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The Temporal Sequence of Social Anxiety and Depressive Symptoms following Interpersonal Stressors during Adolescence

Jessica L. Hamilton¹, Carrie M. Potter¹, Thomas M. Olin¹, Lyn Y. Abramson², Richard G. Heimberg¹, and Lauren B. Alloy¹

¹Department of Psychology, Weiss Hall, 1701 N. 13th St., Temple University

²Department of Psychology, 1202 West Johnson St., University of Wisconsin-Madison

Abstract

Social anxiety and depressive symptoms dramatically increase and frequently co-occur during adolescence. Although research indicates that general interpersonal stressors, peer victimization, and familial emotional maltreatment predict symptoms of social anxiety and depression, it remains unclear how these stressors contribute to the sequential development of these internalizing symptoms. Thus, the present study examined the sequential development of social anxiety and depressive symptoms following the occurrence of interpersonal stressors, peer victimization, and familial emotional maltreatment. Participants included 410 early adolescents (53% female; 51% African American; Mean age = 12.84 years) who completed measures of social anxiety and depressive symptoms at three time points (Times 1–3), as well as measures of general interpersonal stressors, peer victimization, and emotional maltreatment at Time 2. Path analyses revealed that interpersonal stressors, peer victimization, and emotional maltreatment predicted both depressive and social anxiety symptoms concurrently. However, depressive symptoms significantly mediated the pathway from interpersonal stressors, peer victimization, and familial emotional maltreatment to subsequent levels of social anxiety symptoms. In contrast, social anxiety did not mediate the relationship between these stressors and subsequent depressive symptoms. There was no evidence of sex or racial differences in these mediational pathways. Findings suggest that interpersonal stressors, including the particularly detrimental stressors of peer victimization and familial emotional maltreatment, may predict both depressive and social anxiety symptoms; however, adolescents who have more immediate depressogenic reactions may be at greater risk for later development of symptoms of social anxiety.

Keywords

social anxiety; depression; interpersonal stress; emotional maltreatment; peer victimization; adolescence

Adolescence is a crucial transitional period during which individuals are at elevated risk for depression and anxiety (Cummings, Caporino, & Kendall, 2014), particularly social anxiety (Epkins & Heckler, 2011). Symptoms of depression and social anxiety are especially important to examine during the early adolescent years, as these symptoms increase in frequency during this time (La Greca & Lopez, 1998), negatively impact adolescents' psychosocial functioning (Gotlib, Lewinsohn, & Seeley, 1995), and may be precursors to the onset of major depressive disorder and social anxiety disorder in later adolescence and adulthood (Letcher, Sansom, Smart, & Toumbourou, 2012; van Lang, Ferdinand, & Verhulst, 2007). Comorbidity between depression and social anxiety is common among youth (Epkins & Heckler, 2011) and is associated with greater symptom severity, suicidal thoughts and behaviors, academic and social difficulties, and poorer treatment outcomes (Garber & Weersing, 2010). Although research indicates that symptoms of social anxiety often precede depressive symptoms (Cummings et al., 2014), few published studies have evaluated the temporal sequencing of these symptoms following the occurrence of interpersonal stressors, which are potent risk factors for internalizing symptoms (Ge, Lorenz, Conger, Elder, & Simons, 1994). Understanding how interpersonal stressors contribute to the sequential development of social anxiety and depressive symptoms is crucial to further our knowledge of the etiological foundations of these disorders.

Theoretical Approach to the Development of Depression and Social Anxiety

Recently, Cummings and colleagues (2014) proposed the Multiple Pathways Model, which presents three pathways to explain the considerable overlap between depression and specific subtypes of anxiety. Pathway 1 describes youth with a primary vulnerability for anxiety, who then experience subsequent depression, Pathway 2 refers to youth with a shared diathesis for depression and anxiety who experience simultaneous development of these symptoms, and Pathway 3 is characterized by youth who have a primary vulnerability for depression and develop subsequent anxiety due to depressive impairment.

Most research to date provides evidence that social anxiety precedes depression (Pathway 1) at both the disorder and symptom levels (e.g., Cumming et al., 2014). Specifically, youth with social anxiety are more likely to exhibit poor social performance and deficits in social skills, which increase the risk for peer rejection, exclusion, and victimization (Gazelle & Ladd, 2003). These negative experiences may lead to hopelessness, poorer friendship quality, and lower self-esteem and self-worth, which contribute to depressive symptoms and subsequent disorder (Biggs, Nelson, & Sampilo, 2010). Further, social anxiety often results in avoidance of social situations, thereby increasing feelings of loneliness and social isolation (Gazelle & Ladd, 2003), which, in turn, increase the likelihood of depression (Prinstein & La Greca, 2002). In this sense, social anxiety may not directly cause depression, but impairment resulting from social anxiety may lead to greater depressive symptoms among youth.

Although most research has found support for social anxiety as a significant contributor to depression, there is some evidence and theory to suggest that interpersonal impairment resulting from depression also may lead to greater social anxiety among youth (Pathway 3; Cummings et al., 2014). Specifically, youth who exhibit greater depressive symptoms may

act in ways that elicit difficulties with their peers, such as engaging in excessive reassurance-seeking to reduce distress related to ruminating about social events (Joiner, Metalsky, Katz, & Beach, 1999). Depressive behaviors, such as starting conflicts or demonstrating hostility, also may elicit rejection by peers (Rudolph, 1994). These interpersonal impairments may lead youth to fear interacting with and being negatively evaluated by others (Slee, 1994), which may contribute to the development of social anxiety symptoms (Storch, Masia-Warner, Crisp, & Klein, 2005).

Indeed, a recent study by McLaughlin and King (2015) evaluating trajectories of depression and subtypes of anxiety, including social anxiety, found evidence for Pathway 1, such that elevations of social anxiety symptoms predicted future elevations in depressive symptom trajectories in a community sample of early adolescents. Interestingly, although McLaughlin and King (2015) did not find direct support for Pathway 3, results indicated that higher levels of depressive symptoms predicted slower declines in social anxiety symptoms over time (related to Pathway 3). These findings suggest that the relationship between depression and social anxiety is complex, and that empirical study of these proposed pathways is needed to further delineate the relationship between social anxiety and depression. In the final remarks of both the McLaughlin and King (2015) study and the Cummings and colleagues' review (2014), the authors conclude that further examination of the development of and transition between social anxiety and depression among early adolescents is needed, particularly in relation to shared interpersonal risk factors.

Interpersonal Stressors as Risk Factors for Social Anxiety and Depression

Although these theories may better facilitate our understanding of the transition from social anxiety to depression (Pathway 1) or depression to social anxiety (Pathway 3), they fail to account for the role of interpersonal stressors. Most studies that have considered interpersonal factors in the relationship between depression and social anxiety have largely considered interpersonal dysfunction as a consequence of social anxiety that contributes to depression (or vice versa). For instance, several studies have examined interpersonal dysfunction, such as low sociability, dependency, and unassertiveness, as potential mediators of the transition from social anxiety to depression (e.g., Starr, Hammen, Connolly, & Brennan, 2014; Grant, Beck, Farrow, & Davila, 2007). In addition, chronic social stressors have been found to mediate the relationship between social anxiety and later depression in the Starr et al. (2014) longitudinal study of adolescents. These studies suggest depression and anxiety contribute to interpersonal dysfunction, which heightens the risk for subsequent disorder, particularly in the transition from social anxiety to depression. However, fewer studies have conceptualized interpersonal stressors, and specific subtypes of these stressors, as antecedents that may influence the longitudinal development of these symptoms, rather than just consequences of social anxiety and depression. Thus, it remains unclear whether the occurrence of certain interpersonal stressors may differentially confer risk for the longitudinal development of social anxiety and depressive symptoms. Specifically, it is possible that interpersonal stressors, and specific types of stressors, may serve as shared risk factors for both social anxiety and depressive symptoms and subsequent disorder (Pathway 2), contribute to the development of social anxiety (which confers risk for depression; Pathway 1), or lead to depressive symptoms (which then lead to social anxiety;

Pathway 3). To effectively intervene with adolescents who have experienced these stressors and prevent the development of future internalizing disorders, it is crucial to further our understanding of the temporal sequencing of social anxiety and depressive symptoms following these interpersonal stressors.

