

Positive reappraisal coping mediates the relationship between parental abuse and lack of affection on adulthood generalized anxiety severity

Matthew H.S. Ng^{a,*}, Nur Hani Zainal^{b,c}, Michelle Gayle Newman^d

^a Rehabilitation Research Institute of Singapore, Nanyang Technological University, Singapore

^b Department of Health Care Policy, Harvard Medical School, USA

^c Department of Psychology, National University of Singapore, Singapore

^d Department of Psychology, The Pennsylvania State University, USA

ARTICLE INFO

Keywords:

Abuse
Affection
Positive reappraisal
Anxiety
Longitudinal
Structured equation modeling

ABSTRACT

Exposure to parental abuse and lack of parental affection during childhood are risk factors for adulthood psychopathology. Tendency to engage in positive reappraisal may be a plausible mechanism underlying this relationship. The current study examined if positive reappraisal coping mediated the relationship between maternal/paternal abuse/affection and adulthood generalized anxiety disorder (GAD) symptoms. Participant data ($N = 3294$) from the Midlife Development in the United States study was collected in three waves, spaced nine years apart. Longitudinal structural equation modeling examined whether positive reappraisal coping at Time 2 mediated the relationship between maternal/paternal abuse/affection at Time 1 and GAD symptoms at Time 3, controlling for GAD symptoms at Time 1. Positive reappraisal coping mediated maternal/paternal childhood abuse – GAD symptom severity and maternal/paternal childhood affection – GAD severity relations. Maternal and paternal abuse was associated with lower positive reappraisal tendencies, predicting increased GAD symptom severity. Conversely, higher maternal/paternal affection was associated with increased positive reappraisal, predicting lower GAD severity. Incremental prediction revealed that childhood abuse to GAD severity via positive reappraisal path was significant for maternal but not paternal abuse, whereas affection from both parents remained significant. Positive reappraisal coping may be a possible mechanism linking childhood experiences to adulthood GAD severity.

1. Introduction

Generalized anxiety disorder (GAD) is a persistent mental disorder characterized by excessive worrying, tension, hypervigilance, and other somatic symptoms that persist for at least six months (American Psychiatric Association, 2013). GAD symptoms have also been shown to be highly comorbid with other mental disorders, such as major depressive disorder, panic disorder, and bipolar disorder (Barber et al., 2023; Silove & Marnane, 2013; Yapici-Eser et al., 2018), and has evidenced widespread consequences across many other domains. Examples include increased social disability (Newman et al., 2013b; Wittchen, 2002), poorer executive functioning (Majeed et al., 2023; Zainal & Newman, 2022), decreased work productivity (Hoffman et al., 2008) and increased primary care utilization (Maier et al., 2000; Porensky et al., 2009). Given that anxiety disorders are among the most common mental health disorders in the general population (Alonso et al., 2007; Kessler

et al., 2005; Newman et al., 2013a) and that the detrimental impact of GAD symptoms is widespread, identifying and understanding risk factors and mechanisms associated with GAD symptoms is essential.

Childhood experiences have been shown to be a prominent factor in the development of GAD symptoms. Broadly, childhood experiences have been examined from the perspectives of both adverse (e.g., emotional, physical, or sexual abuse and household dysfunction) and positive (e.g., familial/social-emotional and social support; Bethell et al., 2019; Crandall et al., 2019; Felitti et al., 1998) events. Adverse childhood experiences, specifically in the form of parental childhood abuse, have been associated with poor outcomes ranging from difficulties in controlling/expressing anger toward self and others (Win et al., 2021), lower self-acceptance (Sanghvi et al., 2023), and higher somatic symptoms and medical utilization (Newman et al., 2000). More importantly, parental abuse during childhood has been linked to a wide range of mental health problems, including depression (Adrian &

* Correspondence to: Rehabilitation Research Institute of Singapore, Clinical Science Building, 11 Mandalay Rd, #14-03, 308232, Singapore.

E-mail address: matthew.nghs@ntu.edu.sg (M.H.S. Ng).

<https://doi.org/10.1016/j.janxdis.2024.102826>

Received 5 July 2023; Received in revised form 23 December 2023; Accepted 5 January 2024

Available online 9 January 2024

0887-6185/© 2024 Elsevier Ltd. All rights reserved.

Hammen, 1993; Shih et al., 2006), externalizing issues (e.g., Deater-Deckard et al., 1998), and in particular, GAD symptoms (Copeland et al., 2018; Newman et al., 2016; Rudolph & Hammen, 1999; Sanghvi et al., 2023). Even decades after encounters of childhood abuse, retrospectively reported parental childhood abuse was found to increase risk of mental disorders in adulthood (Chapman et al., 2004). Taken together, parental abuse during childhood has been associated with lifelong increased risk of psychopathology, especially GAD symptoms (Green et al., 2010; Kessler et al., 2010).

Conversely, positive childhood experiences in the form of high parental affection have been linked to improved outcomes such as subjective and psychosocial well-being (Chen et al., 2019; Huppert et al., 2010). High levels of parental affection have also been inversely linked with mental health problems (Bartek et al., 2021; Chen et al., 2019; Enns et al., 2002), particularly anxiety symptoms (Butterfield et al., 2021). In contrast to the long-term effects of childhood abuse, Bethell et al. (2019) concluded that positive childhood experiences (e.g., parental affection) could have lifelong protective effects on mental health (including reduced pathological worry and other GAD symptoms).

One mechanism that might underlie the relationship between childhood experiences and GAD symptoms in adulthood is emotion regulation (for a review, see Dvir et al., 2014; Miu et al., 2022). Emotion regulation is defined as the process of shaping when and what emotions one has and the experience or expression of these emotions (Gross, 2014). Difficulty in regulating one's emotions has been identified as a transdiagnostic factor for many emotional disorders (Joormann, 2010; Nolen-Hoeksema et al., 2008), including anxiety disorders (Everaert & Joormann, 2019; Mennin et al., 2003; Newman & Llera, 2011; Teachman et al., 2012). One prominent strategy to regulate emotions is through the propensity to use positive reappraisal. Positive reappraisal is defined as cognitively reframing the meaning of distressing events to be less negative or more positive to reduce their negative emotional impact (Gross, 2014). Indeed, the utilization of positive reappraisal as a strategy to regulate emotions has been shown to be a strong factor in decreasing internalizing symptoms (Aldao et al., 2010; Kivity & Huppert, 2018; Liu & Thompson, 2017) due to decreased negative and increased positive experience of emotions (Gross & John, 2003) and better recovery from acute stressors (Jamieson et al., 2012). Collectively, deficits in tendencies to engage in positive reappraisal could result in the occurrence and maintenance of chronic psychopathology such as GAD and related anxiety disorders.

