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Childhood Exposure to Parental Threatening Behaviors and Anxiety in Emerging Adulthood: Indirect Effects of Perceived Stress

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Abstract

Background: Although childhood exposure to parental threatening behaviors is associated with elevated anxiety in emerging adulthood, the underlying mechanisms remain unexplored. Perceived stress—a subjective experience comprised of feelings of helplessness (being unable to cope or exert control) and poor self-efficacy (confidence in one’s ability to manage stressors)—is one candidate mechanism. The present investigation examined the underlying role of perceived stress in the association between childhood exposure to parental threatening behaviors and anxiety symptom severity in a sample of emerging adults.

Methods: Participants ($N = 855$; $M_{\text{age}} = 18.75$ years, $SD = 1.05$, range 18–24; 70.8% female) were recruited from a large state university and administered a battery of self-report questionnaires assessing constructs of interest.

Results: Structural equation modeling (SEM) analyses indicated that only greater childhood exposure to *maternal* threatening behaviors was directly associated with greater feelings of helplessness and lower self-efficacy. Furthermore, only childhood exposure to maternal

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Declarations

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Ethics Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was approved by the Institutional Review Board of the University of Pennsylvania.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

threatening behaviors was indirectly associated with anxiety severity through greater feelings of helplessness and lower self-efficacy. In contrast, childhood exposure to *paternal* threatening behaviors was neither directly nor indirectly associated with anxiety severity.

Limitations: Limitations include a cross-sectional design, use of self-report measures, and a non-clinical sample. Replicating these findings in a clinical sample and testing the hypothesized model in a longitudinal design is necessary.

Conclusions: Findings underscore the need for intervention efforts that screen for and target perceived stress in emerging adults exposed to negative maternal parenting behaviors.

Keywords

anxiety; emerging adulthood; young adulthood; parenting behaviors; self-efficacy; perceived helplessness

Introduction

Anxiety disorders constitute a significant public health concern. Nearly one in five adults in the United States (U.S.) is diagnosed with an anxiety disorder in their lifetime (Kessler et al., 2005), making anxiety disorders, as a cluster, one of the most prevalent mental health conditions. Anxiety disorders often follow a chronic course (Beesdo-Baum et al., 2012; Ramsawh et al., 2009; Steinert et al., 2013) and are associated with substantial psychosocial impairment, psychiatric comorbidity, and physical health problems (Aderka et al., 2012; Beesdo et al., 2007; Hofmeijer-sevink et al., 2012; Tully et al., 2013; Wittchen et al., 2000). During emerging adulthood—the period between adolescence and young adulthood that usually comprises ages 18–29 years (Arnett et al., 2014)—individuals are particularly vulnerable to experiencing high anxiety (Copeland et al., 2014). In a representative survey of over 1000 emerging adults in the U.S., 56% agreed with the statement, “I often feel anxious” (Arnett & Schwab, 2012), and in an international sample of 13,985 incoming first-year college students, 16.7% of screened positive for generalized anxiety disorder in the past 12 months (Auerbach et al., 2018).

Anxiety symptoms increase in emerging adulthood partly due to several major developmental transitions prevalent during this phase of life. Uncertainty around one’s identity, instability in romantic relationships, changes in occupation, perceptions of low social support, and feeling caught “in-between” adolescence and adulthood are common experiences among emerging adults (Arnett et al., 2014; Kranzler et al., 2019). Such socioemotional challenges, combined with the array of new responsibilities (e.g., financial, educational, and career-related) that accompany this life stage, often create significant anxiety (Kranzler et al., 2019). The prevalence of anxiety symptoms in this group has especially increased in recent years (Duffy et al., 2019). Given that these symptoms, when left untreated, often progress into full-blown anxiety disorders (Iorfino et al., 2019), research on the risks and mechanisms related to anxiety in this population has direct public health relevance.

Maladaptive parenting is often related to offspring anxiety. Specifically, parents who are overly protective (Barrett et al., 1996), controlling (Chorot et al., 2017), or rejecting of their

children (Rapee, 1997) increase their offspring's risk of developing problematic anxiety. The observed effects of parenting on offspring anxiety span important developmental stages, including childhood, adolescence, and adulthood (Viana & Rabian, 2008). For instance, a study of adults with social anxiety disorder found that those who had experienced childhood emotional abuse or neglect demonstrated increased severity of social anxiety, trait anxiety, depression, and self-esteem problems compared to those who did not experience such abuse (Kuo et al., 2011).

More recently, *parental threatening behaviors*—threats of rejection, abandonment, or punishment towards the child (Scher et al., 2002)—have emerged as a specific parenting behavior that places offspring at risk for problematic anxiety. Parenting models rooted in attachment theory purport that when parents frequently issue threats of abandonment or punishment, children develop internal working models *of the world* as an unsafe and unpredictable place (Ainsworth, 1989; Bowlby, 1980), which, in turn, affects their socioemotional competence. In line with theory, youth who grow up with overcontrolling parents perceive less control over stressors, which increases vulnerability to anxiety (Chorpita & Barlow, 1998). Likewise, youth of parents who exhibit high levels of rejecting behaviors perceive themselves as having less control over academic, social, or behavioral outcomes (Magaro & Weisz, 2006).

Exposure to frequent parental threats may also set the stage for children to develop maladaptive internal working models *of the self* as incapable of handling stressors. Indeed, youth who retrospectively reported childhood emotional neglect also endorsed feelings of low self-efficacy (Soffer et al., 2008), and youth of mothers with high levels of overcontrolling behaviors perceive themselves as helpless in the face of stressors (Garber & Flynn, 2001). Not surprisingly, adults who report having experienced higher levels of parental threatening behaviors in their childhood endorse greater levels of anxiety (Castilho et al., 2014)—a pattern of findings that has been replicated in samples of adolescents (Trent et al., 2019) and emerging adults (Murphy et al., 2012; Viana et al., 2012).

Although robust associations between childhood exposure to parental threatening behaviors and later anxiety problems have been reported (Scher & Stein, 2003; Viana et al., 2012), two gaps in the literature remain. First, little is known about the differential influence of childhood exposure to *maternal* vs. *paternal* threatening behaviors. Past work has either focused on reports of maternal threatening behaviors due to mothers' conventional primary caretaking role (e.g., Trent et al., 2019) or taken the average of reports of maternal and paternal threatening behaviors to capture the general household climate (e.g., Viana et al., 2012). Yet, given recent calls for investigations on the role of fathers in youth development (e.g., Brouillard et al., 2018; Cheung et al., 2018; S. S. Lee, 2018), a study examining the independent contributions of maternal and paternal threatening behaviors to emerging adults' anxiety is needed. Second, little scientific attention has been given to the mechanisms that underlie the association between childhood exposure to parental threatening behaviors and anxiety problems later in life. Specifically, the underlying role of perceived stress remains unexplored, despite its clinical relevance in anxiety outcomes among emerging adults (Mirón et al., 2019; Saleh et al., 2017).