Considerable research has indicated that interpersonal stressors and the impact of these stressors dramatically increase during the adolescent years, particularly among girls (Burnett, Sebastian, Kadosh, & Blakemore, 2011; Ge et al., 1994; Larson & Ham, 1993). Given the increasing salience of interpersonal relationships during adolescence (Furman & Buhrmester, 1992), disruptions in interpersonal relationships may be especially damaging during this time. In particular, peer relationships assume newfound importance during adolescence. As adolescents navigate the transition from elementary to middle school and subsequent reorganization of social networks, their concerns about social status and popularity increase (Brown & Larson, 2009). Consequently, events that threaten an adolescent's status within the peer group or damage his/her self-esteem may result in symptoms of social anxiety or depression. Consistent with this notion, a body of evidence indicates that victimization by peers during adolescence constitutes a significant risk factor for internalizing symptoms and disorders (Reijntjes, Kamphuis, Prinzie, & Telch, 2010). In contrast to overt victimization (i.e., physical threat or harm), relational victimization, which is characterized by social exclusion, gossiping, and reputational threat, increases during the middle school transition (Nylund, Bellmore, Nishina, & Graham, 2007) and may be particularly likely to lead to depressive and anxiety symptoms. Indeed, numerous studies indicate that relational peer victimization is concurrently and longitudinally associated with increases in depressive and social anxiety symptoms (e.g., Desjardins & Leadbeater, 2011; Siegel, La Greca, & Harrison, 2009), and is more strongly associated with internalizing symptoms than is overt victimization (Prinstein, Boergers, & Vernberg, 2001).

Despite the increasing emphasis on peers during adolescence, familial relationships continue to maintain influence and importance. Although heightened parent-child conflict is normative during adolescence (Laursen, Coy, & Collins, 1998), familial emotional abuse (i.e., verbal assaults on adolescents' self-worth) and emotional neglect (i.e., emotional unresponsiveness) are significant interpersonal stressors that may be particularly damaging as adolescents navigate this challenging period. Although childhood emotional maltreatment has received substantial attention in the literature as a predictor of depression and social anxiety among youth and adults (e.g., Gibb & Abela, 2008; Kuo, Goldin, Werner, Heimberg, & Gross, 2011), fewer studies have evaluated the effects of emotional abuse and neglect during early adolescence, which is a period in which individuals are particularly vulnerable to interpersonal stressors and rejection (Casey, Jones, & Hare, 2008; Casey et al., 2010). And, there have been no studies examining the influence of emotional maltreatment on the longitudinal development of social anxiety and depressive symptoms. Although these studies lend support for the role of emotional maltreatment and peer victimization in predicting social anxiety and depressive symptoms, the potential influence of emotional maltreatment and peer victimization on the sequential development of social anxiety and depressive symptoms remains unclear.

Integrated Framework: How do interpersonal stressors influence the sequential development of social anxiety and depressive symptoms?

Overall, prior studies indicate that interpersonal stressors, especially specific stressors such as relational peer victimization and familial emotional maltreatment, may be shared risk factors for both depressive and social anxiety symptoms during early adolescence. However, no known study has evaluated the multiple pathways model in relation to a shared risk factor, such as interpersonal stressors, for social anxiety and depressive symptoms in a longitudinal design. Thus, the goal of the present study was to extend past research and empirically test Pathways 1, 2, and 3 of the multiple pathways model in the context of interpersonal stressors (Cummings et al., 2014). Specifically, we sought to determine whether interpersonal stressors serve as risk factors for both social anxiety and depressive symptoms (Pathway 2), first social anxiety and then depression (Pathway 1), or for depression, which leads to social anxiety (Pathway 3). Given research suggesting that peer-related difficulties may be more closely related to social anxiety, whereas family-related difficulties may be more associated with depression (for a review, see Epkins & Heckler, 2011; Starr & Davila, 2008), we sought to evaluate the sequential development of symptoms following peer victimization and familial emotional abuse and neglect. In this sense, different types of stressors may elicit different types of immediate emotional responses that increase the risk for longer-term development of social anxiety or depressive symptoms, which may be distinct from more traditional conceptions of the social anxiety and depression transition. However, as previously noted, there is a dearth of literature considering the role of interpersonal stressors, including relational peer victimization and emotional maltreatment, in the longitudinal development of depression and social anxiety.

Given the abundance of research indicating that social anxiety may develop earlier than depression among adolescents, it is plausible that interpersonal stressors more generally, and relational victimization in particular, may initially lead to symptoms of social anxiety. Specifically, adolescents may initially become nervous or fearful of interacting with others for fear of repeated conflict, rejection, victimization, or abusive interactions, which over time, may lead to a number of maladaptive cognitions or behaviors, such as social withdrawal or feelings of hopelessness (Schneider, 2009), that contribute to subsequent depressive symptoms (Pathway 1). However, it is also possible that interpersonal stressors may be a risk factor for depression, particularly among youth who have lower levels of social anxiety and depressive symptoms. For example, certain interpersonal stressors, and particularly experiences of maltreatment by parents, may first elicit a depressive response, such as sadness, anhedonia, and withdrawal (Gibb, 2002; Gibb, Chelminski, & Zimmerman, 2007). These depressive symptoms may increase withdrawal, thereby limiting social interactions with peers and potentially increasing subsequent levels of social anxiety (Pathway 3). Alternatively, interpersonal stressors, peer victimization, and emotional maltreatment may contribute to the development of both social anxiety and depressive symptoms in youth (Pathway 2).

Exploring Sex and Racial Differences in Social Anxiety and Depression

Importantly, the relationships between stressors in the interpersonal domain, social anxiety, and depression may be different for adolescent girls and boys. Given that the sex difference in depressive and social anxiety symptoms emerges during adolescence, with girls becoming significantly more likely to experience depressive symptoms and social anxiety than boys (Hankin et al., 1998), it is important to consider how stressors may differentially influence adolescent girls versus boys. Specifically, girls have been found to experience more interpersonal stressors during adolescence (Ge et al., 1994), particularly relational peer victimization (Prinstein et al., 2001). Further, girls have been found to be more reactive to the occurrence of interpersonal stressors (Hankin, Mermelstein, & Roesch, 2007; Rudolph, 2002) and peer victimization than boys when they do occur (Prinstein et al., 2001), and view peer victimization as more harmful than boys (Pacquette & Underwood, 1999). Given girls' greater reliance on peers for social support and self-esteem (Rose & Rudolph, 2006), it is possible that girls may be particularly likely to experience social anxiety and depressive symptoms following the occurrence of these stressors. Further, girls and boys may have different responses to these stressors when they do occur, such that adolescent girls may be more likely to have symptoms of social anxiety (or depression) than boys, which may be more likely to lead to subsequent symptoms. Thus, research is needed to evaluate sex differences in the longitudinal development of depression and social anxiety symptoms.

In addition, given the large racially-diverse sample of the present study, we have a unique opportunity to evaluate whether the sequential development of social anxiety and depressive symptoms differs for African American and Caucasian adolescents. Most studies on the development of social anxiety and depressive symptoms largely have relied on predominantly Caucasian and middle-class participants. However, given that the United States is increasingly becoming a more heterogeneous population, it is important to consider the potential for race or ethnicity to influence how individuals respond to stressors, including more general interpersonal stressors and specific types of interpersonal stressors, such as peer victimization and familial emotional maltreatment.

The Present Study

The goals of the present study were to build and expand upon previous research to examine the relationship between interpersonal stressors, depressive symptoms, and social anxiety symptoms during early adolescence. First, we evaluated the role of general interpersonal stressors, relational peer victimization, and familial emotional abuse and neglect in the temporal development of social anxiety and depressive symptoms during adolescence. We sought to empirically evaluate the multiple pathways model in relation to interpersonal risk factors for social anxiety and depression. Given the plethora of research documenting that social anxiety typically precedes depression (Cummings et al., 2014), it was hypothesized that interpersonal stressors more generally, and specifically relational peer victimization, would lead to social anxiety, which, in turn, would lead to higher prospective levels of depressive symptoms at Time 3 (Pathway 1). However, given that familial stressors have been found to be more associated with depression (Starr & Davila, 2008), we expected that familial emotional maltreatment would contribute first to depressive symptoms and then to

subsequent social anxiety symptoms (Pathway 3). Further, we expected all stressors would contribute to the development of both social anxiety and depression among youth (Pathway 2). Second, we evaluated whether sex or race would moderate the relationships between stress and symptoms of social anxiety and depression. We expected the mediational pathway to be stronger for adolescent girls than adolescent boys. Given the exploratory nature of research on racial differences, we did not develop a priori hypotheses regarding the race moderations.