The development of emotional regulatory skills has been theorized to occur incrementally over the course of childhood (Gross & Muñoz, 1995), with researchers proposing a few theoretical models that might explain the underlying processes behind parental childhood abuse and resulting deficits in emotion regulation. For example, the theory of behavioral modeling of parents to children (Eisenberg et al., 1998; Rieder & Cicchetti, 1989) posits that children who observe emotion dysregulation in parents or caregivers may subsequently have difficulty regulating their feelings. Hence, it is highly likely that experiences of childhood abuse might result in impaired tendencies to engage in positive reappraisal, a component of emotion regulation, which might predispose one to emotional disorders (e.g., GAD symptoms). Conversely, experiences of parental affection would likely support the development of emotion regulation strategies, promoting the usage of positive reappraisal tendencies and reducing GAD symptoms over time. Taken together, understanding how tendency to positively reappraise is influenced by exposure to parental abuse/affection and its relation to GAD symptoms might provide crucial insights into our understanding of the mechanisms contributing to the onset and maintenance of GAD. To this end, such efforts may aid in more precisely identifying treatment targets and informing optimal preventive psychosocial interventions.

Much of the current empirical literature (e.g., Boyes et al., 2016;

Cloitre et al., 2019; Miu et al., 2022) has examined emotion regulation overall as a mediator between childhood abuse and psychopathology. In particular, Boyes et al. (2016) found that cognitive reappraisal tendencies were positively associated with mental health. Similarly, Miu et al. (2022) found that childhood adversity was negatively related to habitual cognitive reappraisal use, which in turn heightened the risk for future psychopathology. However, most of these studies were cross-sectional, which precluded weak causal inferences due to the absence of temporal precedence (Blackwell & Glynn, 2018) and did not explicitly examine GAD symptoms in adulthood. Furthermore, although negative associations between childhood parental affection and adulthood psychopathology have been established (Aunola et al., 2015; Jorm et al., 2003), there are a dearth of studies in the literature examining the mediating role of positive reappraisal, specifically on the relationship between childhood parental affection and GAD symptoms in adulthood.

In addition, a deeper examination of the differential impact of maternal and paternal figures on psychopathological symptoms in adulthood is warranted. Much of the existing research examining parental roles during childhood has disproportionately focused on maternal figures, often ignoring paternal figures (Brumariu & Kerns, 2010; Ding & He, 2022; Rutter, 1981). Researchers have suggested that both parental figures confer unique and independent effects on developmental outcomes (Grossmann et al., 2002; Pleck, 2010), which could be explained by varying roles within the family and different caregiving styles (Cox & Paley, 1997; Cui et al., 2018). Although there is growing research emphasis on the differential effects of parental roles on psychopathology, findings in the existing literature remain mixed. Most research (Kong & Martire, 2019; Moretti & Craig, 2013) has suggested that the maternal role might be a stronger predictor than the paternal role in mental health outcomes. The lasting influence and intricate dynamics between children and their mothers, as opposed to fathers, endured well into adulthood (Rosenthal & Kobak, 2010). Similarly, recent studies have observed that childhood abuse by mothers rather than fathers was associated with reduced psychological well-being, heightened risk of psychopathology, and increased distress (Kong & Martire, 2019; Kong, Martire, Liu et al., 2019). However, some researchers (Mattanah, 2001; Summers et al., 1998) have suggested that the paternal influence was a stronger predictor. Together, the dearth of research examining both parental roles and mixed findings in the current literature present a strong impetus to examine both parental roles in the perpetration of abuse and engagement in affection.

Therefore, based on theory and empirical literature, the current study sought to examine the following hypotheses. First, we expected positive reappraisal tendencies to significantly mediate the relationship between parental childhood abuse and GAD symptoms in adulthood. Specifically, we predicted that increased maternal and paternal abuse (examined separately) would result in lower positive reappraisal coping, which in turn would lead to greater GAD symptom severity in adults. Next, we hypothesized that positive reappraisal tendencies would significantly mediate the relationship between maternal/paternal affection during childhood and GAD symptoms. Specifically, we predicted that higher maternal and paternal affection would separately result in increased positive reappraisal coping, which would, in turn, lead to lower experiences of GAD symptom severity in adulthood.

2. Method

2.1. Participants

Data for this study was taken from the Midlife in the United States project (MIDUS; Brim et al., 1999; Ryff et al., 2015; Ryff et al., 2007). MIDUS comprised three waves of data collected over approximately nine-year intervals: 1995–1996 (Time 1 [T1]); 2004–2005 (Time 2

[T2]); 2012–2013 (Time 3 [T3]). A total of 3294 participants were included in this study. Participants were between 20 and 74 years of age ($M = 45.6$, $SD = 11.4$) at baseline, of which 54.6% were female and 46.8% were college-educated. Most participants racially identified as White (89.01%), compared to 10.99% of participants who identified as African American, Native American, Asian, multiracial, and others. Refer to [Table 1](#) for descriptive statistics and a correlation matrix of the study variables.

2.2. Procedures

The first wave of data collection (T1) was done via telephone interviews and self-administered questionnaires (SAQs).¹ The second (T2) and third (T3) data collection waves were done via SAQs. Modified versions of the assessments were administered via telephone for participants who did not complete SAQs at T2 and T3 (refer to MIDUS codebooks for more information; [Brim et al., 1999](#); [Ryff et al., 2007, 2015](#)). The current study utilized data from 3,294 participants who completed telephone interviews and/or SAQs assessing GAD symptom severity at T1 and T3 because it offered data from participants who partook in most of the protocol aspects relevant to the current research aim. Measures that evaluated the frequency of childhood parental abuse and affection were completed at T1, and the measure of positive reappraisal was completed at T2.

2.3. Measures

2.3.1. Parental abuse during childhood

Retrospectively-reported experiences of childhood abuse were collected with the Conflict Tactics Scale (CTS2; [Straus et al., 1996](#)). The CTS2 examined emotional, physical, and serious physical forms of abuse experienced during childhood. Participants were asked to report the frequency at which each of their parents or people who raised them "Insulted or swore" at them (emotional abuse), "Pushed, grabbed, or shoved" them (physical abuse), and "Kicked, bit, or hit with a fist" (serious physical abuse). For this study, the abuse perpetrated by participants' mother or woman who raised them and father or man who raised them were examined separately. Participants rated their experiences on a 4-point scale (1 = *Never* to 4 = *Often*). Domains examined in the CTS2 demonstrated satisfactory internal consistency (Cronbach's α s = .73, .71, and .75 for emotional, physical, and serious physical abuse, respectively). The CTS2 also had strong construct validity and good retest reliability across diverse samples ([Chapman & Gillespie, 2019](#)).

2.3.2. Parental affection during childhood

Retrospectively reported maternal and paternal affection during childhood was collected at T1 ([Rossi, 2001](#)). Respondents rated their responses along a 4-point Likert scale (1 = *Not at all* to 4 = *A lot*). Examples of the items included "How much did she understand your problems and worries?" "How much love and affection did she give you?" and "How much time and attention did she give you when you needed it?". Both maternal and paternal affection scales were found to have good internal consistency (α s = .91 and .93, respectively). This scale had also demonstrated good construct validity ([Chen et al., 2019](#)).

2.3.3. Positive reappraisal coping

Positive reappraisal was measured at T2 as a part of an SAQ assessing primary and secondary control ([Wrosch et al., 2000](#)). Participants responded to five items, which included statements such as "I can find something positive, even in the worst situations," "I find I usually learn

something meaningful from a difficult situation," and "Even when everything seems to be going wrong, I can usually find a bright side to the situation." Participants rated their positive reappraisal tendencies on a 4-point Likert scale (1 = *Not at all* to 4 = *A lot*). Positive reappraisal at T2 displayed good internal consistency ($\alpha = .78$). The primary and secondary control strategies scale (which includes positive reappraisal) displayed strong construct validity ([Haynes et al., 2009](#); [Wrosch et al., 2000](#)).