Perceived stress is defined as the degree to which an individual perceives their current situation as stressful (Phillips, 2013). High perceived stress is comprised of two dimensions: high perceived helplessness and low perceived self-efficacy (hereafter “low self-efficacy”; Phillips, 2013). Individuals with high *perceived helplessness* hold strong beliefs that stressors in their life are uncontrollable and unpredictable. Research with adolescents and emerging adults has found that high levels of perceived helplessness are associated with more severe anxiety (Liu et al., 2020; Roberti et al., 2006). Individuals with low *self-efficacy* have low confidence in their ability to cope with problems. Studies have found that low self-efficacy predicts higher levels of anxiety in emerging adults (Morales-Rodríguez & Pérez-Mármol, 2019). Notably, emerging adults report higher levels of perceived stress than do other age groups (Mirón et al., 2019), making this an important construct to study in this population.

In line with attachment theory (Bowlby, 1980), when a young child receives frequently issued threats of abandonment or punishment from their parents—key figures on whom the child traditionally relies for safety and emotional support—they may come to believe that they 1) have no control over their parents’ actions (i.e., perceived helplessness) and 2) are incapable of handling those outcomes (i.e., low self-efficacy). Such negative schemas about the world and about the self conceptually align with beliefs of perceived helplessness and low self-efficacy, respectively (Mikulincer et al., 2003), and may influence how the child perceives and manages (i.e., approaches or avoids) challenges. Empirical findings corroborate this; punitive and rejecting parenting experienced in childhood positively correlate with long-term perceived stress in young adults (Khalid et al., 2019). Studies of college students (or of samples primarily consisting of college students) also find significant, positive associations between childhood psychological maltreatment and current levels of perceived stress (Hager & Runtz, 2012; Hong et al., 2018).

Cognitive behavioral theories of anxiety also posit that core beliefs pertaining to helplessness and low self-efficacy (i.e., that stressors are uncontrollable and unmanageable) influence how offspring perceive and manage (i.e., approach or avoid) challenges throughout development (Fosco & Feinberg, 2015; Hamill, 2003). Consistent with this framework, studies find that among youth, a pattern of maladaptive coping—stemming from perceived helplessness and low self-efficacy—contributes to problematic anxiety (Whitney et al., 2022). To illustrate, take two college freshmen who received a “C” grade on a difficult exam. One student, whose parents provided consistent emotional safety in childhood, believes she can improve her grades and seeks instructor feedback. The other student, whose parents often threatened to disown her for making mistakes in childhood, fears that she is not “cut out” for college and begins avoiding class out of fear of the instructor’s judgment. Understanding the associations between childhood exposure to parental threats, perceived helplessness, low self-efficacy, and resulting anxiety may inform intervention for such emerging adults and ultimately help them thrive in the face of developmentally normative challenges.

The present investigation examined the underlying roles of perceived helplessness and self-efficacy in the association between childhood exposure to maternal and paternal threatening behaviors and anxiety symptoms in a large sample of emerging adults. First, given past

work (Scher & Stein, 2003; Trent et al., 2019; Viana et al., 2012), it was hypothesized that greater childhood exposure to parental threatening behaviors would be associated with more severe anxiety symptoms (i.e., direct effect). Second, it was hypothesized that greater perceived helplessness would undergird the association between childhood exposure to parental threatening behaviors and anxiety symptoms (i.e., indirect effect). Third, it was hypothesized that lower self-efficacy would also undergird the association between childhood exposure to parental threatening behaviors and anxiety symptoms (i.e., indirect effect). Of note, in the absence of literature on *paternal* threatening behaviors, no hypotheses were made regarding differences in the direct and indirect effects of maternal vs. paternal threatening behaviors on anxiety responses.

Method

Participants

The sample was derived from previous investigations examining the relationship between parental threatening behaviors and psychopathology symptoms in emerging adults ([Viana, Ebesutani et al., 2012]).¹ The participants were undergraduate students enrolled in introductory psychology classes at a large state university in the northwestern United States. The initial sample consisted of 892 undergraduate students. Twenty-two participants were excluded from the present analyses because they completed only the demographics questionnaire and none of the remaining questionnaires. Seven additional participants were excluded because they did not report one of the sociodemographic variables that were included as covariates in the models (i.e., age, race/ethnicity, gender). Additionally, eight participants with ages > 24 years were found to be univariate outliers (Tabachnick & Fidell, 2013) and thus were also excluded from the present analyses. Missing values of individual questionnaire items were replaced using linear-trend-at-point substitution, as recommended when missing values occur in fewer than 5% of cases (Tabachnick & Fidell, 2013). The final sample consisted of 855 participants between the ages of 18 and 24 years ($M = 18.75$, $SD = 1.05$). In terms of gender, 70.8% identified as women and 29.2% identified as men. In terms of race/ethnicity, 83.2% identified as non-Hispanic White, 7.0% as Asian American, 4.7% as African American, 4.2% as Hispanic/Latino, 0.7% as Pacific Islander, and 0.2% as American Indian.

Procedures

Participants were recruited through the psychology subject pool of the university where the study was conducted. A link containing all questionnaires was listed in the psychology subject pool online system. Interested participants who provided informed consent through the online link were subsequently directed to complete a battery of online questionnaires. Participants received course credit for their participation. All procedures were approved by the Institutional Review Board at the University of Pennsylvania.

¹Eight publications from this data set are currently in print examining anxiety sensitivity and substance use, interpersonal difficulties as a mediator between anxiety and depression, temperamental and cognitive risk factors for anxiety, interpretive and judgment biases as mediators between parental threats and anxiety, and perceived control as a mediator between parental threats and depression, attention, and worry ([Trent et al., 2022]).

Measures

Childhood exposure to parental threatening behaviors—The Parent Threat Inventory (PTI; Scher et al., 2002) is a 17-item self-report questionnaire that retrospectively assesses experiences of parental threatening behavior during childhood. The PTI measures three types of parental threatening behaviors: threats of emotional rejection or unavailability, threats of abandonment, and threats of punishment. Respondents were asked to fill out separate forms for each parent and rate each item on a 5-point scale ranging from 1 (*never true*) to 5 (*very often true*). The PTI has excellent internal consistency and test-retest reliability (Scher et al., 2002). Convergent validity with relevant measures of parenting also supports the psychometric strength of the measure. In the current study, the internal consistencies of the maternal PTI and paternal PTI were α s = .92 and .92, respectively.

Perceived stress—The Perceived Stress Scale (PSS; Cohen et al., 1983) is a self-report questionnaire that measures the degree to which individuals appraise experienced life events as stressful. Using a 5-point scale ranging from 0 (*never*) to 4 (*very often*), respondents rated how often they had thoughts or feelings that their life was unpredictable, uncontrollable, or overloaded in the past month. The original 14-item PSS was shortened into a 10-item version, which shows superior psychometric properties compared to the 14-item version, according to a systematic review (E. H. Lee, 2012). Factor analyses of the 10-item PSS have consistently supported a two-factor structure comprising of a 6-item perceived helplessness subscale and 4-item self-efficacy subscale (Hewitt et al., 1992; Roberti et al., 2006). In the present study, the internal consistencies of the perceived helplessness subscale and self-efficacy subscale were α s = .85 and .80, respectively.