Method

Sample Recruitment

As part of the Adolescent Cognition and Emotion Project, a longitudinal study investigating the emergence of depressive and anxiety disorders in adolescence, adolescents were recruited from Philadelphia-area public and private middle schools. Caucasian and African-American adolescents, who were 12- or 13- years old, were recruited through school mailings and follow-up phone calls inviting them to participate (approximately 68% of the sample) and through advertisements placed in Philadelphia-area newspapers (approximately 32% of the sample). To be eligible for inclusion in the study, participants had to be 12 or 13 years old, self-identify as Caucasian/White, African-American/Black, or Biracial (Hispanic adolescents were eligible if they also identified as White or Black), and have a primary female caregiver willing to participate in the study.¹ Participants were excluded from the study if they did not have a primary female caregiver willing to participate, and if the primary female caregiver or adolescent were unable to complete the study assessments for any reason, such as psychosis, mental retardation, severe developmental disorder, severe learning disability, and the inability to read or speak English or for any other reason (see Alloy et al., 2012, for further details regarding recruitment).

Study Sample

The sample for the current study consisted of 410 adolescents (Mean age = 12.84, $SD = 0.61$) who completed the baseline assessment (Time 1) and two follow-up assessments (Times 2 and 3). The study sample was 51% African-American and 53% female, with 48% of participants eligible for subsidized lunch. There was wide variability in terms of annual family income, with 24% of participants falling below \$30,000, 33% falling between \$30,000 - \$59,999, 20% falling between \$60,000 - \$89,999, and 23% falling above \$90,000. Overall, the sample included in the study is largely representative of the nearly 40 schools from which potential participants were recruited. In terms of socioeconomic status, participating schools ranged from having 13.7 – 70.2% of students eligible for subsidized lunch, with an average across schools of approximately 51%. In terms of race and sex, the student body at these schools ranged from 1% African American to 95% (Mean = 34%) and ranged from 40 – 56.9% female (Mean = 48% female). Further, approximately 14% of those

¹One of the goals of the larger longitudinal study was to examine potential racial differences in the emergence of depressive and anxiety disorders during adolescence. For this purpose, only adolescents who self-identified as African American or Caucasian were included in the larger study. Further, maternal psychopathology has been linked to the development of depression in their offspring (Goodman et al., 2011). Thus, mothers were selected to participate in this longitudinal study to examine all variables of interest related to the larger longitudinal study goals.

who received a recruitment letter agreed to participate and 6.8% met the study inclusion and exclusion criteria and participated in the present study. Adolescent participants did not differ on age, sex, or proportion eligible for free lunch at school from the entire population of potentially eligible participants who received recruitment mailings. However, the study sample had a larger proportion of African-American adolescents (56%) than the population of individuals who received recruitment mailings (31.9%) because of the larger study goals.

Of the original 410 adolescents who completed the Time 1 assessment, 386 (94%) completed a Time 2 assessment and 327 (80%) completed a Time 3 assessment. Analyses comparing adolescents with and without longitudinal data revealed no evidence of significant differences or attrition bias on any other demographic characteristics or study variables for adolescents who completed assessments at Time 1, but not Times 2 and 3, or those who participated at Times 1 and 2, but not Time 3. The current analyses were conducted using the full sample of 410 adolescents, because list-wise deletion would have unnecessarily omitted data. However, results were replicated when conducted using participants with complete data.

Procedures

Adolescents participated in three assessments, each spaced approximately 9 months apart (Time 1 – Time 2: $M = 284.01$ days; $SD = 96.68$ days; Time 2 – Time 3: $M = 289.01$ days; $SD = 136.28$ days). At Time 1, adolescents completed questionnaires evaluating current depressive and social anxiety symptoms. At the Time 2 assessment, adolescents completed questionnaires assessing general interpersonal stressors, relational peer victimization, and familial emotional abuse/neglect that occurred between the Time 1 and Time 2 assessments. At Times 2 and 3, adolescents completed self-report questionnaires assessing current symptoms of depression and social anxiety.

Measures

Depressive Symptoms—The Children’s Depression Inventory (CDI; Kovacs, 1985) is a 27-item questionnaire that assesses symptoms of depression in youth ages 7–17 over the past 2 weeks. Each item is rated on a 0 to 2 scale and total scores range from 0 to 54, with higher scores indicating more depressive symptoms. The CDI has demonstrated good reliability and validity (Klein, Dougherty, & Olino, 2005), as well as discriminant validity of depression versus anxiety (Timbremont, Braet, & Dreessen, 2004). In the present study, the internal consistency (Cronbach’s alpha) of the CDI ranged from .85 – .87 at Times 1–3.

Social Anxiety Symptoms—The Multidimensional Anxiety Scale for Children (MASC; March, Parker, Sullivan, Stallings, & Conners, 1997) is a 39-item self-report questionnaire assessing anxiety symptoms over the past 2 weeks in youth. It includes 12 items of physical symptoms (“My heart races or skips beats.”), 9 items of social anxiety (“I worry about other people laughing at me”), 9 items of harm avoidance or generalized anxiety (“I check to make sure things are safe”), and 9 items of separation anxiety (“I avoid going to places without my family”). Adolescents responded to each item on 4-point Likert scales with response options of *never*, *rarely*, *sometimes*, or *often*. Higher scores on each subscale indicate greater symptom levels. Subscales of the MASC have reliably differentiated youth

with different anxiety disorders (Villabø, Gere, Torgersen, March, & Kendall, 2012). Based on past research indicating relational peer victimization is strongly associated with social anxiety (Siegel et al., 2009) and the significant comorbidity between social anxiety and depression (Epkins & Heckler, 2011), the current study focused on the MASC social anxiety subscale (MASC-SA). However, we also included the total MASC score to test the specificity of our hypotheses to social anxiety versus general anxiety. The MASC and MASC-SA have been demonstrated to have excellent retest reliability, internal consistency, and good convergent and discriminant validity (March et al., 1997). Importantly, several studies have demonstrated that the MASC-SA is highly correlated with measures of depression, such as the CDI, which is not surprising given the considerable overlap between depression and anxiety (Anderson, Jordan, Smith, & Inderbitzen-Nolan, 2009; Muris, Merckelbach, Ollendick, King, & Bogie, 2002; Rynn et al., 2006). However, these studies have found that the CDI taps more into somatic symptoms of anxiety, and the MASC-SA shows considerably higher convergent validity with other measures and diagnostic interviews of social anxiety (Anderson et al., 2009). The internal consistency of the MASC-SA ranged between .83 –.85 at Times 1–3.

Interpersonal Stressors—The Adolescent Life Events Questionnaire (ALEQ; Hankin & Abramson, 2002) is a 63-item self-report questionnaire that asks adolescents about the perceived occurrence of negative or stressful events that occurred since the participant’s Time 1 assessment. Following completion of the ALEQ, trained interviewers conduct the Life Events Interview (LEI; Safford, Alloy, Abramson, & Crossfield, 2007) with the adolescents to determine whether events endorsed on the ALEQ by adolescents met a priori definitional criteria and occurred during the outlined time period (since their Time 1 assessment). Interviewers used a priori probes specific to each event to aid in determining event eligibility, thus reducing the potential for reporter bias, particularly related to depressive interpretation bias.

All events were categorized as primarily interpersonal or achievement events, resulting in a total of 47 events that were interpersonal (“You had an argument or fight with a friend”; “A close family member(s) (parent, brother, sister) was hospitalized for a serious injury/illness”; “You found out that your boyfriend/girlfriend has been cheating on you”) and 10 events that were achievement (“You did not understand the material the teacher was teaching you”; “You did poorly on, or failed, a test or class project”). In the present study, only interpersonal events were included. All qualifying events based on the LEI were totaled, with higher scores indicating more exposure to interpersonal stressors. The ALEQ and LEI have demonstrated excellent reliability and validity (e.g., Hankin & Abramson, 2002; Safford et al., 2007).