2.3.4. Generalized anxiety disorder symptom severity

GAD symptom severity was measured at T1 and T3 using the Composite International Diagnostic Interview–Short Form (CIDI-SF; [Kessler et al., 1998](#); [Wittchen, 1994](#)), which was derived from the GAD diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R; [American Psychiatric Association, 1987](#)). Participants administered the CIDI-SF over the telephone and were asked to report the frequency of 10 GAD symptoms over the past 12 months. Examples of items include "were restless because of your worry," "were keyed up, on edge, or had a lot of nervous energy," and "had trouble staying asleep because of your worry." Participants responded along a 4-point Likert scale (1 = *never* to 4 = *on most days*). The CIDI-SF demonstrated high sensitivity (96.6%) and specificity (99.8%; [Kessler et al., 1998](#)) and also had good internal consistency for this study (T1: $\alpha = .96$; T3: $\alpha = .97$). Psychometric property analyses were carried out to validate the utilization of the CIDI as a continuous measure of symptom severity. These analyses revealed evidence supporting convergent validity of the CIDI-SF GAD severity score, given significantly large and positive correlations of $r = .81$ with the Spielberger Trait Anxiety Inventory ([Spielberger, 1983](#)) and $r = .78$ with the Perceived Stress Scale ([Cohen et al., 1983](#)). The CIDI-SF GAD severity score also showed strong discriminant validity, based on consistently small and positive correlations of r values of .08 with the Social Contribution Scale and .06 with the Social Integration Scale ([Keyes & Shapiro, 2004](#)).

2.4. Analytic plan

Longitudinal structural equation mediation modeling was conducted using the *lavaan R* package ([Rosseel, 2012](#)) in the *RStudio* software (*R* Version 4.2.2). To assess model fit, the following fit statistics were utilized: Chi-square ([Hu & Bentler, 1999](#)), model degrees of freedom and its probability of null outcomes (p) value, confirmatory fit index (CFI; [Bentler, 1990](#)), Tucker-Lewis index ([Tucker & Lewis, 1973](#)), root mean square error of approximation (RMSEA; [Steiger, 1990](#)) and its 90% confidence interval (CI), and standardized root mean square residual (SRMR; [Byrne, 1998](#); [Hu & Bentler, 1999](#)). Two separate mediation models were constructed to examine T1 childhood maternal and paternal abuse predicting T3 GAD symptom severity via T2 positive reappraisal. Similarly, another two models measured T1 childhood maternal and paternal affection predicting T3 GAD symptoms via T2 positive reappraisal. Using the product of coefficients method of indirect effect ($a \times b$), mediation analyses were conducted for the coefficients of latent composite scores derived for T1 parental abuse (maternal and paternal abuse separately), predicting the latent composite scores of T2 positive reappraisal (path a) and T2 positive reappraisal predicting T3 GAD symptom severity (path b). Additional mediation analyses were conducted with the same approach, examining T1 parental affection (both maternal and paternal affection separately) predicting T3 GAD symptom severity via T2 positive reappraisal. Also, we reported the unstandardized regression coefficients (β), standard errors (SE), z -scores, and p values ([Cheung & Lau, 2008](#)). Mediation effect sizes were presented as a proportion of indirect effect ($a \times b$) relative to total effect ($c = a \times b + c'$) ([Preacher & Kelley, 2011](#); [Wen & Fan, 2015](#)). To increase analytic rigor, T1 GAD status was controlled for in all mediation analyses. Methodological researchers in causal inference advocate against adjusting for a mediating variable at baseline. Doing so could introduce

¹ Although the MIDUS study Time 1 (T1) data collection had 7108 participants and Time 2 (T2) had 4512, only the 3294 participants had data for diagnostic assessments at both T1 and Time 3 (T3) (i.e., the participants selected for the present study).

Table 1
Correlation matrix and descriptive statistics of study variables.

		1	2	3	4	5	6	7
1	MatAb (T1)	-						
2	MatAf (T1)	-.483 ***	-					
3	PatAb (T1)	.486 ***	-.242 ***	-				
4	PatAf (T1)	-.213 ***	.456 ***	-.463 ***	-			
5	PR (T2)	-.042 *	.084 ***	-.024	.105 ***	-		
6	GAD (T1)	.135 ***	-.145 ***	.132 ***	-.134 ***	-.089 ***	-	
7	GAD (T3)	.119 ***	-.094 ***	.087 ***	-.077 ***	-.128 ***	.346 ***	-
	<i>M</i>	4.65	22.84	4.96	19.77	12.28	13.58	13.09
	<i>SD</i>	1.95	4.90	2.14	5.76	2.43	6.46	6.33
	Min	3	7	3	7	4	10	10
	Max	12	29	12	29	16	40	40
	Skew	1.47	-0.87	1.28	-0.30	-0.29	1.83	2.15
	Kurtosis	2.05	0.16	1.23	-0.82	-0.44	2.56	3.87

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

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAb = childhood maternal abuse; MatAf = childhood maternal affection; PatAb = childhood paternal abuse; PatAf = childhood paternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal.

bias by blocking part of the causal effect via the mediator (D'Onofrio et al., 2020; Rosenbaum, 1984). Hence, the authors chose not to control for T1 positive reappraisal. To deal with missing data (3.5% of the total observed dataset), the gold standard approach utilizing full information maximum likelihood (Lee & Shi, 2021) was conducted for data likely to be missing at random.

3. Results

3.1. T1 Childhood abuse predicting T3 GAD symptom severity via T2 positive reappraisal

The model examining T1 childhood maternal abuse predicting T3 GAD symptom severity via T2 positive reappraisal demonstrated good fit ($\chi^2(df = 319) = 802.641, p < .001, CFI = .993, RMSEA = .023, 95\% CI [0.021, 0.025], SRMR = .030$). All individual items had significantly high factor loadings for T1 maternal abuse ($\lambda = 0.597 - 0.833$), T2 positive reappraisal ($\lambda = 0.499 - 0.882$), and T3 GAD symptoms ($\lambda = 0.804 - 0.879$) (all p values $< .001$), offering evidence for the unidimensionality of all constructs of interest.² Greater childhood maternal abuse significantly predicted lower T2 positive reappraisal ($\beta = -0.054, SE = 0.013, z = -4.233, p < .001, d = -0.456$), which in turn significantly predicted higher T3 GAD symptom severity ($\beta = -0.235, SE = 0.037, z = -6.330, p < .001, d = -0.682$). Indirect effects of childhood maternal abuse \rightarrow T2 positive reappraisal \rightarrow adulthood GAD symptom severity were significant ($\beta = 0.013, SE = 0.004, z = 3.397, p = .001, d = 0.366$) with T2 positive reappraisal accounting for 19.70% of the relationship between maternal childhood abuse and adulthood GAD symptom severity. Refer to Tables 2 and 3 for a summary of longitudinal SEM mediation models. Refer to Fig. 1 for a path diagram of this analysis.