Anxiety outcomes—The Brief Symptom Inventory (BSI; Derogatis, 1983) is a 53-item self-report questionnaire that assesses the presence and severity of psychological symptoms. It has been psychometrically validated in clinical and community samples (Derogatis, 1983). Using a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*), participants were asked to rate the extent to which a particular symptom had caused distress during the past seven days. The BSI yields scores for nine subscales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. For the present study, the anxiety subscale (six items; α = .84) was used to assess anxiety symptom severity.

The Brief Measure of Worry Severity (BMWS; Gladstone et al., 2005) is an 8-item self-report measure of worry severity and dysfunction. Using a 4-point Likert scale ranging from 0 (*not true at all*) to 3 (*definitely true*), respondents were asked to indicate the extent to which each item accurately described their usual experience of worrying. Total scores range from 0–24 and are computed by summing responses to each item. The BMWS has demonstrated good internal consistency, construct validity, and discriminant validity among non-clinical and clinical samples (Gladstone et al., 2005). In the current study, the internal consistency of the BMWS was α = .89.

The Positive and Negative Affectivity Scale (PANAS; Watson et al., 1988) is a 20-item self-report measure of positive and negative affect. On a 5-point scale ranging from 0 (*very*

slightly or not at all) to 5 (*very much*), respondents indicated the extent to which they had experienced a particular emotion within a specific time period (in this study, “during the past few weeks”). The PANAS yields a positive affectivity scale and a negative affectivity scale (PANAS-NA). The 10-item PANAS-NA measures overall subjective distress and negative engagement (e.g., “distressed,” “irritable”). The total score of the PANAS-NA ranges from 10–50. Watson et al. (1988) reported 8-week test-retest reliability estimates of .71 for the PANAS-NA in non-clinical samples of undergraduate students. Crawford and Henry (2004) reported adequate construct validity and internal consistency of the PANAS-NA of .85 in a large non-clinical sample of adults. In the current study, the internal consistency of the PANAS-NA was $\alpha = .87$.

The State-Trait Anxiety Inventory-Trait Version (STAI-T; Spielberger et al., 1970) is a 20-item self-report measure designed to assess chronic, cross-situational trait anxiety. On a 4-point scale ranging from 1 (*almost never*) to 4 (*almost always*), respondents indicated how frequently they experienced a variety of anxiety symptoms. Items were summed into a total score, which ranges from 20–80. Several studies reported that the STAI-T has good internal consistency (Barnes et al., 2002; Hishinuma et al., 2000) and good test-retest reliability among emerging adults (Angelidis et al., 2016). The STAI-T also has good convergent validity with other measures of trait anxiety (Spielberger, 1983) and good construct validity (Metzger, 1976). In the current study, the internal consistency of the STAI-T was $\alpha = .92$.

Data Analyses

First, the data were prepared for structural equation modeling (SEM). Following recommendations (Kenny et al., 1998), at least three observed indicators were prepared for each latent construct of interest, with the exception of the self-efficacy latent construct, which had two observed indicators (see below). Parceling—a pre-modeling strategy to create fewer, more reliable indicators (Little et al., 2013)—was used to create indicators for the latent constructs of maternal threatening behaviors, paternal threatening behaviors, self-efficacy, and perceived helplessness. Given our large sample size and given that the items for each parcel would come from the same scale, it was decided *a priori* that random assignment would be used to assign items to parcels (Little et al., 2013; Matsunaga, 2008; Yang et al., 2010). Specifically, the 17 items of the PTI were randomly split into three parcels of five to six items each. We then created three parcels by averaging responses to each of the three sets of items. These three parcels were used as the three observed indicators for the two latent variables, maternal threatening behaviors and paternal threatening behaviors. Similar procedures were used to prepare the three observed indicators for the perceived helplessness latent construct (i.e., six-item PSS perceived helplessness subscale randomly split into three parcels of two items each) and the two observed indicators for the self-efficacy latent construct (i.e., four-item PSS self-efficacy subscale randomly split into two parcels of two items each).² Finally, the latent construct of anxiety symptom severity comprised of four

²For both the latent constructs of maternal and paternal threatening behaviors, Parcel 1 = PTI items 5, 8, 9, 12, 15, 17; Parcel 2 = PTI items 3, 6, 7, 13, 14, 16; Parcel 3 = PTI items 1, 2, 4, 10, 11. For the latent construct of perceived helplessness, Parcel 1 = PSS items 2 and 6; Parcel 2 = PSS items 3 and 9; Parcel 3 = PSS items 1 and 10. For the latent construct of self-efficacy, Parcel 1 = PSS items 5 and 7; Parcel 2 = items 4 and 8.

observed indicators, each of which was the total score of the four anxiety outcome measures: the BSI-A, BMWS, PANAS-NA, and STAI-T.

Next, the distributions of observed indicators were examined to evaluate patterns of missingness, outliers, skewness, and kurtosis. Next, correlational analyses were used to examine bivariate associations among study variables. Finally, SEM in MPlus 8.2 (Muthén & Muthén, 2017) was used to examine the direct and indirect pathways linking childhood exposure to maternal and paternal threatening behaviors, perceived stress (i.e., perceived helplessness and self-efficacy), and anxiety outcomes. Sociodemographic variables were included in the models as covariates. Gender was dichotomized (1 = female; 0 = male; no participant identified as non-binary or another gender identity). Given the small number of participants who identified as non-White, racial/ethnic identity was collapsed into a single dummy-coded variable to include as a covariate in the model (0 = non-Hispanic White; 1 = racial/ethnic minority). Given the sufficiently wide age range of the sample (18 – 24 years), age was treated as a continuous variable.

Prior to testing the structural model, a confirmatory factor analysis was conducted to examine whether the measurement model provided an acceptable fit to the data. Following Hu and Bentler's recommendations (1999), goodness of fit was evaluated in terms of three fit indices: SRMR < .08, RMSEA < .06, and CFI and TLI > .95. After establishing that the measurement model provided an acceptable fit to the data, we tested the structural model positing that the effects of childhood exposure to maternal and paternal threatening behaviors on anxiety outcomes were mediated by perceived stress (Figure 1). The latent constructs of maternal threatening behaviors and paternal threatening behaviors were allowed to covary, given past evidence of significant correlations between maternal and paternal negative parenting behaviors (e.g., Rijlaarsdam et al., 2014). Similarly, perceived helplessness and self-efficacy were allowed to covary, given past evidence that these two constructs are negatively correlated with one another (e.g., Roberti et al., 2006). Significant indirect effects were determined by examining the 95% confidence intervals from 5,000 bootstrapped re-samples for each indirect effect in the model using the MODEL INDIRECT command in MPlus. A bootstrap-confidence interval that does not include zero provides evidence of a significant indirect effect (Preacher & Hayes, 2008).

Results

Preliminary Analyses

Data were first examined for missingness and normality. Between 21–31 cases (i.e., 2.4–3.6% of cases) were missing in the three observed indicators for maternal threatening behaviors, between 24–33 cases (i.e., 2.8–3.8% of cases) were missing in the three observed indicators for paternal threatening behaviors, between 5–10 cases (i.e., 0.6–1.2% of cases) were missing in the three observed indicators for perceived helplessness, and between 5–12 cases (i.e., 0.6–1.4% of cases) were missing in the two observed indicators for self-efficacy. There were no missing data for the four observed indicators for anxiety. Given that less than 5% of total data were missing, it is likely that missing data did not have a large influence on the results (Kline, 2016).

