

## Interpersonal Personality Vulnerabilities, Stress, and Depression in Adolescents: Interpersonal Hassles as a Mediator of Sociotropy and Socially Prescribed Perfectionism

Gordon L. Flett<sup>1</sup>, Douglas H. Schmidt<sup>1</sup>, Avi Besser<sup>2</sup>, and Paul Hewitt<sup>3</sup>

---

1 Department of Psychology, LaMarsh Centre for Child and Youth Research, York University

2 Sapir Academic College

3 Department of Psychology, University of British Columbia

### Abstract:

**Objectives:** Research linking interpersonal personality factors with depression illustrates the need for adolescents to develop interpersonal resilience. In the current study, we examined the extent to which two interpersonally-based vulnerability factors (i.e., sociotropy and socially prescribed perfectionism) and daily interpersonal hassles are associated with depression in adolescents.

**Methods:** A sample of 143 high school adolescents from Toronto, Ontario, Canada completed self-report questionnaires that included measures of sociotropy (i.e., the Personal Styles Inventory), perfectionism (i.e., the Child-Adolescent Perfectionism Scale), daily life hassles, and depressive symptoms.

**Results:** Sociotropy and socially prescribed perfectionism were associated significantly with depression and daily hassles, including hassles reflecting interpersonal themes such as social mistreatment and social disconnection. A factor consisting of interpersonal hassles subscales mediated the link between these personality traits and depression.

**Conclusion and Implications:** Our results highlight the roles of sociotropy and socially prescribed perfectionism and suggest that these traits are associated with depression, in part, due to their link with daily interpersonal stressors. Our results suggest that while many adolescents are resilient, others who need to be accepted and who feel that they

must live up to external pressures to be perfect would benefit from stress counseling and preventive interventions that would boost their emotional and interpersonal resilience.

### **Acknowledgments:**

This research was supported by a Canada Research Chair in Personality and Health to the first author and funding from the Faculty of Health at York University. There were no conflicts of interest. Correspondence concerning this article should be addressed to Gordon L. Flett, the LaMarsh Centre for Child & Youth Research, 4700 Keele Street, York University, Toronto, Ontario, M3J 1P3, Canada. E-mail may be sent to: gflett@yorku.ca.

### **Conflict of Interest:**

The authors declare no conflicts of interest.

### **Keywords:**

resilience; mattering; self-esteem; self-criticism; dependency; depression

---

## **Introduction**

A recent conceptual analysis of resilience by Flett, Flett, and Wekerle (2015) emphasized the need for young people to develop a sense of interpersonal resilience. They argued that resilience can be assessed in specific life domains and it is very important to develop a capacity to be able to withstand interpersonal adversities and develop resources and capabilities with an interpersonal focus in order to be able to bounce back from and adapt to interpersonal challenges, threats, and setbacks.

Flett et al. (2015) defined interpersonal resilience as "... the tendency to withstand negative feedback and less than ideal treatment by other people and persist in terms of maintaining positive relationships and pursuing personally important goals, including interpersonal goals... Someone who is high in interpersonal resilience is able to adapt without withdrawing socially when they are confronted on a regular basis with social adversity" (p. 13). They noted further that this interpersonal resilience is deeply rooted in beliefs about the self and views of the self in relation to other people.

They identified nine facets of interpersonal resilience. Someone is more likely to be interpersonally resilient if they have positive resources such as an optimistic orientation characterized by social hope and being someone who is socially self-compassionate (i.e., being kind to oneself and accepting oneself after being mistreated or after making mistakes in public). Other characteristics including having a strong sense of social self-esteem due to a sense of mattering to significant others and being able to adaptively disengagement and distance oneself from negative social interactions and feedback.

Why it is important to develop interpersonal resilience? There is now extensive evidence that attests to the potential destructiveness of interpersonal stress. Several investigations have documented a link between negative social interactions and psychological distress (e.g., Herres, Ewing, & Kobak, 2016; Pagel, Erdly, & Becker, 1987). For instance, Bolger, DeLongis, Kessler, & Schilling (1989) had participants complete diary accounts and provide mood ratings over a six-week period. Analyses established that interpersonal conflicts were the most upsetting stressors and these stressors accounted for more than 80% of the variance in daily mood ratings.

In the current paper, we did not assess interpersonal resilience *per se*, but instead sought to illustrate the need to develop interpersonal resilience among adolescents by examining how interpersonally-based personality vulnerability factors and daily interpersonal hassles relate to depression. Our focus on interpersonal hassles stems, in part, from general evidence showing that daily hassles have a strong impact on the self-concepts of adolescents (Tolan, Miller, & Thomas, 1988). Our emphasis on interpersonally-based personality vulnerabilities follows from an extensive and growing literature that focuses on the role of interpersonal factors in depression. For instance, Joiner and Timmons (2009) and Hammen and Rudolph (2003) have demonstrated that interpersonal factors are implicated in depression. When it comes to adolescents, it has been suggested that it is susceptibility to interpersonal stress that accounts for the sex differences in depression with adolescent girls having higher levels and rates of depression than adolescent boys (Hankin & Abramson, 1999) and adolescent girls having greater reactivity to interpersonal episodic stress (Shih, Eberhart, Hammen, & Brennan, 2006). Recent data suggest that depression among girls is a growing problem; there are indications that the prevalence of depression may be increasing among children and adolescents in general (Mojtabai, Olfson, & Han, 2016) and this increase is especially evident among adolescent girls (Garipey & Elgar, 2016).

We examined interpersonal factors in the current study by focusing on the associations among interpersonal personality vulnerabilities, interpersonal hassles, and depression in a sample of Canadian adolescents. Our focus was on two personality factors – sociotropy and socially prescribed perfectionism. Each of these factors is now described in more detail below.

Sociotropy is a concept that was introduced by Beck and his associates (Beck, 1983; Beck, Epstein, Harrison, & Emery, 1983). The sociotropy concept was then developed further by Robins et al. (1994). Sociotropy is similar to dependency in that it involves a high sensitivity to other people and a need to seek out other people and try to maintain close contact with significant others and get their social approval. It is typically assumed that at the root of extreme sociotropy is a negative self-view and identity that sees oneself as weak and ineffective and in need of the support and reassurance of more confident and capable others. The adolescent who has elevated sociotropy is presumed to be vulnerable rather than resilient because she or he lacks the sense of personal agency and confidence in problem-solving ability that is found among resilient people with more positive self-views and associated motivational orientations.