Similarly, the model examining T1 paternal abuse predicting T3 GAD symptom severity via T2 positive reappraisal demonstrated good fit ($\chi^2(df = 319) = 832.807, p < .001, CFI = .992, RMSEA = .024, 95\% CI [0.022, 0.026], SRMR = .031$). All individual items loaded strongly onto their respective unidimensional constructs (T1 paternal abuse: $\lambda = 0.614 - 0.890$; T2 positive reappraisal: $\lambda = 0.500 - 0.880$; T3 GAD symptoms: $\lambda = 0.805 - 0.879$) (all p values $< .001$). Increased childhood paternal abuse significantly predicted lower positive reappraisal at T2 ($\beta = -0.036, SE = 0.010, z = -3.447, p = .001, d = -0.371$), which in turn significantly predicted higher T3 GAD symptom severity ($\beta = -0.246, SE = 0.038, z = -6.551, p < .001, d = -0.705$). Indirect effects of paternal childhood abuse \rightarrow T2 positive reappraisal \rightarrow

² Due to poor factor loading, the fifth item of the positive reappraisal was dropped in all four models of analyses (λ s = 0.280, 0.279, 0.275, and 0.231, in the original four models).

adulthood GAD symptom severity were significant ($\beta = 0.009, SE = 0.003, z = 2.957, p = .003, d = 0.318$) with T2 positive reappraisal accounting for 28.57% of the relationship between paternal childhood abuse and adulthood GAD symptom severity. Refer to Fig. 2 for a path diagram of this analysis. Taken together, both of these findings support Hypothesis 1.

As a sensitivity analysis, incremental predictions were tested to determine if positive reappraisal would mediate the paths between both maternal and paternal childhood abuse predicting adulthood GAD severity if measures reflecting abuse from both paternal and maternal figures were entered into the same model. This model had good fit ($\chi^2(df = 396) = 1039.311, p < .001, CFI = .987, RMSEA = .024, 95\% CI [0.022, 0.026], SRMR = .032$). T2 positive reappraisal significantly mediated the childhood maternal abuse-T3 adulthood GAD severity association ($\beta = -0.012, SE = 0.004, z = 2.780, p < .01, d = 0.281$), but not the childhood paternal abuse-T3 adulthood GAD severity association ($\beta = -0.001, SE = 0.003, z = -0.255, p = .799$). The mediation pathway for maternal abuse as the predictor was still significant after adjusting for paternal abuse. Refer to Table 4 for a summary of the longitudinal SEM mediation model.

3.2. T1 Parental affection predicting T3 GAD symptom severity via positive reappraisal

The model examining T1 maternal affection predicting T3 GAD symptom severity via T2 positive reappraisal showed good fit ($\chi^2(df = 429) = 3711.636, p < .001, CFI = .928, RMSEA = .067, 95\% CI [0.065, 0.069], SRMR = .031$). All individual items loaded strongly onto their respective unidimensional constructs (T1 paternal abuse: $\lambda = 0.614 - 0.890$; T2 positive reappraisal: $\lambda = 0.500 - 0.880$; T3 GAD symptoms: $\lambda = 0.805 - 0.879$) (all p values $< .001$). Greater childhood maternal affection significantly predicted greater positive reappraisal at T2 ($\beta = 0.035, SE = 0.009, z = 4.056, p < .001, d = 0.379$), which in turn significantly predicted lower T3 GAD symptom severity ($\beta = -0.204, SE = 0.036, z = -5.636, p < .001, d = -0.526$). Indirect effects of childhood maternal affection \rightarrow T2 positive reappraisal \rightarrow adulthood GAD symptom severity were significant ($\beta = -0.007, SE = 0.002, z = -3.350, p = .001, d = -0.313$) with T2 positive reappraisal accounting for 20% of the relationship between maternal childhood affection and adulthood GAD symptom severity. Refer to Tables 5 and 6 for a summary of these longitudinal SEM mediation models. Refer to Fig. 3 for a path diagram of this analysis.

Similarly, the model examining T1 paternal affection predicting T3 GAD symptom severity via T2 positive reappraisal showed good fit ($\chi^2(df = 429) = 3590.401, p < .001, CFI = .933, RMSEA = .065, 95\% CI [0.063, 0.067], SRMR = .028$). All individual items loaded strongly onto their respective unidimensional constructs (T1 paternal abuse:

Table 2

T1 Childhood Maternal Abuse Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's <i>d</i>
Regressions			
MatAb[T1] → GAD[T3]	0.053 **	[0.016, 0.090]	0.299
MatAb[T1] → PR[T2]	-0.054 ***	[-0.080, -0.029]	-0.456
PR[T2] → GAD[T3]	-0.235 ***	[-0.307, -0.162]	-0.682
GAD[T1] → GAD[T3]	0.317 ***	[0.268, 0.366]	1.356
Covariances			
GAD[T1] ~~~ MatAb[T1]	0.089 ***	[0.064, 0.114]	0.757
Factor Loadings			
T1 MatAb 1	1.000	-	-
T1 MatAb 2	0.799 ***	[0.679, 0.920]	1.404
T1 MatAb 3	0.452 ***	[0.371, 0.534]	1.170
T3 GAD 1	1.000	-	-
T3 GAD 2	0.925 ***	[0.873, 0.977]	3.735
T3 GAD 3	1.003 ***	[0.945, 1.061]	3.667
T3 GAD 4	1.097 ***	[1.036, 1.158]	3.813
T3 GAD 5	1.013 ***	[0.950, 1.075]	3.413
T3 GAD 6	0.986 ***	[0.926, 1.045]	3.485
T3 GAD 7	0.850 ***	[0.796, 0.903]	3.356
T3 GAD 8	1.131 ***	[1.067, 1.196]	3.697
T3 GAD 9	1.020 ***	[0.957, 1.083]	3.407
T3 GAD 10	0.889 ***	[0.819, 0.958]	2.704
T2 PR 1	1.000	-	-
T2 PR 2	1.092 ***	[0.983, 1.201]	2.112
T2 PR 3	1.986 ***	[1.803, 2.168]	2.291
T2 PR 4	2.045 ***	[1.855, 2.234]	2.275
Residual Variances			
T1 MatAb 1	0.252 ***	[0.158, 0.345]	0.568
T1 MatAb 2	0.296 ***	[0.239, 0.353]	1.103
T1 MatAb 3	0.211 ***	[0.181, 0.241]	1.476
T3 GAD 1	0.118 ***	[0.099, 0.137]	1.301
T3 GAD 2	0.152 ***	[0.128, 0.176]	1.342
T3 GAD 3	0.125 ***	[0.105, 0.145]	1.331
T3 GAD 4	0.176 ***	[0.147, 0.204]	1.311
T3 GAD 5	0.165 ***	[0.140, 0.191]	1.372
T3 GAD 6	0.117 ***	[0.098, 0.137]	1.266
T3 GAD 7	0.130 ***	[0.111, 0.149]	1.438
T3 GAD 8	0.148 ***	[0.122, 0.173]	1.215
T3 GAD 9	0.133 ***	[0.111, 0.155]	1.271
T3 GAD 10	0.169 ***	[0.146, 0.192]	1.559
T2 PR 1	0.383 ***	[0.360, 0.406]	3.468
T2 PR 2	0.413 ***	[0.385, 0.440]	3.155
T2 PR 3	0.143 ***	[0.114, 0.173]	1.027
T2 PR 4	0.175 ***	[0.141, 0.209]	1.085
Residual Variances			
Variance of (MatAb)[T1]	0.570 ***	[0.471, 0.669]	1.214
Variance of (GAD)[T3]	0.333 ***	[0.295, 0.370]	1.879
Variance of (PR)[T2]	0.125 ***	[0.105, 0.146]	1.272
Variance of (GAD)[T1]	0.465 ***	[0.420, 0.510]	2.184
Defined Parameters			
Indirect Effect	0.013 ***	[0.005, 0.020]	0.366
Total Effect	0.066 ***	[0.028, 0.103]	0.371

Note. ** $p < .01$; *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAb = childhood maternal abuse; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: $\chi^2(df = 319) = 802.641, p < .001, CFI = .993, RMSEA = .023, 95\% CI [0.021, 0.025], SRMR = .030$.