In the presence of missing data in SEM, full information maximum likelihood (FIML) estimation is recommended over other methods such as pairwise or listwise deletion or imputation (Kline, 2016). The first parcel for maternal threatening behaviors was positively skewed (skewness = 3.01). All other observed indicators were within acceptable levels of skewness and kurtosis for SEM purposes ($< |3|$ skewness, $< |10|$ kurtosis; Kline, 2016). Given the presence of missing data and non-normality, FIML estimation with robust standard errors (i.e., MLR option in MPlus) was used to yield the Yuan-Bentler statistic, as recommended in the published literature (e.g., Enders & Bandalos, 2009; Savalei, 2010; Yuan & Zhang, 2012). One outlier was found in the three observed indicators for maternal threatening behaviors, one outlier was found in the three observed indicators for paternal threatening behaviors, and two outliers were found in the two observed indicators for self-efficacy ($z > |3|$); these values were adjusted accordingly to the next highest or lowest value (Kline, 2016). Means, standard deviations, and correlations among all observed indicator variables are presented in Table 1.

Measurement Model

The test of the measurement model resulted in an acceptable fit to the data ($\chi^2[110] = 475.01$, $p < .001$, CFI = .957, TLI = .941, RMSEA = .062, RMSEA 90% CI [.057, .068], SRMR = .030). The results of the measurement model are summarized in Table 2. The loadings of all the measured variables on the latent variables were statistically significant ($ps < .001$), indicating that all latent constructs were adequately operationalized by their respective indicators. Regarding sociodemographic covariates, female gender was modestly associated with greater levels of childhood exposure to maternal threatening behaviors, perceived helplessness, and anxiety. Racial/ethnic minority status was associated with greater levels of exposure to maternal and paternal threatening behaviors. Age was not associated with any of the latent variables.

The correlations among the latent variables in the measurement model were all statistically significant ($ps < .001$, see Table 3). Childhood exposure to maternal and paternal threatening behaviors was strongly positively correlated, with a large effect size ($r = .72$). Childhood exposure to parental threatening behaviors (whether maternal or paternal) was correlated positively with perceived helplessness and negatively with self-efficacy, with small-to-medium effect sizes ($|rs| = .19 - .24$). Similarly, childhood exposure to parental threatening behaviors (whether maternal or paternal) was correlated positively with anxiety, with small-to-medium effect sizes ($rs = .24 - .27$). Finally, anxiety was positively correlated with perceived helplessness and negatively correlated with self-efficacy, both with large effect sizes ($|rs| = .79 - .87$).³

Structural Model

The test of the hypothesized structural model resulted in an adequate fit to the data ($\chi^2[110] = 475.01$, $p < .001$, CFI = .957, TLI = .941, RMSEA = .062, RMSEA 90% CI [.057,

³Given the high correlation between maternal and paternal threatening behaviors, we ran an additional measurement model that combined the six observed indicators for maternal and paternal threatening behaviors into one latent construct. This measurement model resulted in a poor fit to the data ($\chi^2[150] = 8575.59$, $p < .001$, CFI = .79, TLI = .74, RMSEA = .13, RMSEA 90% CI [.13, .14], SRMR = .05).

.068], SRMR = .030). The results of the structural model are summarized in Figure 2 and Table 4. Regarding sociodemographic covariates, female gender was associated with greater levels of maternal threatening behavior and perceived helplessness. Racial/ethnic minority status was associated with greater levels of maternal and paternal threatening behaviors. The structural path from *maternal* threatening behaviors to anxiety was not statistically significant. However, the structural paths from maternal threatening behaviors to perceived helplessness (unstandardized B = 0.32, 95% CI [0.13, 0.51], $p = .001$) and to self-efficacy (unstandardized B = -0.28, 95% CI [-0.46, -0.11], $p = .002$) were statistically significant. The structural paths from *paternal* threatening behaviors to anxiety, perceived helplessness, and self-efficacy were not statistically significant. Finally, the structural paths from perceived helplessness to anxiety (unstandardized B = 2.82, 95% CI [2.23, 3.42], $p < .001$) and self-efficacy to anxiety (unstandardized B = -1.44, 95% CI [-2.01, -0.87], $p < .001$) were both statistically significant.

Of note, 8% of the variance in perceived helplessness was explained by maternal and paternal threatening behaviors; 7% of the variance in self-efficacy was explained by maternal and paternal threatening behaviors; and 79% of the variance in anxiety was explained by perceived helplessness, self-efficacy, and maternal and paternal threatening behaviors.

Tests of Indirect Effects

The results of the tests of the four hypothesized indirect effects are summarized in Table 5. The indirect effect of perceived helplessness in explaining the association between maternal threatening behaviors and anxiety was statistically significant (unstandardized mean indirect effect = 0.91, 95% CI [0.34, 1.49], $p = .003$), such that greater levels of childhood exposure to maternal threatening behaviors were associated with greater levels of perceived helplessness, and in turn, more severe anxiety. The indirect effect of self-efficacy in explaining the association between maternal threatening behaviors and anxiety was also statistically significant (unstandardized mean indirect effect = 0.41, 95% CI [0.11, 0.70], $p = .010$), such that greater levels of childhood exposure to maternal threatening behaviors were associated with lower levels of self-efficacy, and in turn, more severe anxiety. The indirect effects of neither perceived helplessness nor self-efficacy were statistically significant in explaining the association between paternal threatening behaviors and anxiety.

Discussion

This investigation examined the underlying roles of perceived helplessness and self-efficacy in the association between childhood exposure to parental threatening behaviors and anxiety symptom severity in a sample of emerging adults. Our first hypothesis—that greater exposure to parental threatening behaviors would be associated with more severe anxiety in emerging adulthood—was partially supported. Latent constructs of maternal and paternal threatening behaviors were respectively correlated with a latent construct of anxiety symptom severity, both with small-to-medium effect sizes. After controlling for sociodemographic covariates in the structural model, childhood exposure to maternal threatening behaviors was still indirectly associated with anxiety severity through greater

feelings of helplessness and lower self-efficacy. In contrast, childhood exposure to paternal threatening behaviors was no longer directly or indirectly associated with anxiety severity. The association between childhood exposure to maternal threatening behaviors and current anxiety symptom severity is consistent with the literature (Scher et al., 2002; Trent et al., 2019). The finding that *paternal* threatening behaviors were not associated with current anxiety symptom severity in emerging adults represents a novel contribution to the parenting literature, which traditionally has understudied the role of fathers in emerging adults' mental health. Collectively, these findings also highlight the long-lasting effects of negative mothering experienced in childhood on current anxiety symptom severity in emerging adulthood.