As is typically the case in the broader personality literature, most research on sociotropy has been conducted with adults rather than children or adolescents. However,

some longitudinal research on sociotropy among children was reported by Little and Garber (2000). They developed the Sociotropy-Achievement Scale for Children to assess sociotropy and self-criticism. Sociotropy was assessed by two factors known as neediness and connectedness. They assessed sociotropy, social stressors, and depression over two timepoints and found that neediness at Time 1 was positively correlated with Time 2 social stressors and neediness predicted increased depression over time, but it did not interact with social stressors to predict Time 2 depression. Other analyses revealed that connectedness interacted with social stressors to predict depression at Time 2 for boys but not for girls.

More recently, Calvete (2011) examined sociotropy, social events, and depression in 853 adolescents at two timepoints separated by six months. Analyses indicated that negative inferences about social events and generated stress mediated the association between sociotropy and subsequent depression. Moreover, sociotropy and negative inferences about social events contributed to the higher levels of depression found among adolescent girls.

Finally, research from the Northwestern-UCLA Youth Emotion Project included sociotropy and autonomy among the predictor variables. This investigation revealed that sociotropy was associated with depression in a sample of 575 high school students. Moreover, it was also associated with various other forms of maladjustment, including anxiety (Zinbarg et al., 2010).

As for perfectionism, Hewitt and Flett (1991) introduced the concept of socially prescribed perfectionism as part of a broad multidimensional conceptualization of the personal and interpersonal aspects of perfectionism. This work has resulted in a relational approach to the treatment of perfectionism (Hewitt, Flett, & Mikail, 2017). Socially prescribed perfectionism is a highly deleterious orientation that reflects the sense that other people or society in general demands perfection from the self. Socially prescribed perfectionism is reflected by test items such as “The better I do, the better I am expected to do,” and “My teachers expect me to be perfect.” This perfectionism orientation can involve a sense of helplessness or hopelessness among those people who strongly endorse the view that success will only result in other people setting expectations even higher. A lack of resilience among adolescents with high levels of socially prescribed perfectionism would be expected due to a tendency for adolescents with high socially prescribed perfectionism to lack a sense of personal efficacy and a propensity to be easily overcome due to a sense of being externally controlled, either by other people or by life circumstances. However, adolescents with elevated socially prescribed perfectionism who are able to establish a sense of resilience and grit should be relatively protected and less prone to distress, especially if they have developed a capacity to bounce back from interpersonal stressors.

Initial research on the socially prescribed perfectionism dimension was conducted with adults, but research has also established that meaningful individual differences in levels of socially prescribed perfectionism can be assessed among children and adolescents (Flett et al., 2016). There is growing evidence which suggests that socially prescribed perfectionism is highly deleterious and is associated with several forms of psychological distress in adolescents (e.g., Asseraf & Vaillancourt, 2015; Flett, Coulter, Hewitt, & Nepon, 2011). For instance, results indicate that socially prescribed perfectionism is associated with racial discrimination

experiences and depression in African American adolescents (Lambert, Robinson, & Ialongo, 2014) and another study showed that socially prescribed perfectionism in adolescents from Scotland predicted depression and it interacted with a measure of acute life stress to predict self-harm (O'Connor, Rasmussen, & Hawton, 2010).

Regarding the role of hassles in perfectionism and depression, there has been extensive research on perfectionism, stress, and depression in adults. This work followed from suggestions that perfectionism acts as a diathesis factor that becomes linked with depression and other forms of distress following the experience of negative events (Hewitt & Flett, 1991, 1993). Research in this field has tested the role of stress in general (e.g., Dunkley, Mandel, & Ma, 2014) as well as a specific vulnerability model. This model suggests that when vulnerabilities are matched with relevant stressors (i.e., a perfectionist driven to meet personal achievement goals experiences an ego-involving failure connoting lack of achievement), this combination will produce depression. Thus, when the focus is on interpersonal stress, this model suggests that it is the combination of interpersonal perfectionism and interpersonal stressors (as opposed to achievement stressors) that is most likely to result in depressive symptoms.

A subsequent conceptual refinement of the diathesis-stress model led to the development of the perfectionism social disconnection model (Hewitt, Flett, & Sherry, & Caelian, 2006; Hewitt et al., 2017). The essence of this model is that people with elevated levels of interpersonal perfectionism dimensions will act in avoidant and socially isolating ways that foster a sense of perceived or actual disconnection and alienation from other people; in addition, they will have life situations that fail to satisfy their need for meaningful connections with others and this stress will result in depression for those people who feel that they must live up to socially imposed pressures to be perfect but their lives and social worlds are less than perfect.

Unfortunately, there have been relatively few empirical studies focused on perfectionism and the stress experienced by children and adolescents. Two studies have been conducted thus far on socially prescribed perfectionism and daily hassles in children or adolescents, though both studies were limited due to the use of a less than optimal measure of daily hassles. Initially, Hewitt et al. (2002) administered the Child-Adolescent Perfectionism Scale (Flett et al., 2016), the Children's Hassles Scale (Kanner, Feldman, Weinberger, & Ford, 1987), and measures of anger, anxiety, and depression to a heterogeneous sample of 114 children and adolescents. The Children's Hassles Scale is a 25-item inventory that was scored in this study so as to yield separate 10-item indices of the frequency of achievement hassles (e.g., school work too hard) and interpersonal hassles (e.g., kids at school teased you). Hewitt et al. (2002) found that both self-oriented perfectionism (i.e., exceptionally high personal standards) and socially prescribed perfectionism were associated with the distress measures, including the measure of depression. Socially prescribed perfectionism had a small but positive association with social hassles ( $r = .24, p < .01$ ) but it was not associated significantly with achievement hassles. Analyses of possible interaction effects found no evidence of a significant interaction of socially prescribed perfectionism and hassles in predicting depression.

More recently, Hewitt, Caelian, Chen, and Flett (2014) examined perfectionism, life stress, daily hassles, depression, hopelessness, and suicide ideation in a sample of 55 adolescent psychiatric patients diagnosed with depression. Once again the hassles scale was the Children's Hassle Scale. It was scored in Hewitt et al. (2014) study as a total score and not in terms of separate achievement and interpersonal themes. This research established that socially prescribed perfectionism predicted concurrent levels of suicide potential. Moreover, socially prescribed perfectionism interacted with daily hassles to predict concurrent suicide potential.

On a related note, another study by Roxborough et al. (2012) did not assess hassles per se, but they did include a brief self-report measure of exposure to bullying. Roxborough et al. (2012) found in 152 psychiatric outpatient children and adolescents that interpersonal perfectionism components were associated jointly with bullying and a sense of social hopelessness and bullying acted as a mediator of the link between interpersonal components of perfectionism and suicide risk.