$\lambda = 0.706 - 0.847$; T2 positive reappraisal: $\lambda = 0.487 - 0.888$; T3 GAD symptoms: $\lambda = 0.782 - 0.891$ (all p values $< .001$). Greater childhood paternal affection significantly predicted greater positive reappraisal at T2 ($\beta = 0.043, SE = 0.007, z = 6.018, p < .001, d = 0.562$), which in turn significantly predicted lower GAD symptom severity ($\beta = -0.205, SE = 0.036, z = -5.623, p < .001, d = -0.525$). Indirect effects of childhood paternal affection → T2 positive reappraisal → adulthood GAD symptom severity were significant ($\beta = -0.009, SE = 0.002, z = -4.198, p < .001, d = -0.392$) with T2 positive reappraisal accounting for 40.91% of the relationship between childhood paternal

Table 3

T1 Childhood Paternal Abuse Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's <i>d</i>
Regressions			
PatAb[T1] → GAD[T3]	0.022	[-0.010, 0.053]	0.146
PatAb[T1] → PR[T2]	-0.036 ***	[-0.057, -0.016]	-0.371
PR[T2] → GAD[T3]	-0.246 ***	[-0.320, -0.172]	-0.705
GAD[T1] → GAD[T3]	0.323 ***	[0.273, 0.373]	1.372
Covariances			
GAD[T1] ~~~ PatAb[T1]	0.096 ***	[0.069, 0.122]	0.758
Factor Loadings			
T1 PatAb 1	1.000	-	-
T1 PatAb 2	0.750 ***	[0.648, 0.852]	1.555
T1 PatAb 3	0.483 ***	[0.403, 0.563]	1.271
T3 GAD 1	1.000	-	-
T3 GAD 2	0.926 ***	[0.874, 0.979]	3.728
T3 GAD 3	1.004 ***	[0.946, 1.062]	3.644
T3 GAD 4	1.100 ***	[1.039, 1.161]	3.811
T3 GAD 5	1.013 ***	[0.950, 1.076]	3.396
T3 GAD 6	0.987 ***	[0.927, 1.047]	3.481
T3 GAD 7	0.849 ***	[0.795, 0.903]	3.340
T3 GAD 8	1.133 ***	[1.068, 1.197]	3.685
T3 GAD 9	1.020 ***	[0.956, 1.084]	3.379
T3 GAD 10	0.890 ***	[0.821, 0.959]	2.711
T2 PR 1	1.000	-	-
T2 PR 2	1.088 ***	[0.980, 1.197]	2.121
T2 PR 3	1.978 ***	[1.799, 2.158]	2.329
T2 PR 4	2.048 ***	[1.860, 2.235]	2.303
Residual Variances			
T1 PatAb 1	0.193 ***	[0.084, 0.301]	0.376
T1 PatAb 2	0.322 ***	[0.267, 0.378]	1.224
T1 PatAb 3	0.283 ***	[0.248, 0.318]	1.689
T3 GAD 1	0.119 ***	[0.099, 0.138]	1.304
T3 GAD 2	0.152 ***	[0.128, 0.176]	1.340
T3 GAD 3	0.125 ***	[0.105, 0.145]	1.324
T3 GAD 4	0.174 ***	[0.146, 0.202]	1.305
T3 GAD 5	0.166 ***	[0.140, 0.191]	1.380
T3 GAD 6	0.117 ***	[0.097, 0.137]	1.260
T3 GAD 7	0.131 ***	[0.112, 0.150]	1.449
T3 GAD 8	0.147 ***	[0.121, 0.173]	1.208
T3 GAD 9	0.134 ***	[0.111, 0.156]	1.268
T3 GAD 10	0.169 ***	[0.146, 0.192]	1.564
T2 PR 1	0.383 ***	[0.359, 0.406]	3.481
T2 PR 2	0.413 ***	[0.386, 0.441]	3.165
T2 PR 3	0.146 ***	[0.117, 0.175]	1.066
T2 PR 4	0.172 ***	[0.138, 0.206]	1.073
Residual Variances			
Variance of (PatAb)[T1]	0.735 ***	[0.623, 0.847]	1.380
Variance of (GAD)[T3]	0.333 ***	[0.295, 0.371]	1.868
Variance of (PR)[T2]	0.126 ***	[0.106, 0.147]	1.285
Variance of (GAD)[T1]	0.465 ***	[0.420, 0.510]	2.180
Defined Parameters			
Indirect Effect	0.009 **	[0.003, 0.015]	0.318
Total Effect	0.031	[-0.001, 0.062]	0.206

Note. ** $p < .01$; *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); PatAb = childhood paternal abuse; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: $\chi^2(df = 319) = 832.807, p < .001, CFI = .992, RMSEA = .024, 95\% CI [0.022, 0.026], SRMR = .031$.

affection and adulthood GAD symptom severity. Refer to Fig. 4 for a path diagram of this analysis. Taken together, both of these findings support Hypothesis 2.

As a sensitivity analysis, incremental predictions were tested to determine if positive reappraisal would mediate the paths between both maternal and paternal childhood affection predicting adulthood GAD severity if measures reflecting affection from both paternal and maternal figures were entered into the same model. This model had good fit ($\chi^2(df = 656) = 1980.437, p < .001, CFI = .988, RMSEA = .026, 95\% CI [0.024, 0.027], SRMR = .030$). T2 positive reappraisal significantly