Our second hypothesis—that perceived helplessness would mediate the association between parental threatening behaviors and anxiety symptom severity—was partially supported. Specifically, perceived helplessness mediated the association between maternal threatening behaviors and anxiety symptom severity, but not the association between *paternal* threatening behaviors and anxiety symptom severity. Our third hypothesis—that low self-efficacy would mediate the association between parental threatening behaviors and current anxiety symptom severity—was only supported when examining the effect of maternal (vs. paternal) threatening behaviors. After accounting for perceived helplessness and self-efficacy, the direct effect from maternal threatening behaviors to anxiety symptom severity was no longer statistically significant. Taken together, these findings suggest that perceived helplessness and self-efficacy may undergird the association between childhood exposure to threatening behaviors issued by mothers—but not necessarily those issued by fathers—and current anxiety symptom severity in emerging adulthood.

The findings of this study make key contributions to the literature regarding: 1) the role of perceived stress in mediating childhood exposure to maternal threatening behaviors and anxiety problems later in young adulthood; 2) potential differences in the impact of childhood exposure to maternal vs. paternal threatening behaviors; and 3) preliminary information on potential gender- and racial/ethnic differences in levels of perceived stress and childhood exposure to parental threatening behaviors. Each is discussed below.

First, this study's findings shed light on potential pathways connecting childhood exposure to maternal threatening behaviors and problematic anxiety later in young adulthood. Through the lens of attachment theory (Bowlby, 1980), our findings suggest that when children are exposed to frequent threats from their mothers (i.e., one of the primary attachment figures), they develop negative schemas about themselves and the world, which are reflected in lower self-efficacy and greater perceived helplessness. Subsequently, consistent with cognitive behavioral theories of anxiety (Vasey & MacLeod, 2001), such maladaptive beliefs about one's poor self-efficacy and perceived helplessness contribute to greater anxiety symptom severity. Young adults with these maladaptive beliefs are more likely to engage in unhelpful coping behaviors in the face of challenges (e.g., avoidance), which are strongly linked to problematic anxiety (Whitney et al., 2022).

In considering the effect sizes found in the structural model of the present study, perceived helplessness stands out as having a particularly strong effect on anxiety vis-a-vis

parental threatening behaviors. This is consistent with extant literature reporting robust relationships between perceived helplessness and anxiety symptoms (e.g., Liu et al., 2020). Additionally, proximal risk factors for anxiety (i.e., perceived helplessness, self-efficacy) are more strongly associated with current anxiety symptom severity than childhood parental threatening behaviors. This finding is also consistent with prior findings on the declining parental influences on offspring anxiety over time (Verhoeven et al., 2012). Through the lens of attachment theory, one's current internal working model may affect concurrent anxiety problems more strongly than the specific parental behaviors that originally shaped those internal working models (Pietromonaco & Feldman Barrett, 2000).

Moreover, not all offspring who are exposed to parental threats in childhood go on to develop maladaptive internal working models of the world (i.e., perceived helplessness) and the self (i.e., self-efficacy), or problematic anxiety (i.e., multifinality; Ollendick & Hirshfeld-Becker, 2002). Ainsworth (1989) argued that attachment bonds can be formed not only with mothers and fathers, but also with supplementary attachment figures such as siblings, peers, intimate partners, and other trustworthy adults. Thus, protective factors not included in this model should be examined in future investigations (e.g., role of other significant adults, genetics, learning experiences; Negreiros et al., 2014).

Second, this study's findings shed light on potential differences between the impacts of maternal vs. paternal behaviors in childhood. In this study, both maternal and paternal threatening behaviors correlated with perceived stress and anxiety. However, once sociodemographic covariates were accounted for in the structural model, the paths from paternal threatening behaviors to perceived stress and anxiety were no longer significant. Thus, our findings suggest that childhood exposure to maternal threatening behaviors is more relevant to perceived stress and anxiety in emerging adults than is exposure to paternal threatening behaviors. This is consistent with emerging literature; for example, Hong et al. (2019) found that, among female college students, there were significant, positive associations between perceived stress and childhood experience of maternal psychological maltreatment, but *not* childhood experience of paternal psychological maltreatment. Similarly, an attachment-informed longitudinal study of Israeli children found that the quality of infant-mother attachment in infancy predicted more socioemotional outcomes at ages 11, 17, and 20 years than did infant-father attachment (Sagi-Schwartz & Aviezer, 2005).

Differences in the contexts in which mothers (vs. fathers) spend time with children in their upbringing may also be important to consider as a potential explanation for this finding. For example, mothers in the U.S. spend up to 50% more time caring for children than do fathers (Pew Research Center, 2013). The attachment literature consistently finds across cultures that mothers are more likely than fathers to serve as a child's principal attachment figure, and that this phenomenon may have a biological basis (Freeman et al., 2010). Studies examining father-child attachment have also found that father-child interactions may arise in different social contexts than mother-child interactions; specifically, children tend to seek fathers in the context of play or exploration and seek mothers in contexts of distress (Freeman et al., 2010). A range of maternal disciplinary behaviors at age 10 (i.e., corporal punishment, ignoring of misbehavior, monitoring, and psychological aggression)

predicted offspring internalizing problems in adulthood, but the only paternal disciplinary behavior that predicted internalizing problems was ignoring of misbehavior (Leeuwen et al., 2012). Therefore, threatening statements from mothers may be issued more frequently in distressing contexts, which may have long-term, cumulative effects on their offspring's perceived control over stressors and their ability to manage them. In contrast, threatening statements from fathers may be issued less frequently as they, on average, spend less time with their children and do so in less distressing contexts.

Another possible explanation for maternal and paternal differences may be the *type* of threatening behaviors issued by mothers vs. fathers. Compared to fathers, mothers report greater use of harsh verbal discipline towards their child (Wang & Kenny, 2014). Rates of psychological maltreatment are also consistently higher in mothers than fathers (Cui et al., 2016; Villanueva van den Hurk & McKinney, 2021). On the other hand, rates of physical maltreatment are mixed, with some studies finding higher rates in fathers (Cui et al., 2016), higher rates in mothers (Chang et al., 2008; Cui et al., 2016; Villanueva van den Hurk & McKinney, 2021), or comparable rates between parents (Cui et al., 2018). Given that psychological maltreatment is more strongly associated with later mental health problems in adulthood than is physical maltreatment (Kisely et al., 2018), there may be stronger links between maternal threatening behaviors and psychological outcomes (i.e., perceived stress, anxiety). On the other hand, paternal threatening behaviors may lead to other consequences later in young adulthood that were not captured in this study (e.g., externalizing problems). The attachment literature has also found that children may internalize maternal vs. paternal behaviors differently; for example, the effect of fathers' frightening behaviors (i.e., threatening, frightened, dissociative, or role-reversing behaviors) on children's later socioemotional outcomes were mitigated by fathers' caregiving sensitivity, but this mitigating effect was not found for mothers (Hazen et al., 2014). Therefore, the effects of paternal threatening behaviors on young adult anxiety may have been mitigated by variables not assessed in this study.