Relational Peer Victimization—The Social Experience Questionnaire - Self Report (SEQ-S; Crick & Grotpeter, 1996) measures youths’ reports of being the target of perceived victimization by one’s peers. In the present study, adolescents were asked to report at Time 2 the extent to which victimization had occurred since the Time 1 assessment (“Below are some things that sometimes happen to teenagers. Please tell us how often, if ever, each event happened to you since [Insert date of Time 1 interview]. Although the original SEQ-S

consists of three subscales (relational peer victimization, overt peer victimization, and prosocial peer behavior), only the relational victimization subscale was included in the larger, longitudinal study and thus, utilized in the present study. This subscale includes six items that assess social exclusion (e.g. “other teens left you out”), as well as gossiping and reputational threat (e.g. “other teens told lies about you to make other teens not like you anymore). Items are rated on a 5-point Likert scale, ranging from 0 (*Never*) to 5 (*daily or almost daily*), with higher scores indicating more frequent occurrences of relational peer victimization. The SEQ-S has demonstrated favorable psychometric properties, including reliability and validity, in previous studies (Crick & Grotpeter, 1996). The internal consistency in the current sample was $\alpha = .85$.

Emotional Abuse and Neglect—The emotional abuse (EA) and emotional neglect (EN) subscales of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003) were used in the current study to measure adolescents’ reports of perceived familial emotional abuse (“People in my family called me things like ‘stupid,’ ‘lazy,’ or ‘ugly’”) and emotional neglect (“My family was a source of strength and support”) that occurred since the Time 1 assessment. Each subscale consists of 5 items, with each item rated on a 5-point Likert scale (1 = *Never true*, 5 = *Very often true*) and items on the emotional neglect subscale were reverse coded. The total score of each subscale was used in the current study, with higher scores indicating greater experiences of emotional abuse or neglect. The CTQ-EA and CTQ-EN have excellent reliability and validity (Bernstein et al., 2003). Internal consistencies in this sample were adequate ($\alpha = .73$ for emotional abuse; $\alpha = .76$ for emotional neglect).

Results

Descriptive Analyses

Table 1 reports bivariate correlations and descriptive statistics for all primary study variables. As expected, all stressors (general interpersonal stressors, relational peer victimization, emotional neglect, and emotional abuse) were significantly correlated with each other, as well as with symptoms of social anxiety and depression at Times 1, 2 and 3. Further, Time 1 symptoms of depression and social anxiety were positively correlated with Time 2 and 3 social anxiety and depressive symptoms, and Time 2 social anxiety and depression symptoms were positively correlated with Time 3 social anxiety and depressive symptoms. The means in this study for emotional abuse and neglect were similar to those found in other community samples (Baker & Festinger, 2011; Gibb & Abela, 2008). In addition, approximately 46% of our sample reported one or more occurrences of relational victimization and 35% experienced more than one act of relational peer victimization, which is consistent with studies of relational victimization in early adolescents (e.g., Sullivan, Farrell, & Kliewer, 2006).

Mediational Analyses

To investigate the temporal development of depressive and social anxiety symptoms following interpersonal stressors, we conducted path analyses using Mplus 7.0 with full information maximum likelihood estimation and bootstrapping to examine study hypotheses (Muthén & Muthén, 2007). The nonparametric bootstrapping procedure approximates the

sampling distribution of a statistic from the available data and is recommended for tests of mediation (MacKinnon, Lockwood, & Williams, 2004). Bias-corrected confidence intervals of indirect effects were obtained using 1,000 resamples (Hayes, 2009). This method allowed parameters to be estimated for all 410 participants, including those without complete data at all assessments. For all analyses, Time 1 depressive and social anxiety symptoms served as covariates and paths to stressors and symptoms of depression and social anxiety at Times 2 and 3 were included. All symptoms at the same assessment were allowed to covary. We examined each type of stressor (interpersonal stressors, peer victimization, emotional abuse, and emotional neglect) separately in the temporal development of social anxiety and depressive symptoms at Times 2 and 3. Thus, four initial sets of path analyses were conducted, and all paths between stressors and symptoms were modeled.² All models had satisfactory fit according to the Comparative Fit Index (CFI; with values > .95), the standardized root mean square residual (SRMR; with values < .05), and the root mean square error of approximation (RMSEA; with values < .07). For clarity of summarizing the results, models are presented in Figures 1–4.

Figures 1 – 4 display the standardized path coefficients between study variables. As expected, for all of the models, depressive symptoms at each time point significantly predicted depressive symptoms at the following time point, and social anxiety at each time point significantly predicted social anxiety symptoms at the next time point. Further, symptoms of social anxiety and depression at Times 1 and 2 were positively correlated with each other. In contrast to hypotheses, social anxiety at Time 1 and Time 2 did not predict depressive symptoms at the following time point when co-occurring social anxiety and the stressor of interest were included. However, depressive symptoms at Time 2 predicted subsequent levels of social anxiety (Time 3). Further, Time 1 depressive symptoms did not predict social anxiety at Time 2 or Time 3 (not presented in the figures for clarity), and Time 1 social anxiety did not predict depression at Times 2 or 3 in all models. Interestingly, however, Time 1 depression predicted lower levels of social anxiety at Time 2, when Time 1 social anxiety and peer victimization were included in the model.

Overall, we found a similar pattern of results for all stressors in regard to their relationships with symptoms at each time point and the temporal development of social anxiety and depressive symptoms across Times 1, 2, and 3. Thus, all results are described together, and stress-specific standardized path coefficients are presented in Figures 1–4. First, Time 1 depression, but not Time 1 social anxiety significantly predicted interpersonal stressors (Figure 1), peer victimization (Figure 2), emotional abuse (Figure 3), and emotional neglect (Figure 4). In addition, interpersonal stressors, peer victimization, and emotional abuse each predicted Time 2 social anxiety and Time 2 depressive symptoms, but did not predict Time 3 social anxiety or depressive symptoms after taking into account Time 2 symptoms. Interestingly, emotional neglect predicted Time 2 depressive symptoms, but did not predict Time 2 social anxiety symptoms. Thus, in relation to our hypotheses, each stressor predicted depressive symptoms at Time 2, and Time 2 depressive symptoms predicted subsequent levels of depressive symptoms at Time 3. Similarly, each stressor (with the exception of

²The CDI variables exhibited significant skew. Therefore, the analyses also were conducted using the transformed variable. Results exhibited a similar pattern of findings. Thus, the original results are reported for ease of interpretability.

emotional neglect) predicted social anxiety symptoms at Time 2, and Time 2 social anxiety symptoms predicted subsequent levels of Time 3 social anxiety symptoms, thereby providing support for Pathway 2. Specifically, interpersonal stressors, peer victimization and emotional abuse conferred risk for both depression and social anxiety, which contributed to further depression and social anxiety symptoms. However, emotional neglect only predicted depressive symptoms, which in turn, predicted greater subsequent depressive symptoms.

In contrast to our hypothesized pathway 1, our bootstrapping mediational analyses revealed that there was not an indirect effect from each stressor to Time 3 depressive symptoms via Time 2 social anxiety symptoms. Results for each stressor are as follows: interpersonal stressors ($B = -.01$, $SE = .01$, 95% CI $[-.04, .02]$, $p = .47$), peer victimization ($\beta = -.02$, $SE = .02$, 95% CI $[-.10, .03]$, $p = .30$), emotional abuse ($\beta = -.01$, $SE = .01$, 95% CI $[-.04, .03]$, $p = .39$), and emotional neglect ($\beta < -.01$, $SE < .01$, 95% CI $[-.02, .01]$, $p = .70$). Simply stated, stressors did not predict Time 3 depression through Time 2 social anxiety, which would be consistent with a mediational model in which social anxiety mediated the relationship between each stressor and subsequent depression (pathway 1).

In addition, mediational pathways indicated that interpersonal stressors, peer victimization, emotional abuse and neglect significantly predicted Time 2 depressive symptoms, which, in turn, predicted Time 3 social anxiety symptoms. Further, there was evidence of a significant indirect effect of each stressor on Time 3 social anxiety via Time 2 depressive symptoms (Figures 1–4; interpersonal stressors ($B = .10$, $SE = .04$, 95% CI $[.03, .17]$, $p < .01$), peer victimization ($\beta = .09$, $SE = .03$, 95% CI $[.04, .14]$, $p < .001$), emotional abuse ($\beta = .10$, $SE = .03$, 95% CI $[.05, .29]$, $p < .01$), and emotional neglect ($\beta = .09$, $SE = .03$, 95% CI $[.04, .14]$, $p < .001$). These findings support Pathway 3 of the multiple pathways model. Specifically, our results indicate that higher levels of these stressors were associated with greater initial depressive symptoms, which, in turn, prospectively predicted higher levels of social anxiety symptoms.