The brief hassles measure used in previous research on perfectionism, hassles, and depression did not measure the full range of relevant daily hassles experienced by high school students. Accordingly, in the current study, we assessed daily hassles with a measure known as the Inventory of High School Students' Recent Life Experiences. Kohn and Milrose (1993) developed this inventory. It has been widely used to assess the frequency of daily hassles in adolescents (Chang, 2002; Lai, 2009; Marks, Sobanski, & Hine, 2010). This measure was patterned after a similar measure developed for use with university students. This inventory has eight subfactors but we focused on the five hassles factors that have an interpersonal focus. The eight factors are social alienation, academic challenge, excessive demands, romantic concerns, decisions about personal future, loneliness and unpopularity, social alienation, social mistrust, and assorted annoyances and concerns (including several social annoyances and concerns) (Kohn & Milrose, 1993).

### *Goals of the Current Study*

Clearly, there is a substantial need for further investigation in samples of adolescents of the role of interpersonal stress in personality and depression. Accordingly, in the current study, we addressed three interrelated questions. First, do sociotropy and socially prescribed perfectionism have the expected associations with depression in adolescents? Second, to what extent are sociotropy and socially prescribed perfectionism associated with interpersonal hassles in adolescents? Finally, is there evidence that the experience of daily interpersonal hassles acts as a mediator of the proposed links between the interpersonal personality vulnerabilities and depression?

We evaluated these issues in a convenience sample of adolescent boys and girls from Ontario who completed measures of sociotropy, socially prescribed perfectionism, depression, and daily hassles.

In summary, the current study tested several issues in a sample of adolescents. It was hypothesized that both sociotropy and socially prescribed perfectionism would be associated significantly with depression and various interpersonal daily hassles. Moreover, it was further hypothesized that a composite measure comprised of various interpersonal hassles factors

would mediate the association between sociotropy and socially prescribed perfectionism and depression.

## Method

### *Participants*

A sample of 143 adolescents (58 boys, 85 girls) took part in this research. Our participants were recruited from a high school in the Toronto area which was approached by the second author. Their mean age was 17.10 years ( $SD = 2.07$ ). Overall, participants recruited from various grades but most participants were in grades 11 or 12.

### *Procedure*

Permission was obtained from the school board, high school principal, and teachers. A few days before the study took place students were asked by their teachers to participate voluntarily in study that examined “personality and adjustment”. If they agreed to be in the study, and provided an informed consent signed by a parent or guardian, as well as by themselves, they were asked to complete a package of questionnaires. Participation rates were not recorded but were exceptionally high. The measures were completed during regular classroom time. Our measures are described below.

### *Measures*

**Personal Style Inventory (PSI).** The PSI is a 48-item self-report measure. Respondents make five-point ratings of the degree to which each statement applies to them (Robins et al., 1994). The measure is divided into two subscales – sociotropy and autonomy. The current research focused on the 24-item sociotropy subscale because of its interpersonal focus. The sociotropy scale assesses a person’s level of concern about what others think of them, their dependency on others for material support or emotional support, and their excessive need to please others. Items on this scale include “I worry a lot hurting or offending other people”, and “I am very sensitive to criticism by others.” The sociotropy subscale had an alpha of .86 in the present study.

**Child-Adolescent Perfectionism Scale (CAPS).** The CAPS is a 22-item self-report measure of perfectionism for use with children and adolescents (Flett et al., 2016). It parallels closely its adult equivalent, the Multidimensional Perfectionism Scale (Hewitt & Flett, 1991). The CAPS has two subscales assessing self-oriented perfectionism and socially prescribed perfectionism. Extensive evidence attests to the psychometric characteristics of the CAPS and its subscales (Flett et al., 2016). Respondents make five-point ratings on items that are designed to assess self-oriented perfectionism (e.g., “I try to be perfect in everything I do”; “I get mad at myself when I make a mistake”) and socially prescribed perfectionism (e.g., “My family expects me to be perfect”; “My teachers expect me to be perfect”). In the present study, we obtained internal consistency coefficients of .87 for each subscale.

**Inventory of High School Students’ Recent Life Experiences (HISSRLE).** The HISSRLE is a 41-item self-report measure developed for tapping the daily hassles of high

school students (Kohn & Milrose, 1993). This was designed to parallel the Inventory of College Students' Recent Life Experiences (ICSRLE; Kohn, Lafreniere, & Gurevich, 1990). The content of some items was changed to suit the context (e.g., professors changed to teacher) and some items were simplified or adapted by the scale creators to enhance clarity. Respondents make five-point ratings on items that tap various factors. The eight factors in order of their magnitude are social alienation (e.g., disagreements with friends, disliking fellow students), excessive demands (i.e., too many things to do at once, not enough time to meet your responsibilities), romantic concerns (i.e., dissatisfaction about romantic relationship), decisions about personal future (i.e., important decisions about your education), loneliness and unpopularity (i.e., loneliness, being ignored), assorted annoyances and concerns (i.e., separation from people you care about, money problems), social mistreatment (i.e., being taken for granted, having your trust betrayed by a friend), and academic challenge (i.e., lower grades than you hoped for, struggling to meet other people's standards of performance at school). The overall scale and the subscales have adequate internal consistency (Kohn & Milrose, 1993).

**Center for Epidemiological Studies Depression Scale (CES-D).** This 20-item scale was developed to measure current levels of depressive symptomatology (Radloff, 1977). Respondents indicate on a four-point scale, how frequently during the past week they experienced particular symptoms such as "My sleep was restless", "I talked less than usual" and "I felt fearful". The scale has been shown to be a reliable measure for identifying true positives of major depression in students in high school students (Radloff, 1991; Roberts, Lewinsohn, & Seeley, 1991). In the present study, we obtained an internal consistency coefficient of .86.

## Results

### *Test of Sex Differences*

A MANCOVA was performed with participants' gender as the independent variable and all study variables as the dependent variables. In addition, participants' age was covaried. A significant sex effect was obtained Wilks'  $\Lambda(8, 133) = .83, p < .001$ . Table 1 presents the means, standard deviations, and Univariate F's. As can be seen in Table 1, girls reported significantly higher levels of sociotropy, depression, and various hassles (i.e., Romantic Concerns, Assorted Annoyances and Concerns, and Social Mistreatment). Consequently, in the following analyses, participants' sex was controlled.

It is worth noting that the means obtained on the CES-D exceeded the CES-D cutoff score of 16 or greater for at least mild depression (Radloff, 1977). Thus, our sample as a whole was characterized by mild depression.