Third, this study contributes preliminary information about potential gender and racial/ethnic differences in childhood exposure to parental threatening behaviors and levels of perceived stress. Our structural model indicated that female gender was modestly associated with greater levels of childhood exposure to maternal threatening behaviors, and was moderately associated with greater levels of perceived helplessness. This finding is consistent with past studies that have also found higher levels of perceived stress in female (vs. male) students (Hong et al., 2018). However, it is inconsistent with studies that have found that male students endorse greater exposure to maternal punitive and rejecting parenting than female students (Khalid et al., 2019). Additionally, our structural model indicated that racial/ethnic minority status was associated with greater exposure to both maternal and paternal threatening behaviors. Other studies have also found racial/ethnic differences in parenting behaviors, and that such differences may be related to parenting stress, lack of social support, structural disadvantages, and cultural values (Kazmierski et al., 2022; McCabe et al., 2003; Nomaguchi & House, 2013). Given that the sample in the current study had a relatively small proportion of racial/ethnic minorities, additional research with more diverse samples is needed to more fully understand the factors underlying these associations.

Several clinical implications can be drawn from the findings. First, clinicians are encouraged to recognize that the impact of parenting in childhood can have long-lasting effects on emerging adults' beliefs about the self and about the world, as well as long-lasting effects on their mental health. Cognitive behavioral therapy (CBT)—the gold-standard psychological intervention for anxiety (Ginsburg et al., 2018)—challenges maladaptive core beliefs that contribute to thoughts and behaviors that trigger and sustain problematic anxiety. Recognizing that the origins of such core beliefs may stem from parenting received in childhood can inform treatment. Second, the present findings suggest that perceived helplessness—and to a lesser degree, self-efficacy—may be a helpful target for emerging adults struggling with anxiety symptoms. Perceived helplessness and self-efficacy are both malleable constructs: trials show that CBT can decrease perceived helplessness (Radhu et al., 2012) and increase self-efficacy (Jafar et al., 2015; Venkatesh Kumar & Sebastian, 2011). The findings of this study also support an attachment-informed avenue for change. While internal working models tend to be stable over time, attachment theorists recognize that such models can be modified as a result of new learning experiences (Pietromonaco & Feldman Barrett, 2000). Maladaptive internal working models may be modified in adulthood, for example, through a corrective experience with a supplementary attachment figure such as a therapist (Ainsworth, 1989).

Findings should be interpreted in the context of several limitations. First, the cross-sectional nature of the data precludes causal inferences. One of the strengths of the PTI is that it allows retrospective reporting of childhood experiences. However, retrospective reports are vulnerable to recall biases. As anxiety has been associated with negative recall bias (Smith et al., 2018), participants who endorsed high anxiety may have also recalled their parents' behaviors as more threatening. Cross-sectional data also preclude drawing inferences about bidirectional influences between variables. Although we proposed that perceived stress confers risk for anxiety, it is possible that anxious individuals develop increased perceived stress because of functional impairment caused by anxiety symptoms. Although prior longitudinal studies support the proposed directionality of the model (e.g., Roick & Ringeisen, 2017), longitudinal data are required to provide a more rigorous test of the hypothesized model.

Second, data from the current study relied on self-report measures. How individuals perceive themselves is highly relevant to internalizing problems (Zou & Abbott, 2012), but this introduces the possibility of common-method bias. As the present study did not directly assess participants' parents' own perceptions of their parenting, possible discrepancies between offspring perception and parental perception (or objective indices) of parenting could not be ascertained. Finally, data for this study were collected from undergraduates who endorsed relatively low levels of childhood exposure to parental threat and relatively mild anxiety symptoms. As such, these findings cannot be generalized to clinical samples of emerging adults presenting with anxiety disorders. Replicating these findings with clinical samples is an important next step for intervention efforts.

Conclusion

The present investigation examined associations between childhood exposure to parental threatening behaviors and current anxiety symptom severity in a sample of emerging adults and the underlying role of perceived helplessness and self-efficacy in these associations. Results indicated that greater childhood exposure to maternal threatening behaviors was indirectly associated with anxiety symptom severity through greater perceived helplessness and poorer self-efficacy. In contrast, childhood exposure to paternal threatening behaviors was neither directly nor indirectly associated with anxiety severity. These findings underscore the long-lasting effects of childhood experiences on emerging adults' anxiety symptoms, as well as perceived stress as a potentially useful treatment target for emerging adults who struggle with anxiety.

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Availability of Data and Material:

The data and material that support the findings of this study are available from the corresponding author upon reasonable request.

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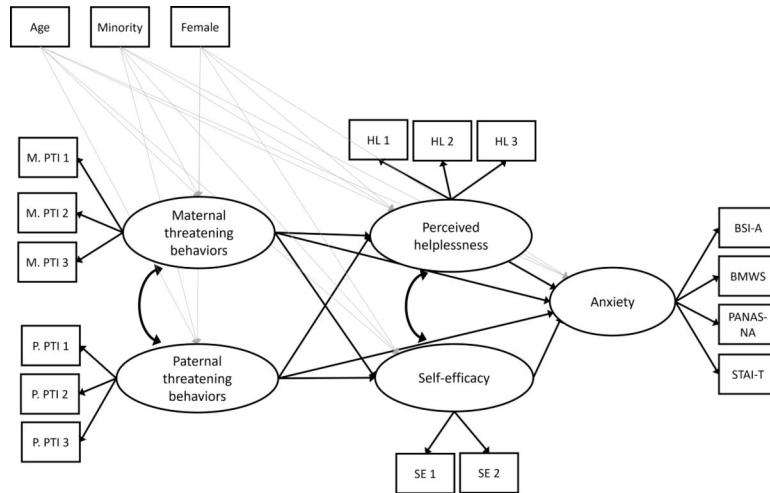


Figure 1. Hypothesized structural model.

Note. Hypothesized paths linking childhood exposure to maternal and paternal threatening behaviors with anxiety symptoms through perceived helplessness and self-efficacy, controlling for relevant sociodemographic covariates. Paths from sociodemographic covariates to each latent construct are greyed out for visual clarity.

Minority = racial/ethnic minority status; Female = female gender; M. PTI 1, 2, 3 = Three parcels from the Parent Threat Inventory (PTI) pertaining to the mother; P. PTI 1, 2, 3 = three parcels from the PTI pertaining to the father; HL 1, 2, 3 = three parcels from the perceived helplessness subscale from the Perceived Stress Scales (PSS); SE 1, 2 = two parcels from the self-efficacy subscale from the PSS; BSI-A = Brief Symptom Inventory, Anxiety subscale score; BMWS = Brief Measure of Worry Severity, total score; PANAS-NA = Positive Affect and Negative Affect Scales, Negative Affect score; STAI-T = State Trait Anxiety Inventory, Trait total score.

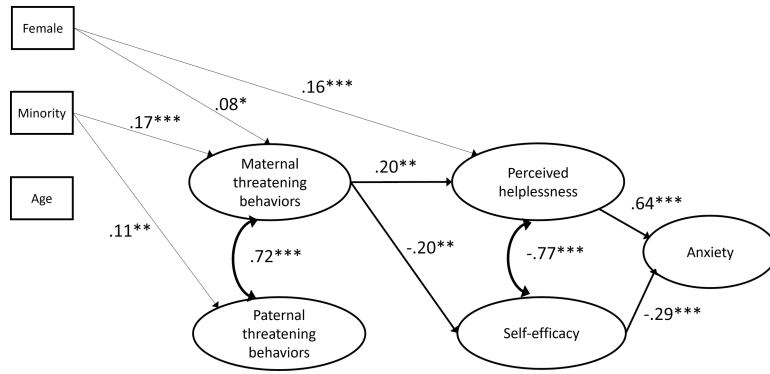


Figure 2. Results of the structural model.