Overall, the squared multiple correlation (R^2) indicated that the models accounted for 36–39% of the variance in Time 2 depressive symptoms and 50–51% of the variance in Time 3 depressive symptoms; 23–33% of the variance in Time 2 and Time 3 social anxiety symptoms was accounted for by the models with interpersonal stressors and emotional maltreatment. However, nearly 70% of Time 3 social anxiety was accounted for by the model variables in the peer victimization model, which suggests that peer victimization specifically accounts for greater variance in the social anxiety outcomes.³

Sex and Racial Differences in Mediational Pathways—Analyses also were conducted to determine whether primary study variables varied by sex. There were sex differences in depressive symptoms at each time point, with girls demonstrating greater depressive symptoms than boys at Time 1 ($t = 2.04$, $p < .05$), Time 2 ($t = 2.47$, $p = .01$), and

³Following reviewer suggestions to examine the specificity of our findings to social anxiety versus more general anxiety, we also examined the MASC Total score in relation to our hypotheses. Our results yielded a similar pattern of results for all analyses, which indicates that the pattern of results were not unique to social anxiety, but also occurred with general anxiety as well. However, given that the MASC total is comprised of the social anxiety subscale as well, it is difficult to draw firm conclusions regarding the contribution of social versus general anxiety. Therefore, future research is needed to replicate these findings with distinct measures of social and general anxiety to determine specificity versus unique relationships with these stressors and depression.

Time 3 ($t = 3.13, p < .01$). Girls also displayed more social anxiety symptoms than boys at Time 1 ($t = 2.84, p < .01$) and Time 2 ($t = 3.39, p < .01$). In addition, girls also experienced significantly more interpersonal stressors ($t = 3.20, p < .01$), peer victimization ($t = 2.96, p < .01$), and emotional abuse ($t = 2.20, p = .03$) than boys.

Second, sex and race were separately examined as moderators of the proposed mediational pathways using multi-group comparison analyses. The paths in each of the four mediational models were constrained to be equal for both girls and boys, and each path was then individually unconstrained. Further, the paths in each of the four mediational models were constrained to be equal for both African American and Caucasian adolescents, and each path was then individually unconstrained. Examination of the differences on the chi-square tests between the constrained and unconstrained models for all four mediational analyses revealed that there were no significant differences across sex ($\chi^2(16) < 26.30$ for all analyses) and race ($\chi^2(16) < 26.30$ for all analyses).

Discussion

Given the high rates of co-occurrence between social anxiety and depression at both the disorder and symptom levels (for a review, see Epkins & Heckler, 2011), the temporal development of social anxiety and depression has received considerable attention in both research and theory. Recently, Cummings and colleagues (2014) proposed the multiple pathways model to explain different ways in which social anxiety and depressive symptoms may develop. The present study empirically tested Pathway 1 (social anxiety preceding depression), Pathway 2 (social anxiety and depression develop together), and Pathway 3 (depression preceding social anxiety) of the multiple pathways model. However, our study extended the proposed models by evaluating the multiple pathways model following the occurrence of perceived interpersonal stressors, and specific types of stressors known to confer risk, at the symptom-level among a community sample of adolescents.

Consistent with hypotheses, our results provided support for Pathway 2, indicating that general interpersonal stressors, familial emotional maltreatment, and peer relational victimization contribute to the co-occurrence of social anxiety and depressive symptoms. Our findings that interpersonal stressors, peer victimization, and familial emotional maltreatment predicted both social anxiety and depressive symptoms are consistent with research demonstrating that they are indeed shared risk factors for both types of internalizing symptoms (e.g., Gibb & Abela, 2008; Reijntjes et al., 2010). However, our study moved beyond prior research by examining the longitudinal development of these symptoms following the occurrence of perceived interpersonal stressors and initial symptom responses. Although our study did not examine the co-occurrence of depression and social anxiety symptoms at the individual-level, our results indicate that these stressors contribute to the development of both social anxiety and depression among individuals at a group-level and that these symptoms confer risk for later symptomatology. In addition, our findings indicate that depressive symptoms were the strongest predictors of subsequent levels of depressive symptoms and that social anxiety symptoms strongly predicted later social anxiety symptoms, which is consistent with prior research indicating that depression and social anxiety are related, but distinct symptoms (Keenan, Feng, Hipwell, & Klostermann, 2009).

Specifically, there were high correlations between depression symptoms and moderate correlations between social anxiety symptoms at subsequent time points, which suggest stability of symptoms over time. This is consistent with prior research demonstrating comparable stability of symptoms during adolescence (e.g., Cole, Peeke, Martin, Truglio, & Seroczynski, 1998). These findings do not necessarily suggest that there is no individual change in symptoms over time, but rather that individuals with greater symptoms at one time may continue to be at comparably greater risk for these symptoms than other individuals in the sample at subsequent assessments. Regardless, these findings suggest that these interpersonal stressors confer risk for depression, which continues to predict depression, and social anxiety, which continues to predict social anxiety, which is consistent with the notion that these stressors are shared risk factors for the longitudinal development of both social anxiety and depression.

Contrary to hypotheses in relation to general interpersonal stressors and peer victimization, our results did not provide evidence for Pathway 1 of the multiple pathways models. That is, social anxiety did not mediate the relationship between perceived interpersonal stressors or peer victimization and subsequent levels of depressive symptoms during early adolescence. Instead, our results indicate that higher levels of these stressors, and familial emotional maltreatment, were associated with greater initial depressive symptoms, which, in turn, prospectively predicted higher levels of social anxiety symptoms (Pathway 3). Our findings in support of Pathway 3, in which interpersonal stressors lead to depressive symptoms followed by social anxiety symptoms, add to the considerable body of research and theory examining the temporal sequence of depression and social anxiety. Although prior studies have found that social anxiety typically precedes depression at both the symptom and diagnostic levels (e.g., Cummings et al., 2014), our findings offer a unique pathway through which some youth may first experience depressive symptoms, which also transition into symptoms of social anxiety. Specifically, our findings suggest that some early adolescents may initially exhibit higher levels of depressive symptoms following the occurrence of these perceived interpersonal stressors, but later experience higher subsequent levels of social anxiety symptoms. It is also possible that youth who experience depressive symptoms immediately following these stressors may be at greater risk for the development of comorbid depression and social anxiety, which is associated with greater social and functional impairment (e.g., Garber & Weersing, 2010). Thus, our findings suggest that stressors in the interpersonal domain, including more severe types, such as peer victimization and familial emotional maltreatment, may first have depressogenic effects for some youth, which place these early adolescents at risk for subsequent levels of social anxiety.

Although we did not expect symptoms of depression to precede those of social anxiety following all types of interpersonal stressors, there are several possible ways in which depressive symptoms may lead to subsequent levels of social anxiety following the occurrence of perceived stressors. First, some of the information-processing biases underlying depression also have been associated with social anxiety, such as negative interpretation of social cues, rumination, or contingent self-worth (i.e., reliance on feedback from external sources to determine self-worth; Ghaul, Niwa, & Boxer, 2013), and it is possible that these depressogenic cognitions increase the risk of future social anxiety as

well. In addition, depressive symptoms resulting from environments characterized by higher levels of interpersonal stressors, emotionally abusive or neglectful family systems, or victimization by peers may further impair adolescents' development of social competence, emotion regulation, or self-esteem within the interpersonal context. Thus, depression-related impairment resulting from these environmental risk factors, such as being socially withdrawn or isolated, could potentially limit the development of age-related social skills, thereby diminishing one's confidence and heightening fears of social situations (Hanish & Guerra, 2000). Thus, future research examining whether interpersonal stressors have an indirect impact on social anxiety through certain depressogenic behaviors, cognitions, or emotions will help clarify the nature of the mediating role of depressive symptoms that was observed in the current study.