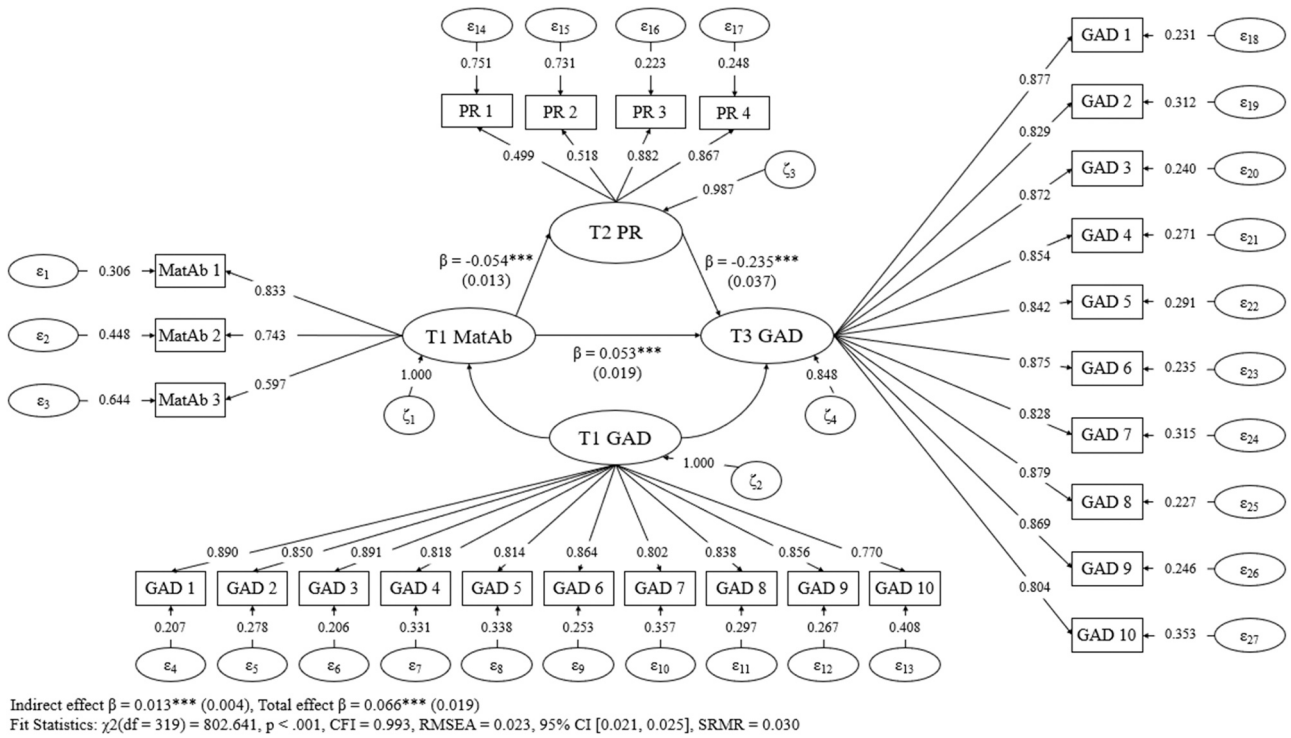


Fig. 1. Longitudinal SEM Mediation of T1 Childhood Maternal Abuse Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD. Note. $^{**}p < .01$; $^{***}p < .001$. T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAb = childhood maternal abuse; GAD = generalized anxiety disorder; PR = positive reappraisal; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. β = unstandardized beta regression weight with standard error in parenthesis; ϵ = item residual variances; ζ = factor residual variances.

mediated the both childhood maternal affection–T3 adulthood GAD severity association ($\beta = -0.006, SE = 0.003, z = -2.113, p < .05, d = -0.165$), and the childhood paternal affection–T3 adulthood GAD

severity association ($\beta = -0.009, SE = 0.003, z = -3.531, p < .001, d = -0.276$). The mediation pathways for both maternal and paternal affection were still significant after adjusting for affection from either

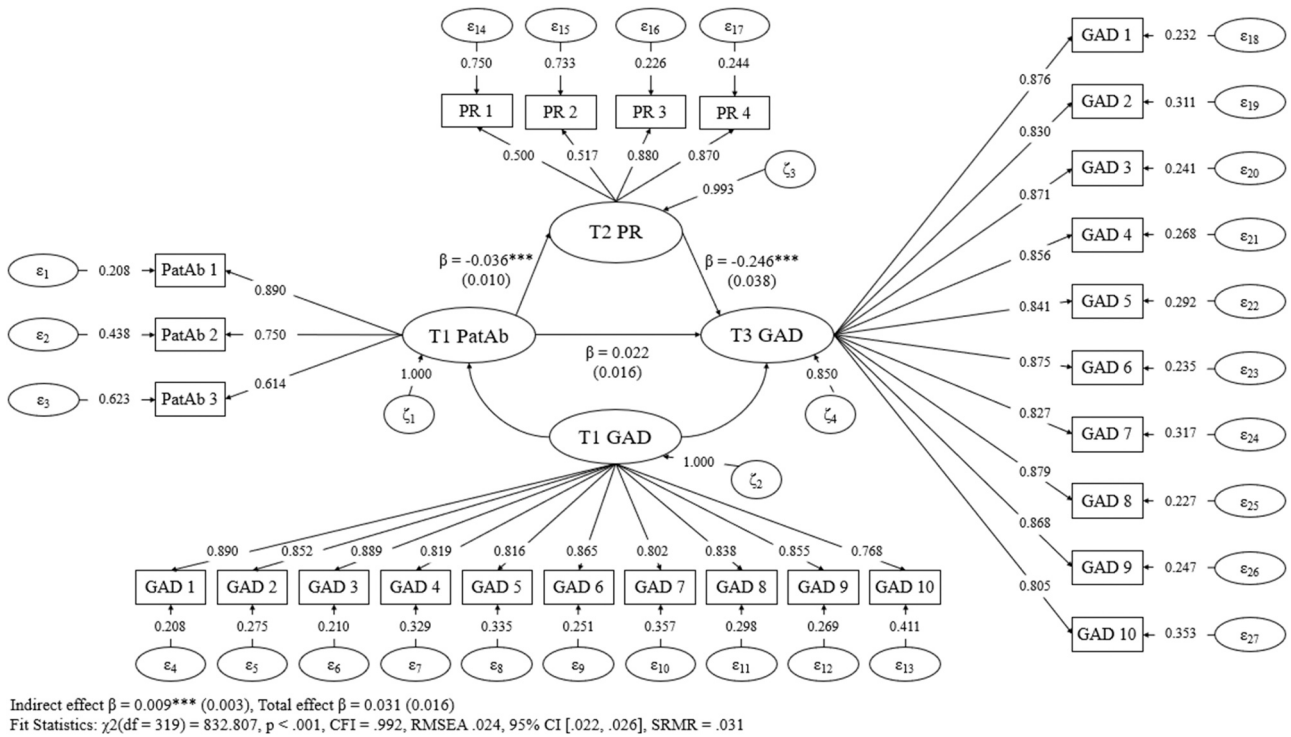


Fig. 2. Longitudinal SEM Mediation of T1 Childhood Paternal Abuse Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD. Note. $^{**}p < .01$; $^{***}p < .001$. T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); PatAb = childhood paternal abuse; GAD = generalized anxiety disorder; PR = positive reappraisal; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. β = unstandardized beta regression weight with standard error in parenthesis; ϵ = item residual variances; ζ = factor residual variances.