Note. Paths linking childhood exposure to maternal and paternal threatening behaviors with anxiety symptoms through perceived helplessness and self-efficacy, controlling for sociodemographic covariates. Path coefficients are presented in standardized units. Only sociodemographic covariates, latent variables, and statistically significant paths are depicted for clarity. See Table 2 for factor loadings of observed indicators and Table 4 for all path coefficients.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 1

Descriptive Statistics and Correlations of Observed Indicators (total N = 855).

Indicator	M	SD	Range	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1. Age	18.75	1.09	18–24	-																	
2. Female		70.8%	female	-.20	-																
3. Minority		16.8%	minority	.02 ^{ns}	-.04 ^{ns}	-															
4. M. PTI 1	1.22	.43	1–3.83	.001 ^{ns}	.09 ^b	.02 ^{ns}	-														
5. M. PTI 2	1.33	.52	1–3.83	.02 ^{ns}	.06 ^{ns}	.04 ^{ns}	.86	-													
6. M. PTI 3	1.26	.47	1–3.6	.01 ^{ns}	.06 ^{ns}	.04 ^{ns}	.87	.85	-												
7. P. PTI 1	1.27	.50	1–4.17	-.01 ^{ns}	.05 ^{ns}	-.05 ^{ns}	.63	.62	-												
8. P. PTI 2	1.34	.58	1–4.83	-.01 ^{ns}	.06 ^{ns}	-.03 ^{ns}	.59	.65	.59	.89	-										
9. P. PTI 3	1.42	.61	1–4.6	-.003 ^{ns}	.08 ^b	-.09 ^a	.56	.60	.61	.84	.83	-									
10. Helpless 1	1.62	.83	0–4	-.01 ^{ns}	.14	-.08 ^b	.20	.19	.22	.17	.17	.18	-								
11. Helpless 2	2.09	.81	0–4	-.03 ^{ns}	.18	-.04 ^{ns}	.16	.16	.14	.10 ^a	.11 ^a	.14	.58	-							
12. Helpless 3	1.58	.81	0–4	.004 ^{ns}	.14	-.08 ^b	.19	.18	.20	.17	.15	.18	.73	.67	-						
13. SE 1	2.52	.73	0.5–4	-.06 ^{ns}	-.01 ^{ns}	.03 ^{ns}	-.17	-.16	-.17	-.15	-.14	-.14	-.53	-.50	-.56	-					
14. SE 2	2.63	.73	0.5–4	-.05 ^{ns}	-.003 ^{ns}	.07 ^{ns}	-.20	-.19	-.21	-.19	-.16	-.19	-.58	-.44	-.54	.69	-				
15. BSI-A	3.75	3.99	0–22	-.04 ^{ns}	.09 ^b	-.07 ^b	.23	.22	.21	.25	.24	.24	.51	.48	.53	-.44	-.44	-			
16. BMWS	3.42	3.96	0–16	-.02 ^{ns}	.12	-.08 ^b	.11 ^a	.13	.10 ^a	.09 ^b	.10 ^a	.12	.51	.54	.53	-.43	-.44	.60	-		
17. PANAS-NA	20.09	6.76	10–46	-.05 ^{ns}	.12	-.11 ^a	.22	.20	.22	.20	.18	.22	.60	.58	.62	-.50	-.52	.71	.60	-	
18. STAI-T	39.38	9.51	20–76	.04 ^{ns}	.04 ^{ns}	-.06 ^{ns}	.20	.22	.21	.20	.18	.20	.63	.58	.65	-.62	-.68	.60	.63	.69	

Note. Female is a binary variable of gender identity (0 = male, 1 = female); Minority is a binary variable of racial/ethnic identity (0 = non-Hispanic White, 1 = minority racial/ethnic identity); Maternal PTI (M. PTI) 1, 2, 3 = Three parcels from the Parent Threat Inventory (PTI) pertaining to the mother; Paternal PTI (P. PTI) 1, 2, 3 = three parcels from the PTI pertaining to the father; Helpless 1, 2, 3 = three parcels from the perceived helplessness subscale from the Perceived Stress Scales (PSS); Self-efficacy (SE) 1, 2 = two parcels from the self-efficacy subscale from the PSS; BSI-A = Brief Symptom Inventory, Anxiety subscale score; BMWS = Brief Measure of Worry Severity, total score; PANAS-NA = Positive Affect and Negative Affect Scales, Negative Affect score; STAI-T = State Trait Anxiety Inventory, Trait total score. All outliers have been adjusted.

All r s < .001 unless otherwise noted with subscripts, where a: $p < .01$; b: $p < .05$; ns: $p > .05$

Table 2

Estimates and confidence intervals of parameters in the measurement model (N = 855).

Parameter	Unstandardized			Standardized			R ²
	Estimate	95% CI	Variance	Estimate	95% CI	Variance	
Latent variable: Maternal threatening behaviors							
Maternal PTI 1	1.00***	-	0.18	.94***	[0.92, 0.96]	.11	.89
Maternal PTI 2	1.15***	[1.07, 1.23]	0.04	.92***	[0.90, 0.94]	.15	.85
Maternal PTI 3	1.04***	[0.97, 1.10]	0.03	.92***	[0.90, 0.95]	.15	.85
Latent variable: Paternal threatening behaviors							
Paternal PTI 1	1.00***	-	0.02	.95***	[0.93, 0.97]	.09	.91
Paternal PTI 2	1.13***	[1.06, 1.21]	0.04	.94***	[0.92, 0.95]	.12	.88
Paternal PTI 3	1.14***	[1.06, 1.22]	0.08	.89***	[0.86, 0.92]	.21	.79
Latent variable: Perceived helplessness							
Helplessness 1	1.00***	-	0.22	.83***	[0.79, 0.86]	.32	.68
Helplessness 2	0.89***	[0.82, 0.97]	0.28	.75***	[0.72, 0.79]	.43	.57
Helplessness 3	1.03***	[0.96, 1.10]	0.15	.87***	[0.85, 0.90]	.24	.76
Latent variable: Self-efficacy							
Self-efficacy 1	1.00***	-	0.18	.82***	[0.78, 0.86]	.33	.67
Self-efficacy 2	1.02***	[0.93, 1.11]	0.16	.84***	[0.80, 0.87]	.30	.70
Latent variable: Anxiety							
BSI-A	1.00***	-	6.73	.76***	[0.72, 0.80]	.42	.58
BMWS	0.96***	[0.87, 1.05]	7.33	.73***	[0.69, 0.77]	.47	.53
PANAS-NA	1.88***	[1.72, 2.03]	13.57	.84***	[0.81, 0.87]	.30	.70
STAI-T	2.68***	[2.38, 2.98]	24.93	.85***	[0.82, 0.88]	.28	.72
Covariate: Age							
→ Maternal threatening behaviors	0.004	[-0.02, 0.03]	-	.01	[-.06, .08]	-	-
→ Paternal threatening behaviors	0.001	[-0.03, 0.03]	-	.003	[-.06, .07]	-	-
→ Perceived helplessness	0.02	[-0.03, 0.07]	-	.03	[-.04, .11]	-	-
→ Self-efficacy	-0.04	[-0.08, 0.004]	-	-.07	[-.14, .01]	-	-