### *Correlations Among the Measures*

The correlations among the variables are presented in Table 2. It can be seen in terms of the hassles subscales that sociotropy was not associated with social alienation and it did have a small but significant association with romantic concerns. In contrast, socially

**Table 1:** Means, Standard Deviations, and Univariate F's for the Variables: Sex differences

Variables	Boys n = 58		Girls n = 85		F (1, 141)
	M	SD	M	SD	
1. Socially Prescribed Perfectionism	30.57	7.73	29.96	7.76	.16
2. Sociotropy	90.53	17.93	95.65	16.65	4.36*
3. Social Alienation	15.00	3.88	15.08	3.90	.00
4. Romantic Concerns	4.64	1.92	5.36	2.17	4.82*
5. Loneliness and Unpopularity	9.78	4.00	10.21	3.42	.637
6. Assorted Annoyances and Concerns	10.09	3.05	11.05	2.92	4.55*
7. Social Mistreatment	11.83	3.41	13.47	3.79	9.06**
8. Depression	17.47	9.67	22.38	11.22	9.61**

Note: n = 143 (two-tailed test). \*p < .05; \*\*p < .01.

prescribed perfectionism was correlated significantly with social alienation but was not associated with romantic concerns. The main associations of note in terms of the links between sociotropy and the hassles subscales were the correlations that sociotropy had with loneliness/unpopularity ( $r = .41, p < .01$ ) and with social mistreatment ( $r = .47, p < .01$ ). Socially prescribed perfectionism had a smaller but significant association with loneliness/unpopularity ( $r = .22, p < .05$ ) but a stronger link with social mistreatment ( $r = .34, p < .01$ ).

Regarding the correlates of depression, it can be seen in Table 2 that sociotropy, socially prescribed perfectionism, and all of the hassles measures were associated significantly with depression. The strongest links were between depression and the factors tapping social mistreatment and unpopularity/loneliness.

### *The Mediating Role of Interpersonal Hassles*

Does a construct representing interpersonal hassles mediate the effect of socially prescribed and sociotropy personality variables on adolescents' depression? We explored this issue using a structural equation modeling approach that permitted us to simultaneously evaluate both the direct and mediating effects of the adolescents' Interpersonal Hassles, while assessing measurement errors in the dependent and independent variables. All SEM analyses were performed with the AMOS software based on the variance-covariance matrix. We tested the adequacy of measurement models and the fit of the structural models, using maximum likelihood estimations. As is conventional in SEM analyses, we have reported the  $\chi^2$  as a fit index to evaluate how the "proposed" model - the model being evaluated - fits the data compared to the "saturated" model - the baseline model that represents perfect model fit. A non-significant  $\chi^2$  has traditionally been used as a criterion for not rejecting an SEM. This non-significant  $\chi^2$  indicates that the discrepancy between the matrix of the parameters estimated based on the model being evaluated is not different from the one based on the empirical data. Thus, one can conclude that the proposed model fits the empirical

**Table 2:** Correlations, Means, and Standard Deviations for the Variables

Variables	Gender	1	2	3	4	5	6	7	M	SD
1. Socially Prescribed perfectionism	-.04	-----	-----	-----	-----	-----	-----	-----	30.21	7.72
2. Sociotropy	.15	.24**	-----	-----	-----	-----	-----	-----	93.57	17.30
3. Social Alienation	.01	.31***	.15	-----	-----	-----	-----	-----	15.05	3.88
4. Romantic Concerns	.17*	.10	.18*	.24**	-----	-----	-----	-----	5.07	2.10
5. Loneliness and Unpopularity	.06	.22**	.41***	.35***	.17*	-----	-----	-----	10.04	7.72
6. Assorted Annoyances and Concerns	.16	.27***	.31***	.49***	.41***	.39***	-----	-----	10.66	2.10
7. Social Mistreatment	.22**	.34***	.47***	.40***	.22**	.54***	.47***	-----	12.80	3.72
8. Depression	.22**	.34***	.35***	.26**	.22**	.46***	.37***	.47***	20.38	10.86

Note: n = 143 (two-tailed test). \*p<.05; \*\*p<.01; \*\*\*p<.0001.

data well. However, this criterion can be overly strict and sensitive, and can be influenced by the number of variables and participants (Landry, Smith, Swank, & Miller-Loncar, 2000). Therefore, we have also used and reported moderately stringent acceptance criteria as additional fit indices: the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), and the Normed Fit Index (NFI), with values closer to 1 indicating better fitting models.

We first conducted a Confirmatory Factor Analysis (CFA) of the interpersonal hassles factors to reflect our belief that the interpersonal hassles subscales reflect a more general interpersonal stress factor. Parenthetically, it should be noted that a similar analysis could not be done with the other measures since they did not involve multiple subscales. We then tested the measurement model of the following constructs: sociotropy, socially prescribed perfectionism, depression, and interpersonal hassles. We then analyzed the combined direct effects of socially prescribed perfectionism and sociotropy on adolescents' depression. Finally, we specified the direct and indirect effects' model.

### *Confirmatory Factor Analysis (CFA) for Interpersonal Hassles*

As noted above, in an initial preliminary step, we performed a Confirmatory Factor Analysis (CFA) using Structural Equation Modeling (SEM). In this model, we specified a latent construct determined by five of the eight IHSSRLE factors as indicators (Social Alienation, Romantic Concerns, Loneliness and Unpopularity, Assorted Annoyances and Concerns, and Social Mistreatment). The specified CFA model resulted in the following acceptable indices of fit:  $\chi^2[5, N = 143] = 6.10$ ;  $\chi^2/df = 1.22$ ;  $p = .30$ ; GFI = .98; NFI = .95; CFI = .99. Table 3A presents the CFA model factor loadings for the Interpersonal Hassles construct. All of the factor's indicator's paths and loadings were substantial and statistically significant in the expected directions in keeping with our expectations. The model was found

**Table 3:** CFA Model's Factor Loadings and Measurement Model's Intercorrelations**A. Factor loadings**

Variables	Social Hassles	R <sup>2</sup>
1. Social Alienation	.61	.38***
2. Romantic Concerns	.41	.17***
3. Loneliness and Unpopularity	.61	.37***
4. Assorted Annoyances and concerns	.73	.53***
5. Social Mistreatment	.69	.48***

**B. Intercorrelations**

Variables	Social Hassles
1. Socially Prescribed Perfectionism	.42***
2. Sociotropy	.54***
3. Depression	.61***

Note:

$n = 143$  (two-tailed test).  
\*\*\* $p < .0001$ .

to explain 38%, 17%, 37%, 53%, and 48% of social alienation, romantic concerns, loneliness and unpopularity, assorted annoyances and concerns, and social mistreatment, respectively.