Table 4
Supplemental incremental prediction analysis of T1 Childhood Maternal Abuse and T1 Childhood Paternal Abuse Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's <i>d</i>
Regressions			
MatAb[T1] → GAD[T3]	0.056 *	[0.006, 0.105]	0.221
PatAb[T1] → GAD[T3]	0.001	[-0.041, 0.043]	0.004
MatAb[T1] → PR[T2]	-0.050 **	[-0.081, -0.020]	-0.323
PatAb[T1] → PR[T2]	0.003	[-0.022, 0.028]	0.026
PR[T2] → GAD[T3]	-0.239 ***	[-0.312, -0.166]	-0.643
GAD[T1] → GAD[T3]	0.317 ***	[0.268, 0.367]	1.268
Covariances			
GAD[T1] ~ MatAb[T1]	0.084 ***	[0.060, 0.108]	0.691
GAD[T1] ~ PatAb[T1]	0.081 ***	[0.056, 0.107]	0.623
Factor Loadings			
T1 MatAb 1	1.000 ***	[1.000, 1.000]	-
T1 MatAb 2	0.861 ***	[0.790, 0.931]	2.394
T1 MatAb 3	0.489 ***	[0.429, 0.550]	1.587
T1 PatAb 1	1.000 ***	[1.000, 1.000]	-
T1 PatAb 2	0.850 ***	[0.787, 0.912]	2.690
T1 PatAb 3	0.547 ***	[0.488, 0.607]	1.812
T3 GAD 1	1.000 ***	[1.000, 1.000]	-
T3 GAD 2	0.926 ***	[0.874, 0.979]	3.478
T3 GAD 3	1.005 ***	[0.947, 1.062]	3.420
T3 GAD 4	1.098 ***	[1.038, 1.159]	3.560
T3 GAD 5	1.011 ***	[0.948, 1.075]	3.152
T3 GAD 6	0.984 ***	[0.924, 1.044]	3.229
T3 GAD 7	0.850 ***	[0.796, 0.904]	3.102
T3 GAD 8	1.130 ***	[1.066, 1.195]	3.442
T3 GAD 9	1.020 ***	[0.957, 1.084]	3.160
T3 GAD 10	0.891 ***	[0.821, 0.960]	2.521
T2 PR 1	1.000 ***	[1.000, 1.000]	-
T2 PR 2	1.095 ***	[0.985, 1.205]	1.965
T2 PR 3	1.989 ***	[1.805, 2.173]	2.133
T2 PR 4	2.049 ***	[1.858, 2.239]	2.118
Residual Variances			
T1 MatAb 1	1.771 ***	[1.740, 1.802]	11.271
T1 MatAb 2	1.663 ***	[1.635, 1.691]	11.806
T1 MatAb 3	1.213 ***	[1.193, 1.232]	12.217
T1 PatAb 1	1.943 ***	[1.910, 1.976]	11.635
T1 PatAb 2	1.719 ***	[1.689, 1.748]	11.559
T1 PatAb 3	1.295 ***	[1.272, 1.318]	11.087
T3 GAD 1	1.321 ***	[1.297, 1.346]	10.670
T3 GAD 2	1.314 ***	[1.290, 1.338]	10.848
T3 GAD 3	1.328 ***	[1.304, 1.353]	10.625
T3 GAD 4	1.354 ***	[1.326, 1.381]	9.704
T3 GAD 5	1.317 ***	[1.291, 1.343]	10.083
T3 GAD 6	1.306 ***	[1.282, 1.330]	10.669
T3 GAD 7	1.244 ***	[1.222, 1.266]	11.159
T3 GAD 8	1.352 ***	[1.325, 1.380]	9.676
T3 GAD 9	1.298 ***	[1.273, 1.323]	10.174
T3 GAD 10	1.251 ***	[1.228, 1.275]	10.428
T2 PR 1	3.350 ***	[3.325, 3.374]	27.059
T2 PR 2	3.152 ***	[3.127, 3.178]	24.211
T2 PR 3	2.923 ***	[2.896, 2.951]	21.007
T2 PR 4	2.857 ***	[2.828, 2.886]	19.610
Residual Variances			
Variance of (MatAb)[T1]	0.534 ***	[0.474, 0.594]	1.747
Variance of (PatAb)[T1]	0.661 ***	[0.598, 0.725]	2.056
Variance of (GAD)[T3]	0.332 ***	[0.295, 0.370]	1.748
Variance of (PR)[T2]	0.125 ***	[0.105, 0.146]	1.185
Variance of (GAD)[T1]	0.464 ***	[0.419, 0.509]	2.038
Defined Parameters			
Indirect Effect of MatAb	0.012 **	[0.004, 0.020]	0.281
Indirect Effect of PatAb	-0.001	[-0.007, 0.005]	-0.026
Total Effect	0.068 ***	[0.030, 0.106]	0.349

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAb = childhood maternal abuse; PatAb = childhood paternal abuse; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: $\chi^2(df = 396) = 1039.311, p < .001, CFI = .987, RMSEA = .024, 95\% CI [0.022, 0.026], SRMR = .032$.

Table 5
T1 Childhood Maternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's <i>d</i>
Regressions			
MatAf[T1] → GAD[T3]	-0.028	[-0.056, 0.000]	-0.181
MatAf[T1] → PR[T2]	0.035 ***	[0.018, 0.051]	0.379
PR[T2] → GAD[T3]	-0.204 ***	[-0.275, -0.133]	-0.526
GAD[T1] → GAD[T3]	0.312 ***	[0.263, 0.360]	1.180
Covariances			
GAD[T1] ~ MatAf[T1]	-0.089 ***	[-0.116, -0.063]	-0.619
Factor Loadings			
T1 MatAf 1	1.000	-	-
T1 MatAf 2	0.841 ***	[0.142, 0.183]	5.478
T1 MatAf 3	0.916 ***	[0.131, 0.166]	4.978
T1 MatAf 4	0.770 ***	[0.211, 0.259]	4.257
T1 MatAf 5	0.797 ***	[0.673, 0.780]	4.378
T3 GAD 1	1.000	-	-
T3 GAD 2	0.921 ***	[0.873, 0.970]	3.504
T3 GAD 3	0.987 ***	[0.934, 1.039]	3.413
T3 GAD 4	1.093 ***	[1.035, 1.150]	3.481
T3 GAD 5	1.008 ***	[0.950, 1.067]	3.152
T3 GAD 6	0.975 ***	[0.920, 1.030]	3.241
T3 GAD 7	0.855 ***	[0.804, 0.906]	3.057
T3 GAD 8	1.141 ***	[1.080, 1.201]	3.463
T3 GAD 9	1.028 ***	[0.969, 1.087]	3.190
T3 GAD 10	0.861 ***	[0.798, 0.923]	2.533
T2 PR 1	1.000	-	-
T2 PR 2	1.055 ***	[0.966, 1.144]	2.170
T2 PR 3	2.030 ***	[1.877, 2.183]	2.431
T2 PR 4	2.143 ***	[1.985, 2.300]	2.483
Residual Variances			
T1 MatAf 1	0.458 ***	[0.426, 0.490]	2.642
T1 MatAf 2	0.245 ***	[0.226, 0.264]	2.332
T1 MatAf 3	0.379 ***	[0.353, 0.404]	2.745
T1 MatAf 4	0.220 ***	[0.203, 0.237]	2.350
T1 MatAf 5	0.203 ***	[0.186, 0.220]	2.202
T3 GAD 1	0.113 ***	[0.098, 0.129]	1.326
T3 GAD 2	0.151 ***	[0.130, 0.172]	1.324
T3 GAD 3	0.133 ***	[0.116, 0.151]	1.389
T3 GAD 4	0.173 ***	[0.150, 0.197]	1.338
T3 GAD 5	0.164 ***	[0.143, 0.185]	1.420
T3 GAD 6	0.121 ***	[0.105, 0.137]	1.361
T3 GAD 7	0.123 ***	[0.108, 0.138]	1.474
T3 GAD 8	0.133 ***	[0.112, 0.154]	1.149
T3 GAD 9	0.121 ***	[0.104, 0.139]	1.286
T3 GAD 10	0.185 ***	[0.164, 0.206]	1.610
T2 PR 1	0.389 ***	[0.368, 0.410]	3.357
T2 PR 2	0.429 ***	[0.404, 0.454]	3.150
T2 PR 3	0.146 ***	[0.128, 0.164]	1.493
T2 PR 4	0.151 ***	[0.130, 0.173]	1.278
Residual Variances			
Variance of (MatAf)[T1]	0.726 ***	[0.673, 0.780]	2.471
Variance of (GAD)[T3]	0.341 ***	[0.305, 0.377]	1.721
Variance of (PR)[T2]	0.120 ***	[0.102, 0.138]	1.253
Variance of (GAD)[T1]	0.468 ***	[0.424, 0.512]	1.960
Defined Parameters			
Indirect Effect	-0.007 ***	[-0.011, -0.003]	-0.313
Total Effect	-0.035 *	[-0.063, -0.007]	-0.225