It is important to note that there are a number of risk factors, including genetic, temperament, attachment, and cognitive vulnerabilities, that may contribute to the initial development of social anxiety or depression among youth (Epkins & Heckler, 2011), and our study specifically focused on adolescents' internalizing response to interpersonal-related stressors. Therefore, it is very possible (and likely) that Pathway 1 may be the most common pathway among youth who develop social anxiety primarily as a result of other risk factors or with higher levels of symptomatology, and then experience depression as a result of social anxiety-related impairment. Specifically, most research on the development of anxiety and depression indicate that anxiety develops earlier among youth than depression and that these youth are at greater risk for developing depression during adolescence and adulthood (e.g., Mathew, Pettit, Lewinsohn, Seeley, & Roberts, 2011; Wittchen, Kessler, Pfister, & Lieb, 2000). Thus, these youth may have a greater temperamental vulnerability for anxiety and consequently develop depression due to the difficulties experienced from their social anxiety, which is consistent with prior research on the role of interpersonal dysfunction (Katz, Conway, Hammen, Brennan, & Najman, 2011; Starr et al., 2014). However, it is also possible that some youth, without a preexisting vulnerability for anxiety, may experience certain interpersonal stressors, which induce dysphoric mood, and subsequently confer risk for social anxiety through the depression-related impairment described above. Thus, in the context of the existing literature, our results may not be in contradiction to prior studies demonstrating that social anxiety leads to depression, but rather indicate an important developmental circumstance in which Pathway 3 may occur. In this sense, many youth likely experience social anxiety and subsequent depression, as indicated in prior research, but other youth who are exposed to greater levels of these perceived interpersonal stressors may experience a unique temporal pattern of depression followed by social anxiety.

Of note, the present study did not find any evidence of moderation by sex or race. The absence of sex moderation is particularly surprising given research indicating that girls are more frequently exposed to interpersonal stressors and peer victimization (Ge et al., 1994; Prinstein et al., 2001) and more likely to become depressed and socially anxious following negative interpersonal events (Rudolph, 2002; La Greca & Lopez, 1998) than boys. Indeed, there also was evidence of more pronounced symptoms of social anxiety and depressive symptoms at each time point, as well as exposure to interpersonal stressors, emotional abuse, and peer victimization, among adolescent girls than boys in our sample. However, the absence of sex differences in these pathways is consistent with the recent study by

McLaughlin and King (2015), which did not find sex differences in anxiety or depressive symptom trajectories or their relationship to each other over time. One notable similarity in the present study is the examination of social anxiety and depression at the symptom-level rather than the diagnostic level, which may account for the difference from prior research (Merikangas et al., 2003). Further, this is the first study to evaluate racial differences in the temporal relationship between social anxiety and depressive symptoms. We found that both African American and Caucasian adolescents first experience depressive symptoms and then social anxiety following the occurrence of interpersonal stressors, emotional maltreatment, and peer victimization. Although there was no evidence of racial differences, this represents an important endeavor in the consideration of how race may influence the development of internalizing symptoms. Future research is needed to replicate and extend the findings of the present study in other racially- and ethnically- diverse samples as well.

The present findings have a number of clinical implications for how to effectively prevent or address internalizing symptoms following interpersonal stressors among adolescents. First, targeting depressive symptoms following both general and severe negative perceived interpersonal events during adolescence may be particularly important for preventing the future development of social anxiety and depressive disorders. Comorbid depression and social anxiety are associated with greater impairment than is either disorder alone (e.g., Garber & Weersing, 2010), so preventing the development of social anxiety secondary to depression following these stressors may reduce future impairment. Second, family therapy, or involving parents/caregivers in therapy, may be especially important for combating depressive and social anxiety symptoms among adolescents, given that familial stressors appear to play a causal or maintaining role in these symptoms. Third, our documented association between peer victimization and increases in depression among early adolescents suggests that school counselors should query about peer victimization when working with adolescents who are displaying depressive or social anxiety symptoms and work with such adolescents on coping with these experiences to prevent the development or intensification of future social anxiety or depressive episodes.

This study had several strengths, including the use of a prospective design during a phase of adolescence when interpersonal stressors and internalizing symptoms are starting to emerge. However, there are several important limitations of this study that also should be noted. Although we examined a large sample of demographically diverse early adolescents, which strengthens the generalizability of our findings within this age group, the present findings may not generalize to older adolescents or those with more elevated or clinical levels of symptoms. Specifically, it is possible that individuals who have higher levels of social anxiety or depression symptoms or clinical diagnoses at Time 1 may show a different pattern following interpersonal events, peer victimization, or emotional maltreatment than the one identified in this study. Thus, it is possible that the temporal nature of subthreshold symptoms and episodes of depression and social anxiety may evolve in unique patterns, which may explain the inconsistencies between the present study and prior research. However, future research is needed to simultaneously examine this possibility. Further, although this study utilized path analysis for a more parsimonious and conservative approach to analyses, research would benefit from examining individual differences in symptom development and change using an idiographic approach. This would provide more

information about the factors underlying the transition from symptoms of depression to social anxiety, or social anxiety to depression at the individual level. In addition, the present study utilized only self-report measures for the assessment of peer victimization, emotional maltreatment, and symptoms of depression and social anxiety, which have shared method variance. To combat potential self-report bias, future research would benefit from the use of interviewer-based methods for assessing symptoms of depression and anxiety, as well as using similar interviews for the assessment of peer victimization and emotional maltreatment as the other interpersonal stressors. The current study also used the CDI and MASC; however, future research should utilize the newer versions of these measures (CDI-2; MASC-2). Further, the present study only examined relational victimization and did not include a measure of overt victimization, which may yield different results for anxiety and depression and potential sex differences.

Importantly, although this study utilized three time points, our results may be limited by the simultaneous measurement of all stressor types and the proposed mediating variable (social anxiety and depression) at Time 2. Unfortunately, the larger longitudinal study did not include the assessment of stressors at the Time 1 visit, which limited our ability to utilize independent time points of all stressors and symptoms of depression and anxiety. One concern could be the potential for depressive bias in the reporting of stressors, thereby inflating the relationship between depression and stressors, which may be confounded by our reliance on mostly self-report measures of symptoms and stressors. However, the instruments used to assess stressors specifically asked participants to report on events that occurred between the Time 1 and Time 2 assessments. Participants also were provided with a calendar to better assist in their recollection of events. In addition, our inclusion of the life events interview in the assessment of general interpersonal stressors is considered to be one of the best methods for validating the occurrence of events and reducing subjective report biases (Hammen, 2005). Specifically, events were probed to determine whether they met a priori criteria and fell within the specified time frame (since the Time 1 assessment) to combat the potential for depressive bias. In addition, there was considerable variability in the length of time between study assessments, which may have limited adolescents' ability to accurately report the occurrence of life events over the study period. However, there were no differences between those with shorter and longer periods of time in the study, suggesting a similar number of reported events for adolescents regardless of time between assessments. Future research should utilize ecological momentary assessment and shorter periods of time in the assessment of life stress to prevent against memory bias in reporting life events. It is also possible that reporting negative life events may have served as a negative mood induction for some youth who completed the ALEQ first in the study assessment. However, given that the order of measures was random, it is unlikely that depression bias accounts for the results found in the present study.

Further, the emergence of similar temporal patterns for all stressors, including those self-reported and probed by the life events interview, gives us greater confidence in our results. Finally, although examining the temporal development of social anxiety and depressive symptoms following stressors at independent time points might be a more conservative approach, examining symptom development over nine months (and potentially 18 months) after the occurrence of these events might overlook the more immediate symptomatic

response following these experiences. Thus, it is possible that depressive symptoms may result at a subsequent time point and result in the pathway more consistent with past research (Cummings et al., 2014). However, this could overlook the role of depressive symptoms more immediately following the occurrence of the stressors, which is an important point of intervention and prevention for the simultaneous development of social anxiety symptoms.

In conclusion, the present findings suggest that following the occurrence of perceived interpersonal stressors, emotional maltreatment, and peer victimization, early adolescents appear to be at increased risk for social anxiety and depression, but also that adolescents who experience depressive symptoms may be at greater risk for later problems with social anxiety as well. These findings contribute to the existing literature on interpersonal stressors, peer victimization, emotional maltreatment, and internalizing symptoms by clarifying that these stressors are shared risk factors (Pathway 2), but depressive symptoms also may precede social anxiety symptoms following interpersonal stressors experienced during adolescence, which supports Pathway 3 of the multiple pathways model (Cummings et al., 2014). Future studies examining potential moderating factors that might make individuals more likely to experience depressive symptoms following stressors, as well as factors potentially underlying the post-stress transition from depression to social anxiety, will further elucidate potential points of intervention.