***Analysis of the Measurement Model***

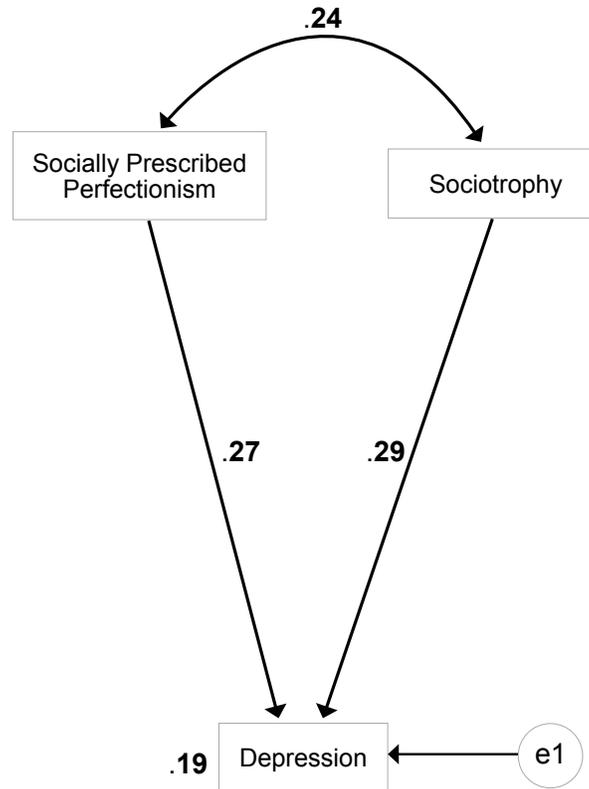
We delineated all of the associations between the latent and observed variables in the analysis of the measurement models. The latent construct Interpersonal Hassles was assessed by five indicators; Social Alienation, Romantic Concerns, Loneliness and Unpopularity, Assorted Annoyances and Concerns, and Social Mistreatment. Socially prescribed perfectionism, sociotropy, and depression were the observed variables.

The specified full measurement model resulted in the following acceptable indices of fit: ( $\chi^2[17, N = 143] = 36.2$ ;  $\chi^2/df = 2.13$ ;  $p = 0.004$ ; GFI = .94; NFI = .90; CFI = .93. All the factor indicators' paths and loading for the measurement model were substantial and statistically significant in the expected directions. The correlations are presented in Table 3B. Convergent validity was supported for the measures, as factor loadings ranged from .41 to .73; all were highly significant at  $p < .0001$ .

***Structural models specification******Analysis of the direct effects***

We followed Baron and Kenny's (1986) criteria for mediation. We first estimated in the first step the combined direct effects (i.e., Multiple Regression) of socially prescribed perfectionism and sociotropy on depression. The specified direct effects model resulted in

**Figure 1.** The Mediating Effect Model



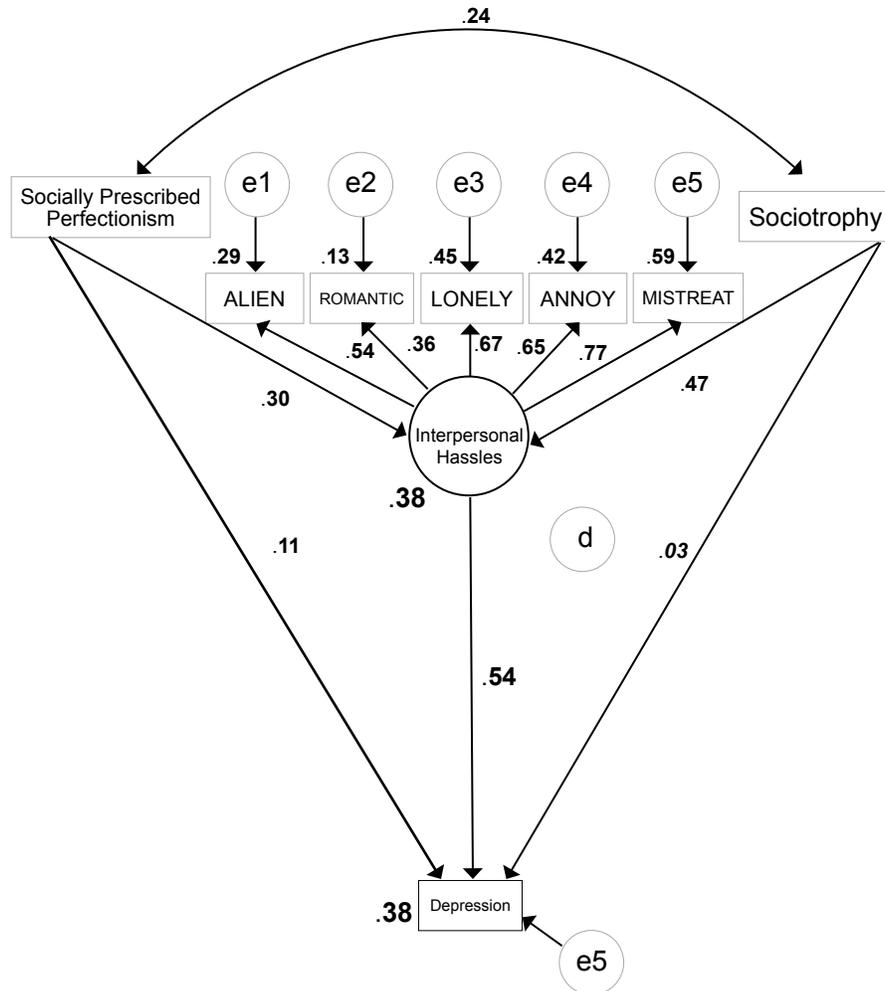
**Note:** Rectangles indicate measured variables. Large circles represent latent constructs, small circles reflect residual or disturbance variances. Two-headed arrows represent correlations, and unidirectional arrows depict hypothesized directional, or “causal”, links. Standardized maximum likelihood parameters are used. Bold estimates are statistically significant as determined by critical ratios.

zero df and thus did not allow for the estimations of indices of fit. As can be seen in Figure 1, this direct effect models accounted for 19% of the variance of adolescents’ depression, showing that adolescents scoring high on socially prescribed perfectionism and sociotropy were reporting high levels of depression (path coefficient = .27,  $t = 3.51$ ,  $p < .0001$  for socially prescribed perfectionism and path coefficient = .29,  $t = 3.68$ ,  $p < .0001$  for sociotropy).

