.1016/j.janxdis.2004.09.005>.
- Sundaram, P. M. S., & Umarhathab, S. (2011). *Cyber Crime and Digital Disorder*. India: Publication Division at Manonmanium Sundaranar University.
- Teasdale, J. D., & Barnard, P. (1993). *Affect, cognition and change*. Hove, UK: Lawrence Erlbaum Associates Ltd.
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*, 247–259.
- Ttofi, M. M., Farrington, D. P., Lösel, F., & Loeber, R. (2011). Do the victims of school bullies tend to become depressed in later life? A systematic review and meta-analysis



- of longitudinal studies. *Journal of Aggression, Conflict and Peace Research*, 3(2), 63-73. doi: 10.1108/17596591111132873.
- Watkins, E. R. (2008). Constructive and Unconstructive Repetitive Thought. *Psychological Bulletin*, 134, 163-206. DOI: 10.1037/0033-2909.134.2.163.
- Watkins, E., & Teasdale, J. D. (2001). Rumination and overgeneral memory in depression: Effects of self-focus and analytic thinking. *Journal of Abnormal Psychology*, 110, 353-357. doi: 10.1037//0021-843X.110.2.353.
- Whitmer, A., & Gotlib, I. H. (2011). Brooding and reflection reconsidered: A factor analytic examination of rumination in currently depressed, formerly depressed, and never depressed individuals. *Cognitive Therapy and Research*, 35, 99–107.
- Wright, K. B. (2005), Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication*, 10, doi: 10.1111/j.1083-6101.2005.tb00259.x
- Ye, H. J., Rice, K. G., & Storch, E. A. (2008). Perfectionism and peer relations among children with obsessive-compulsive disorder. *Child Psychiatry & Human Development*, 39, 415-426. doi: 10.1007/s10578-008-0098-5.
- Zuroff, D. C., Mongrain, M., & Santor, D. A. (2004). Conceptualising and measuring personality vulnerability to depression: Comment on Coyne and Whiffen (1995). *Psychological Bulletin*, 130, 489-511. doi: 10.1037/0033-2909.130.3.489.

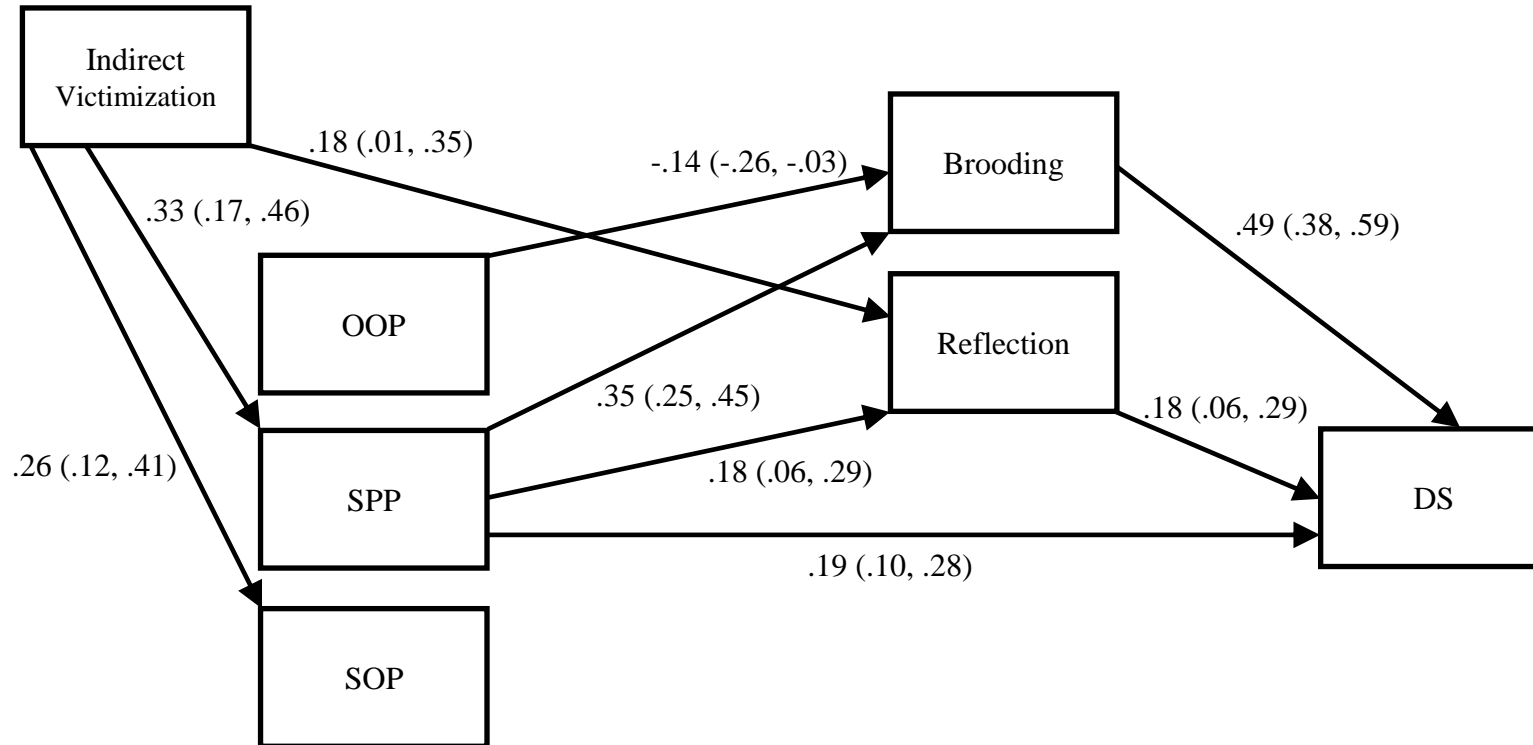


Figure 1. Final significant, direct standardized regression weights (with 95% Confidence Intervals).

Note. Brooding and reflection are both rumination variables. SOP = Self-Oriented Perfectionism. OOP = Other-Oriented Perfectionism. SPP = Socially Prescribed Perfectionism. DS = Depressive Symptomatology.