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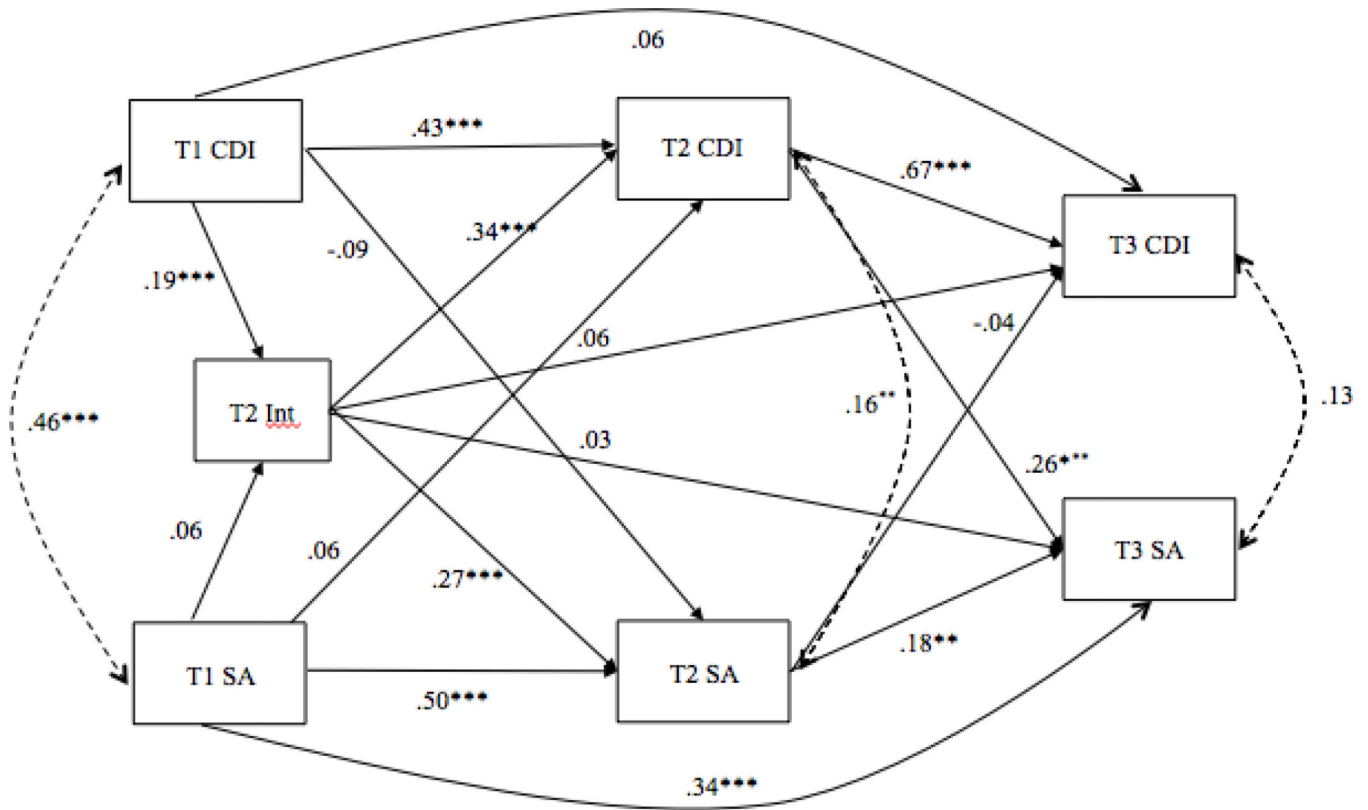


Figure 1. Pathways of interpersonal stressors predicting depressive and social anxiety symptoms. Note. Standardized path coefficients are presented in the figure. Model Fit: $\chi^2 = 52.32$ ($df = 15$), $p < .001$; CFI = .95; RMSEA = .06 [CI = .05 - .08]; SRMR = .06. T1 = Time 1; T2 = Time 2; T3 = Time 3; CDI = Children’s Depression Inventory; SA = Social Anxiety; Int = Interpersonal Stressors

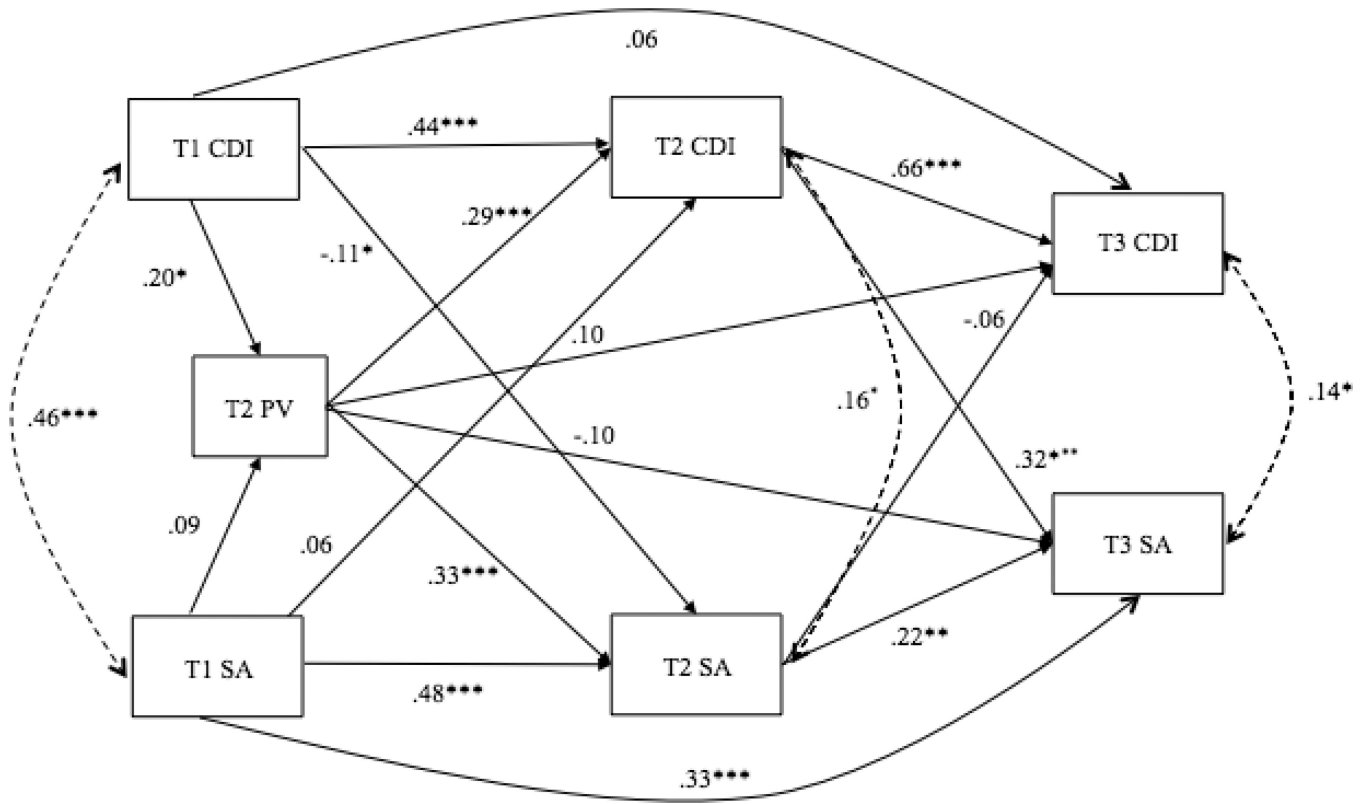


Figure 2. Pathways of peer victimization predicting depressive and social anxiety symptoms. Note. Standardized path coefficients are presented in the figure. Model Fit: $\chi^2 = 47.35$ ($df = 15$), $p < .001$; CFI = .96; RMSEA = .06 [CI = .04 - .08]; SRMR = .06. T1 = Time 1; T2 = Time 2; T3 = Time 3; CDI = Children's Depression Inventory; SA = Social Anxiety; PV = Peer Victimization.