***Analysis of the Mediating Model:***

It was assumed that Interpersonal Hassles mediates the effects of adolescents’ socially prescribed perfectionism and sociotropy scores on their depression levels. We specified separate mediation models with two observed predictors: socially prescribed perfectionism and sociotropy, and one endogenous mediating latent variable -- Interpersonal Hassles. Depression scores served as the observed criterion variable. The specified direct indirect mediation model resulted in the following acceptable indices of fit: ( $\chi^2[17, N = 143] = 36.2$ ;  $\chi^2/df = 2.13$ ;  $p = 0.004$ ; GFI = .94; NFI = .90; CFI = .93. The models specified (see Figure 2)

Figure 2.



**Note:** ALIEN = Social Alienation, ROMANTIC = Romantic Concerns, LONELY = Loneliness and Unpopularity, ANNOY = Assorted Annoyances and Concerns, MISTREAT = Social Mistreatment

accounted for 38% of the variance in Interpersonal Hassles and in depression. Personality variables were associated significantly with high levels of Interpersonal Hassles (path coefficient = .30,  $t = 3.58$ ,  $p < .0001$  for socially prescribed perfectionism and path coefficient = .47,  $t = 5.11$ ,  $p < .0001$  for sociotropy). Interpersonal Hassles were associated significantly with adolescents' reporting high levels of depression, path coefficient = .54,  $t = 4.68$ ,  $p < .0001$  (see Figure 2).

Mediation has occurred when the indirect effect of a predictor through a mediator significantly reduces the predictor's direct effect (Baron & Kenny, 1986). As can be seen in Figure 1, the direct paths from socially prescribed perfectionism and sociotropy to adolescents' depression were significant: path coefficient = .27,  $t = 3.51$ ,  $p < .0001$  for socially

prescribed perfectionism, and path coefficient = .29,  $t = 3.68$ ,  $p < .0001$  for sociotropy. In Figure 2, however, these paths approached zero, path coefficient = .11,  $t = 1.32$ , ns, and path coefficient = .04,  $t = 0.36$ , ns for socially prescribed perfectionism and sociotropy, respectively. The reductions in the coefficients of the direct paths from socially prescribed perfectionism and sociotropy to adolescents' depression after the Interpersonal Hassles mediator was controlled, were significant according to Sobel's test:  $Z = 2.87$ ,  $p < .004$  for socially prescribed perfectionism, and  $Z = 3.51$ ,  $p < .0001$ , for sociotropy, respectively. Thus, interpersonal hassles construct acted as an almost full (though not necessarily exclusive) mediator of the association between high socially prescribed perfectionism and high sociotropy and adolescents' depression levels.

## Discussion

The current study examined how interpersonal vulnerability factors (i.e., sociotropy and socially prescribed perfectionism) related to daily interpersonal stressors (i.e., hassles) and depression in a sample of high school students. The need to examine predictors of depression was signified by the level of depressive symptoms found in our sample as a whole. The means for both male and female participants exceeded the CES-D cutoff off point for the presence of depressive symptoms, so having some depressive symptoms was normative in this sample.

As expected, correlational analyses found that both sociotropy and socially prescribed perfectionism were associated with depression. The magnitude of the obtained associations with depression was comparable for sociotropy and socially prescribed perfectionism. Overall, these associations are in keeping with previous findings obtained in adolescent samples (e.g., Calvete, 2011; Flett et al., 2016; Sutton et al., 2011).

The results of analyses with the interpersonal hassles factors suggest that adolescents characterized by interpersonal personality vulnerabilities are prone to experience daily interpersonal hassles that likely amount to a constant source of strain. Both socially prescribed perfectionism and sociotropy were associated with more frequent hassles involving social mistreatment. Similarly, both personality factors were associated with the hassles factor representing unpopularity and loneliness but the association was stronger between sociotropy and unpopularity and loneliness. However, socially prescribed perfectionism and sociotropy had little association with romantic concerns hassles; the role of romantic hassles likely needs to be examined in a more refined way in future research by taking into account key variables such as relationship status. Finally, we also found there was a significant positive association between socially prescribed perfectionism and social alienation but this same association was not evident for sociotropy.

Overall, several conclusions can be drawn from the obtained pattern of correlations. For instance, it is evident that there are both similarities and differences between socially prescribed perfectionism and sociotropy and thus it is not surprising that these two factors are not highly correlated with each other even though they represent a more general overarching construct. Second, the associations found with the interpersonal hassles factors are in keeping with predictions from the perfectionism social disconnection model (Hewitt et al., 2017); as noted earlier, this model posits that the interpersonal perfectionism dimensions

are associated with a sense of alienation and isolation from other people. Our results suggest that a social disconnection model is also applicable to some degree to adolescents with elevated levels of sociotropy; for these individuals, the sense of being disconnected from others is at variance with their needs and desires to connect with other people in meaningful ways and this should be a source of disappointment and dejection for them that could result in socially avoidant actions and withdrawal.

Third, the links that exist between these personality factors and these interpersonal hassles must be interpreted within the context of the robust associations that were found between depression and the hassles factors tapping social mistreatment and unpopularity and loneliness. Our results suggest that daily stressors involving perceptions of being mistreated and being socially disengaged and perhaps even unpopular are factors that have a strong psychological impact on adolescents. Given the cross-sectional nature of our research, we cannot infer that these interpersonal hassles caused depression but it should still be the case that the frequent experience of these hassles likely contributes to the persistence and maintenance of symptoms of depression among adolescents.

One overarching implication that follows from this research is that adolescents who are characterized by high levels of socially prescribed perfectionism have very stressful existences. These young people must contend with the constant pressure that comes from incredible demands and expectations being placed on them, as well as the pressures associated with their own lofty goals. In addition, our results suggest that they are faced on a regular basis with a host of interpersonal hassles that can take quite an emotional and physical toll on them. Given the high level of stress that is involved, calls for the prevention of perfectionism in young people and proactive ways of dealing with stress seem warranted. Flett and Hewitt (2014) discussed why there is a need to prevent perfectionism and they outlined several themes that need to be addressed in order to achieve this goal. One suggestion focused on stress inoculation and stress management. The current results suggest that attempts to inoculate vulnerable students from stress and increase their levels of interpersonal resilience should emphasize developing coping and self-regulation when faced with specific stressors involving various forms of social mistreatment and situations involving a sense of being excluded and a lack of belongingness. Flett et al. (2014) also emphasized the need for perfectionistic children and adolescents to develop a sense of self-acceptance and self-compassion. Given our emphasis on building interpersonal resilience, it seems evident that perfectionistic adolescents should also benefit substantially from preventive interventions that promote being self-accepting and kind to oneself following adverse social experiences and outcomes (e.g., receiving negative social feedback for not living up to prescribed standards).