Parameter	Unstandardized			Standardized			R ²
	Estimate	95% CI	Variance	Estimate	95% CI	Variance	
→ Anxiety	0.011	[-0.20, 0.22]	-	.004	[-.07, .08]	-	-
Covariate: Female gender							
→ Maternal threatening behaviors	0.08 *	[0.02, 0.14]	-	.08 *	[.02, .15]	-	-
→ Paternal threatening behaviors	0.07	[-0.003, 0.14]	-	.07	[-.003, .13]	-	-
→ Perceived helplessness	0.27 ***	[0.16, 0.37]	-	.18 ***	[.11, .25]	-	-
→ Self-efficacy	-0.03	[-0.13, 0.07]	-	-.02	[-.10, .05]	-	-
→ Anxiety	0.70 **	[0.23, 1.17]	-	.11 **	[.04, .17]	-	-
Covariate: Racial/ethnic minority							
→ Maternal threatening behaviors	0.19 ***	[0.10, 0.29]	-	.17 ***	[.09, .25]	-	-
→ Paternal threatening behaviors	0.13 **	[0.04, 0.23]	-	.11 **	[.03, .18]	-	-
→ Perceived helplessness	0.04	[-0.10, 0.19]	-	.02	[-.05, .10]	-	-
→ Self-efficacy	-0.10	[-0.22, 0.03]	-	-.06	[-.14, .02]	-	-
→ Anxiety	0.09	[-0.51, 0.70]	-	.01	[-.06, .09]	-	-

Note: Maternal PTI 1, 2, 3= Three parcels from the Parent Threat Inventory (PTI) pertaining to the mother; Paternal PTI 1, 2, 3 = three parcels from the PTI pertaining to the father; Helplessness 1, 2, 3 = three parcels from the perceived helplessness subscale from the PSS; Self-efficacy 1, 2 = two parcels from the self-efficacy subscale from the PSS; BSI-A = Brief Symptom Inventory, Anxiety subscale score; BMWS = Brief Measure of Worry Severity, total score; PANAS-NA = Positive Affect and Negative Affect Scales, Negative Affect score; STAI-T = State Trait Anxiety Inventory, Trait total score; CI = confidence interval.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3.

Correlations between latent variables in the measurement model (N = 855).

Latent variable	1	2	3	4
1. Maternal threatening behaviors	-			
2. Paternal threatening behaviors	.72	-		
3. Perceived helplessness	.23	.19	-	
4. Self-efficacy	-.24	-.20	-.78	-
5. Anxiety	.27	.24	.87	-.79

Note.

All p s < .001.

Table 4.

Estimates and confidence intervals of parameters in the structural model depicted in Fig 2.

Parameters	Unstandardized estimate	95% CI	Standardized estimate	95% CI
Structural paths				
Maternal threatening behaviors → Perceived helplessness	0.32 **	[0.13, 0.51]	.20 ****	[.08, .31]
Maternal threatening behaviors → Self-efficacy	-0.28 **	[-0.46, -0.11]	-.20 **	[-.32, -.08]
Maternal threatening behaviors → Anxiety	0.13	[-0.41, 0.66]	.02	[-.06, .09]
Paternal threatening behaviors → Perceived helplessness	0.07	[-0.11, 0.24]	.05	[-.07, .16]
Paternal threatening behaviors → Self-efficacy	-0.08	[-0.22, 0.07]	-.06	[-.18, .06]
Paternal threatening behaviors → Anxiety	0.34	[-0.08, 0.75]	.05	[-.01, .12]
Perceived helplessness → Anxiety	2.82 ****	[2.23, 3.42]	.64 ****	[.53, .74]
Self-efficacy → Anxiety	-1.44 ****	[-2.01, -0.87]	-.29 ****	[-.40, -.18]
Covariances				
Maternal threatening behaviors ↔ Paternal threatening behaviors	0.14 ****	[0.10, 0.17]	.72 ****	[.63, .80]
Perceived helplessness ↔ Self-efficacy	-0.29 ****	[-0.33, -0.25]	-.77 ****	[-.83, -.71]
Sociodemographic Covariates				
Age → Maternal threatening behaviors	0.004	[0.02, 0.03]	.01	[-.06, .08]
Age → Paternal threatening behaviors	0.001	[-0.03, 0.03]	.003	[-.06, .07]
Age → Perceived helplessness	0.02	[-0.03, 0.07]	.03	[-.04, .10]
Age → Self-efficacy	-0.04	[-0.08, 0.003]	-.06	[-.13, .01]
Age → Anxiety	-0.10	[-0.27, 0.06]	-.04	[-.09, .02]
Female gender → Maternal threatening behaviors	0.08 *	[0.02, 0.14]	.08 *	[.02, .15]
Female gender → Paternal threatening behaviors	0.07	[-0.003, 0.14]	.07	[-.003, .13]
Female gender → Perceived helplessness	0.24 ****	[0.14, 0.34]	.16 ****	[.09, .23]
Female gender → Self-efficacy	-0.002	[-0.10, 0.10]	-.001	[-.08, .07]
Female gender → Anxiety	-0.13	[-0.44, 0.18]	-.02	[-.07, .03]
Racial/ethnic minority → Maternal threatening behaviors	0.19 ****	[0.10, 0.29]	.17 ****	[.09, .25]
Racial/ethnic minority → Paternal threatening behaviors	0.13 **	[0.04, 0.23]	.11 **	[.03, .18]
Racial/ethnic minority → Perceived helplessness	-0.03	[-0.17, 0.11]	-.01	[-.09, .06]

Parameters		Unstandardized estimate	Standardized estimate	95% CI	95% CI
Racial/ethnic minority	→	Self-efficacy	-0.03	-0.02	[-.10, .06]
Racial/ethnic minority	→	Anxiety	-0.24	-0.03	[-0.63, 0.15]

Note: CI = confidence interval.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 5.

Test of Indirect Effects (N = 855)

Independent variable	Mediator variable	Dependent variable	Unstandardized values				Standardized values			
			Mean indirect effect (B)	SE	p	95% CI	Mean indirect effect (B)	SE	p	95% CI
Maternal threatening behaviors	Helplessness	Anxiety	0.91**	.31	.003	[0.34, 1.49]	.13**	.04	.002	[-.05, .20]
Maternal threatening behaviors	Self-efficacy	Anxiety	0.41**	.16	.010	[0.11, 0.70]	.06**	.02	.005	[-.02, .10]
Paternal threatening behaviors	Helplessness	Anxiety	0.19	.26	.474	[-0.30, 0.67]	.03	.04	.755	[-.05, .10]
Paternal threatening behaviors	Self-efficacy	Anxiety	0.11	.11	.339	[-0.11, 0.33]	.02	.02	.322	[-.02, .05]

Note. SE = standard error. CI = confidence interval.

* $p < .05$

** $p < .01$