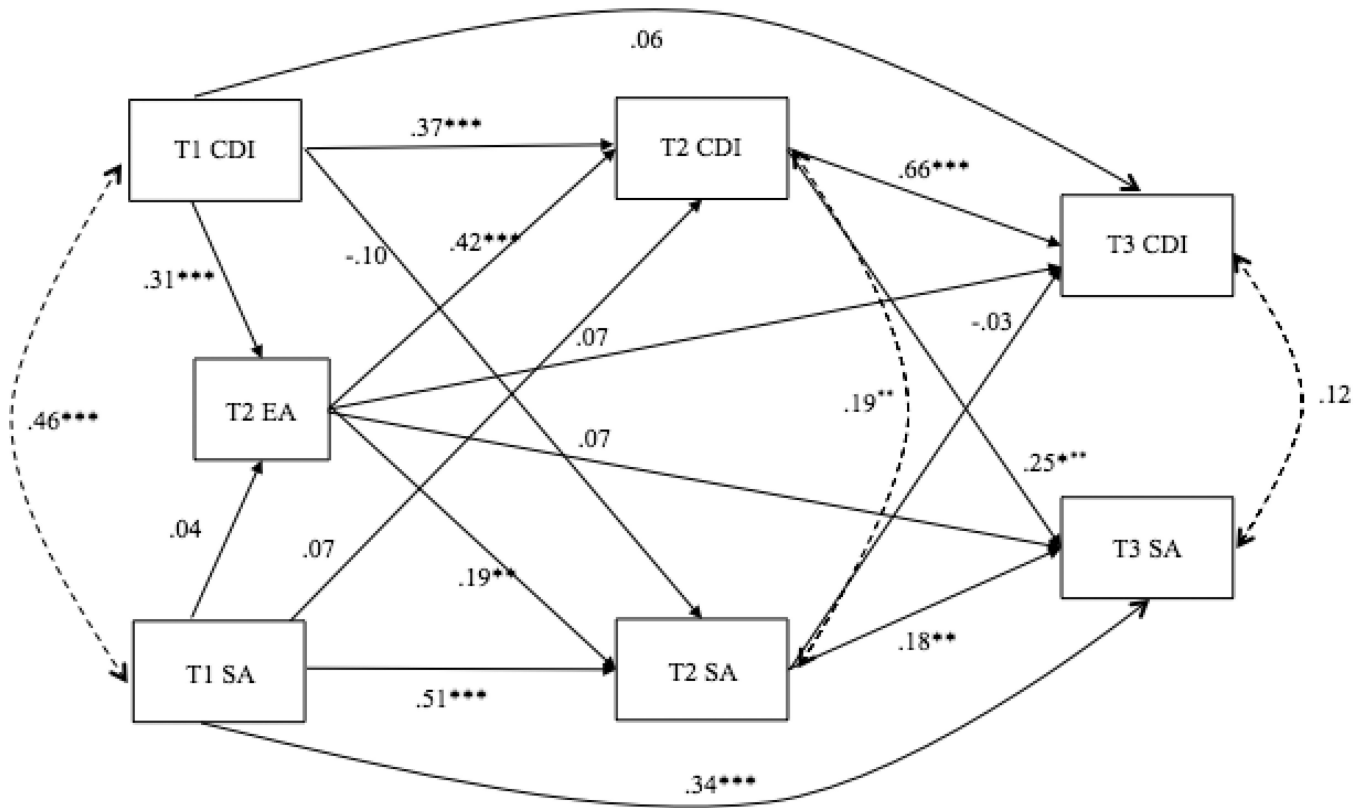


Figure 3.

Pathways of emotional abuse predicting depressive and social anxiety symptoms.

Note. Standardized path coefficients are presented in the figure. Model Fit: $\chi^2 = 50.56$ ($df = 15$), $p < .001$; CFI = .95; RMSEA = .06 [CI = .04 - .08]; SRMR = .06. T1 = Time 1; T2 = Time 2; T3 = Time 3; CDI = Children’s Depression Inventory; SA = Social Anxiety; EA = Emotional Abuse

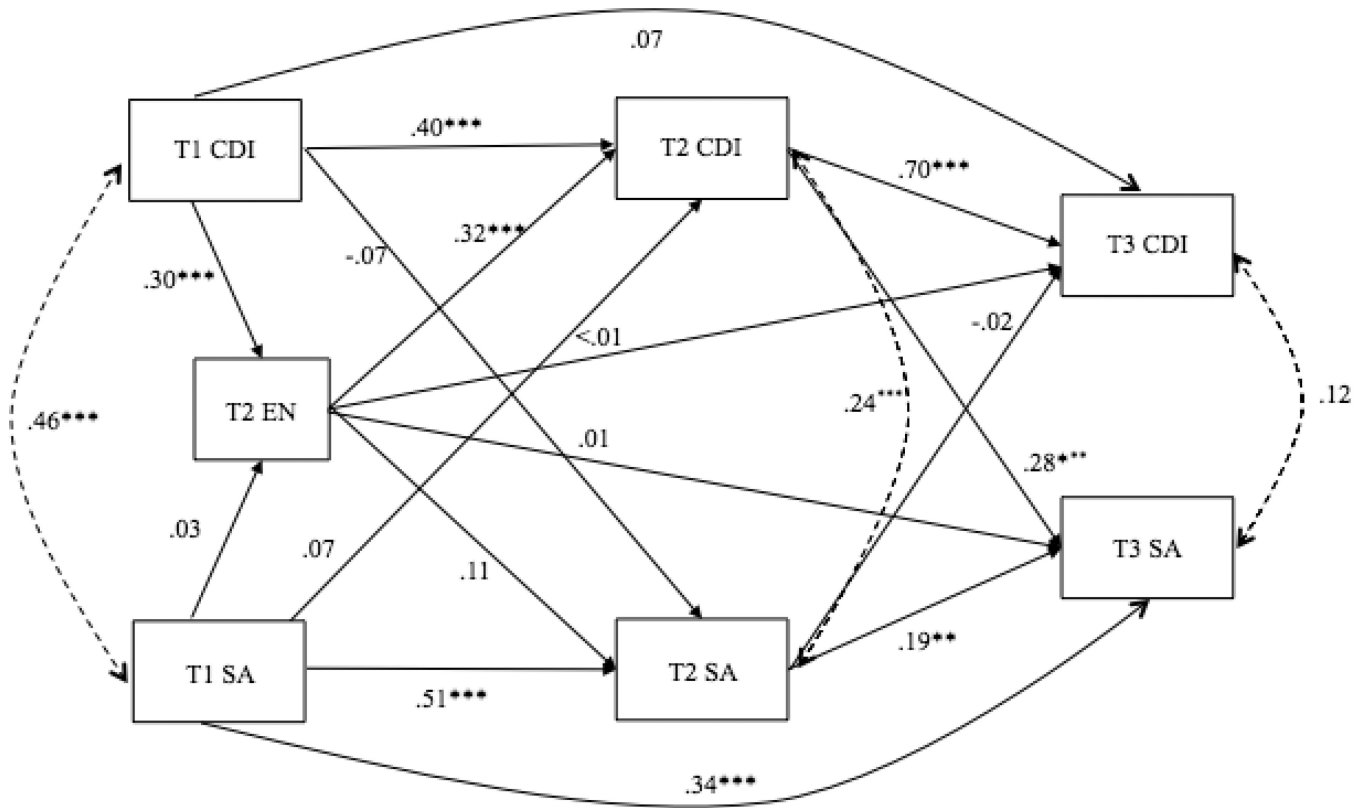


Figure 4. Pathways of emotional neglect predicting depressive and social anxiety symptoms. Note. Standardized path coefficients are presented in the figure. Model fit: $\chi^2= 45.56$ ($df = 15$), $p < .001$; CFI = .96; RMSEA = . [CI = .04 - .08]; SRMR = .06. T1 = Time 1; T2 = Time 2; T3 = Time 3; CDI = Children’s Depression Inventory; SA = Social Anxiety; EN = Emotional Neglect.

Table 1

Bivariate Correlations Between Primary Study Variables

Measure	1	2	3	4	5	6	7	8	9	10	
1 Time 1 CDI	-	.39	.23	.32	.31	.23	.53	.41	.33	.14	
2 Time 1 SA		-	.16	.15	.13	.14	.27	.17	.16	.48	
3 Time 2 PV			-	.34	.29	.41	.39	.33	.39	.37	
4 Time 2 EA				-	.56	.43	.54	.43	.38	.21	
5 Time 2 EN					-	.19	.45	.30	.34	.13	
6 Time 2 Int						-	.41	.33	.39	.29	
7 Time 2 CDI							-	.69	.57	.31	
8 Time 2 SA								-	.65	.16	
9 Time 3 CDI									-	.14	
10 Time 3 SA										-	
Mean		7.11	9.12	2.00	7.94	8.43	7.83	6.48	6.29	6.05	7.10
SD		6.06	5.71	3.40	3.56	3.50	5.52	6.19	6.11	5.92	6.02

Note: All correlations presented in the table are significant. CDI = Children's Depression Inventory; SA = Social Anxiety; PV = Peer Victimization; EA = Emotional abuse; EN = Emotional Neglect; Int = Interpersonal Stressors.