The current results suggest that it is essential to develop resilience in response to the daily experience of interpersonal hassles. The clearest illustration of the central role of interpersonal hassles in the current research was provided by the structural equation analyses that yielded that results indicating that interpersonal hassles act as a mediator of the link between interpersonal personality vulnerabilities and depression in adolescents. These findings provide support for stress-based conceptual models that link personality dimensions with depression (e.g., Hewitt & Flett, 2002).

Although it was not our primary focus, there were several indications of sex differences in our results. This is not surprising given the evidence cited earlier suggesting that adolescent girls are more likely than adolescent boys to experience depression. Our analyses revealed that girls were higher in depressive symptoms, and they also reported higher levels of trait sociotropy and higher levels of certain daily life hassles (i.e., romantic concerns and social mistreatment). There were no sex differences in levels of socially prescribed perfectionism in the current research, but this does not preclude the possibility that there are sex differences in the degree to which the pressures imposed on the self to be perfect relate to key aspects of self-definition and personal identity.

The current study yielded unique and novel insights into the interplay of personality vulnerabilities, interpersonal daily hassles, and depression in adolescents, but the limitations of the current research must be acknowledged. As noted earlier, this research was cross-sectional and longitudinal research is needed to gain additional insights into the temporal sequence between hassles and depression. A longitudinal study of adolescents that examines these personality traits, stress, and depression using an experience sampling approach with daily assessments would be quite revealing. Second, the current research was based entirely on self-report data and future research would be strengthened by the inclusion of informant reports. Third, it cannot be assumed that the current findings are specific to depression, and subsequent research should include additional measures of distress and emotional maladjustment (e.g., anxiety, anger) given that it is likely that these results apply more generally to a range of negative affective states. Finally, the current results are based on participants from a convenience sample and the generalizability of our findings needs to be examined in other samples of adolescents.

In summary, the current research confirmed that adolescents are more likely to report the experience of depressive symptoms if they are characterized by sociotropy and socially prescribed perfectionism and they have a daily life characterized by the frequent interpersonal hassles. These hassles seem particularly important as a focus for interventions given that these interpersonal hassles mediated the link between personality and depression and some of the most robust correlates of depression were interpersonal hassles reflecting social mistreatment and social disconnection. This research highlights the need to build resilience in the interpersonal domain so that adolescents will be able to withstand major life events in the social domain but also the pernicious daily interpersonal hassles that can undermine well-being on a constant basis.

## References

- Asseraf, M., & Vaillancourt, T. (2015). Longitudinal links between perfectionism and depression in children. *Journal of Abnormal Child Psychology*, *43*, 895-908. DOI: 10.1007/s10802-014-9947-9
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182. <http://dx.doi.org/10.1037/0022-3514.51.6.1173>
- Beck, A. T. (1983). Cognitive therapy of depression: New perspectives. In P. J. Clayton & J. E. Barrett (Eds.), *Treatment of depression: Old controversies and new approaches* (pp. 265-290). New York: Raven Press.

- Beck, A. T., Epstein, N., Harrison, R. P., & Emery, G. (1983). *Development of the Sociotropy-Autonomy Scale: A measure of personality factors in psychopathology*. Unpublished manuscript, University of Pennsylvania Medical School, Philadelphia.
- Bolger, N., DeLongis, A., Kessler, R. C., & Schilling, E. A. (1989). Effects of daily stress on mood. *Journal of Personality and Social Psychology*, *57*, 808-818. <http://dx.doi.org/10.1037/0022-3514.57.5.808>
- Calvete, E. (2011). Integrating sociotropy, negative inferences, and social stressors as explanations for development of depression in adolescence: Interactive and meditational mechanisms. *Cognitive Therapy and Research*, *35*, 477-490. DOI: 10.1007/s10608-010-9320-4
- Chang, E. C. (2002). Predicting suicide ideation in an adolescent population: Examining the role of social problem solving as a moderator and a mediator. *Personality and Individual Differences*, *32*, 1279-1291. [http://dx.doi.org/10.1016/S0191-8869\(01\)001118-0](http://dx.doi.org/10.1016/S0191-8869(01)001118-0)
- Dunkley, D. M., Mandel, T., & Ma, D. (2014). Perfectionism, neuroticism, and daily stress reactivity and coping effectiveness 6 months and 3 years later. *Journal of Counseling Psychology*, *61*, 616-633. <http://dx.doi.org/10.1037/cou0000036>
- Elgar, F. J., Arlett, C., & Groves, R. (2003). Stress, coping, and behavioral problems among rural and urban adolescents. *Journal of Adolescence*, *26*, 574-585. [http://dx.doi.org/10.1016/S0140-1971\(03\)00057-5](http://dx.doi.org/10.1016/S0140-1971(03)00057-5)
- Flett, G. L., Coulter, L-M., Hewitt, P. L., & Nepon, T. (2011). Perfectionism, rumination, worry, and depressive symptoms in early adolescents. *Canadian Journal of School Psychology*, *26*, 159-176. DOI:10.1177/082957: <http://cjs.s>
- Flett, G. L., Flett, A. L., & Wekerle, C. (2015) A conceptual analysis of interpersonal resilience as a key resilience domain: Understanding the ability to overcome child sexual abuse and other adverse interpersonal contexts. *International Journal of Child and Adolescent Resilience*, *3*, 4-33.
- Flett, G. L., & Hewitt, P. L. (2014). A proposed framework for preventing perfectionism and promoting resilience and mental health among vulnerable children and adolescents. *Psychology in the Schools*, *51*, 899-912. DOI: 10.1002/pits.21792
- Flett, G. L., Hewitt, P. L., Besser, A., Su, C., Vaillancourt, T., Boucher, D., Munro, Y., Davidson, L., & Gale, O. (2016). The Child-Adolescent Perfectionism Scale: Development, psychometric properties, and associations with stress, distress, and psychiatric symptoms. *Journal of Psychoeducational Assessment*, *34*, 634-652. DOI: 10.1177/0734282916651381
- Gariepy, G., & Elgar, F. J. (2016). Trends in psychological symptoms among Canadian adolescents from 2002 to 2014: Gender and socioeconomic differences. *Canadian Journal of Psychiatry*, *61*, 797-802. DOI: 10.1177/0706743716670130
- Hammen, C., & Rudolph, K. (2003). Childhood mood disorders. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (2nd ed., pp. 233-278). New York: Guilford.
- Hankin, B. L., & Abramson, L. Y. (1999). Development of gender differences in depression: Description and possible explanations. *Annals of Medicine*, *31*, 372-379. <http://dx.doi.org/10.3109/07853899908998794>
- Herres, J., Ewing, E. S., K., & Kobak, R. (2016). Emotional reactivity to negative adult and peer events and the maintenance of adolescent depressive symptoms: A daily diary design. *Journal of Abnormal Child Psychology*, *44*, 471-481. doi: 10.1007/s10802-015-0043-6
- Hewitt, P. L., Caelian, C. F., Chen, C., & Flett, G. L. (2014). Perfectionism, stress, daily hassles, hopelessness, and suicide potential in depressed psychiatric adolescents. *Journal of Psychopathology and Behavioral Assessment*, *36*, 663-674. DOI: 10.1007/s10862-014-9427-0
- Hewitt, P. L., Caelian, 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. [http://dx.doi.org/10.1016/S0191-8869\(01\)00109-X](http://dx.doi.org/10.1016/S0191-8869(01)00109-X)
- 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>
- Hewitt, P. L., & Flett, G. L. (2002). Perfectionism and stress in psychopathology. In G. L. Flett & P. L. Hewitt (Eds.), *Perfectionism: Theory, research, and treatment* (pp. 255–284). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10458-011>
- Hewitt, P. L., Flett, G. L., & Mikail, S. F. (2017). *Perfectionism: A relational approach to conceptualization, assessment, and treatment*. New York: Guilford.
- Hewitt, P. L., Flett, G. L., Sherry, S. B., & Caelian, C. F. (2006). Trait perfectionism dimensions and suicide behavior. In T. E. Ellis (Ed.), *Cognition and suicide: Theory, research, and therapy* (pp. 215–235). Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/11377-010>
- Joiner, T. E., & Timmons, K. A. (2009). Depression in its interpersonal context. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (2nd ed., pp. 322–339). New York: Guilford.
- Kanner, A. D., Feldman, S. S., Weinberger, D. A., & Ford, M. E. (1987). Uplifts, hassles, and adaptational outcomes in early adolescents. *Journal of Early Adolescence, 7*, 371–394.
- Kohn, P. M., Lafraniere, K., & Gurevich, M. (1990). The Inventory of college students; Recent life experiences: A decontaminated hassles scale for a special population. *Journal of Behavioral Medicine, 13*, 619–630. DOI: 10.1007/BF00844738
- Kohn, P. M., & Milrose, J. A. (1993). The Inventory of High-School Students' Recent Life Experiences: A decontaminated measure of adolescents' hassles. *Journal of Youth and Adolescence, 22*, 43–55. DOI: 10.1007/BF01537903
- Lai, J. C. L. (2009). Dispositional optimism buffers the impact of daily hassles on mental health in Chinese adolescents. *Personality and Individual Differences, 47*, 247–249. <http://dx.doi.org/10.1016/j.paid.2009.03.007>
- Lambert, S. F., Robinson, W. L., & Jalongo, N. S. (2014). The role of socially prescribed perfectionism in the link between perceived racial discrimination and African American adolescents' depressive symptoms. *Journal of Abnormal Child Psychology, 42*, 577–587. DOI: 10.1007/s10802-013-9814-0
- Landry, S. H., Smith, K. E., Swank, P. R., & Miller-Loncar, C. L. (2000). Early maternal and child influences on children's later independent cognitive and social functioning. *Child Development, 71*, 358–375. DOI: 10.1111/1467-8624.00150
- Little, S. A., & Garber, J. (2000). Interpersonal and achievement orientations and specific stressors predicting depressive and aggressive symptoms in children. *Cognitive Therapy and Research, 24*, 651–670. DOI: 10.1177/0743558403258121
- Marks, A. D. G., Sobanski, D. J., & Hine, D. W. (2010). Do dispositional rumination and/or mindfulness moderate the relationship between life hassles and psychological dysfunction in adolescents? *Australian and New Zealand Journal of Psychiatry, 44*, 831–838. doi: 10.3109/00048674.2010.487478
- Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics, 138*(6): e20161878. DOI: 10.1542/peds.2016-1878
- 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. *Behaviour Research and Therapy, 48*, 52–59. doi: 10.1016/j.brat.2009.09.008
- Pagel, M. D., Erdly, W. W., & Becker, J. (1987). Social networks: We get by with (and in spite of) a little help from our friends. *Journal of Personality and Social Psychology, 53*, 793–804. <http://dx.doi.org/10.1037/0022-3514.53.4.793>
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401. <http://dx.doi.org/10.1177/014662167700100306>
- Radloff, L. S. (1991). The use of the Center for Epidemiologic Studies Depression Scale in adolescents and young adults. *Journal of Youth and Adolescence, 20*, 149–166. DOI: 10.1007/BF01537606

- Roberts, R. E., Lewinsohn, P. M., & Seeley, J. R. (1991). Screening for adolescent depression: A comparison of depression scales. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 58-66. <http://dx.doi.org/10.1097/00004583-1999101000-00009>
- Robins, C. J., Ladd, J., Welkowitz, J., Blaney, P. H., Diaz, R., & Kutcher, G. (1994). The Personal Style Inventory: Preliminary validation studies of new measures of sociotropy and autonomy. *Journal of Psychopathology and Behavioral Assessment, 16*, 277-300. <http://dx.doi.org/10.1007/BF02239408>
- Roxborough, H., Hewitt, P. L., Kaldas, J., Flett, G. L., Caelian, C., Sherry, S., & Sherry, D. L. (2012). Perfectionistic self-presentation, socially prescribed perfectionism, and suicide in youth: A test of the perfectionism social disconnection model. *Suicide and Life-Threatening Behavior, 42*, 217-232. Doi: 10.1111/j.1943-278X.2012.00084.x
- Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology, 35*, 103-115. [http://dx.doi.org/10.1207/s15374424jccp3501\\_9](http://dx.doi.org/10.1207/s15374424jccp3501_9)
- Sutton, J. M., Mineka, S., Zinbarg, R. E., Craske, R. E., Griffith, J. W., Rose, R. D., Waters, A. M., Nazarian, M., & Mor, N. (2011). The relationships of personality and cognitive styles with self-reported symptoms of depression and anxiety. *Cognitive Therapy and Research, 35*, 381-393. DOI: 10.1007/s10608-010-9336-9
- Tolan, P., Miller, L., & Thomas, P. (1988). Perception and experience of types of social stress and self-image among adolescents. *Journal of Youth and Adolescence, 17*, 147-163. DOI: 10.1007/BF01537964
- Zinbarg, R. E., Mineka, S., Craske, M. G., Griffith, J. W., Sutton, J., Rose, R. D., Nazarian, M., Mor, N., & Waters, A. M. (2010). The Northwestern-UCLA youth emotion project: Associations of cognitive vulnerabilities, neuroticism, and gender with past diagnoses of emotional disorders in adolescents. *Behaviour Research and Therapy, 48*, 347-358. <http://dx.doi.org/10.1016/j.brat.2009.12.008>