Note. * $p < .05$; *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAf = childhood maternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: $\chi^2(df = 429) = 3711.636, p < .001, CFI = .928, RMSEA = .067, 95\% CI [0.065, 0.069], SRMR = .031$.

parent. Refer to Table 7 for a summary of the longitudinal SEM mediation model.³

4. Discussion

The current study examined the longitudinal effects of positive reappraisal coping as a mediator in the relationship between childhood experiences (parental childhood abuse and affection) on adulthood GAD symptom severity to understand better the mechanisms that parental abuse/affection may have had on the onset and maintenance of GAD symptoms in adulthood. Our findings showed positive reappraisal coping significantly mediated the relationship of both maternal and paternal childhood abuse (examined separately and in the same model) and adulthood GAD symptom severity. Similarly, positive reappraisal coping significantly mediated the relationship between maternal/paternal affection and GAD symptom severity (examined separately and in the same model). Specifically, participants who retrospectively reported higher levels of abuse and lower levels of parental affection during childhood from either parental figure separately displayed decreased positive reappraisal tendencies nine years later. Subsequently, reduced inclination to use positive reappraisal resulted in increased GAD symptoms in adulthood.

Our findings lend support to the idea that lower tendencies to engage in positive reappraisal could be a mechanism linking increased maternal/paternal abuse during childhood to heightened GAD symptom severity in adulthood. Specifically, these findings lend credence to the theory that maternal/paternal abuse during childhood might result in poor acquisition, usage, and consolidation of positive reappraisal strategies. The lack of deployment of positive reappraisal to regulate emotions may then serve as a risk factor for the development of GAD symptoms in adulthood. Our findings align with existing cross-sectional research (e.g., Kim & Cicchetti, 2010; Kim-Spoon et al., 2013) and extend previous research by demonstrating the adverse effects of childhood abuse on tendencies to harness positive reappraisal in adulthood. Taken together, our findings show that parental abuse from both parental figures during childhood have considerable deleterious effects on adulthood mental health and underscores the importance of emotional coping strategies such as positive reappraisal in preventing the development of GAD symptoms.

Conversely, parental emotional socialization (i.e., parental modeling, responses, and engagement with children's emotions; Eisenberg et al., 1998) might be a plausible underlying reason behind why higher levels of both maternal and paternal affection during childhood independently predicted lower GAD symptom severity in adulthood via more frequent use of positive reappraisal strategies. Indeed, prior studies (e.g., Eisenberg et al., 1998; Fabes et al., 2002; Morris et al., 2007; Saarni, 1999) have found that the development of adaptive positive reappraisal in childhood was facilitated by parents who supportively engaged in emotion socialization. Our findings support the notion that positive reappraisal tendencies at midlife might be a possible mechanism linking maternal/paternal affection and GAD symptoms in later adulthood. It is also worth noting that no studies have examined positive reappraisal in the context of an 18-year period. Our findings thus extend existing literature and suggest that parental affection during childhood could be a significant protective factor in the development of GAD symptoms in adulthood through habitual utilization and practice of positive reappraisal.

Additionally, the current study had two related and noteworthy observations. Supplementary incremental prediction analyses including both maternal and paternal abuse in the same model revealed that only maternal but not paternal abuse during childhood was significantly associated with increased GAD symptoms via decreased positive

Table 6

T1 Childhood Paternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's <i>d</i>
Regressions			
PatAf[T1] → GAD[T3]	-0.013	[-0.036, 0.010]	-0.101
PatAf[T1] → PR[T2]	0.043 ***	[0.029, 0.057]	0.562
PR[T2] → GAD[T3]	-0.205 ***	[-0.276, -0.133]	-0.525
GAD[T1] → GAD[T3]	0.314 ***	[0.266, 0.363]	1.180
Covariances			
GAD[T1] ~ PatAf[T1]	-0.096 ***	[-0.123, -0.069]	-0.647
Factor Loadings			
T1 PatAf 1	1.000	-	-
T1 PatAf 2	0.803 ***	[0.779, 0.827]	6.080
T1 PatAf 3	0.836 ***	[0.809, 0.863]	5.636
T1 PatAf 4	0.784 ***	[0.760, 0.808]	5.960
T1 PatAf 5	0.871 ***	[0.846, 0.897]	6.339
T3 GAD 1	1.000	-	-
T3 GAD 2	0.921 ***	[0.873, 0.970]	3.504
T3 GAD 3	0.987 ***	[0.934, 1.039]	3.412
T3 GAD 4	1.093 ***	[1.035, 1.150]	3.481
T3 GAD 5	1.008 ***	[0.950, 1.067]	3.151
T3 GAD 6	0.975 ***	[0.920, 1.030]	3.241
T3 GAD 7	0.855 ***	[0.804, 0.906]	3.057
T3 GAD 8	1.140 ***	[1.080, 1.201]	3.463
T3 GAD 9	1.028 ***	[0.969, 1.087]	3.190
T3 GAD 10	0.860 ***	[0.798, 0.923]	2.533
T2 PR 1	1.000	-	-
T2 PR 2	1.055 ***	[0.966, 1.144]	2.168
T2 PR 3	2.029 ***	[1.876, 2.181]	2.436
T2 PR 4	2.147 ***	[1.988, 2.305]	2.479
Residual Variances			
T1 PatAf 1	0.421 ***	[0.395, 0.447]	2.922
T1 PatAf 2	0.244 ***	[0.226, 0.262]	2.518
T1 PatAf 3	0.315 ***	[0.295, 0.335]	2.891
T1 PatAf 4	0.306 ***	[0.287, 0.326]	2.835
T1 PatAf 5	0.243 ***	[0.226, 0.260]	2.554
T3 GAD 1	0.113 ***	[0.098, 0.129]	1.326
T3 GAD 2	0.151 ***	[0.130, 0.172]	1.324
T3 GAD 3	0.133 ***	[0.116, 0.151]	1.389
T3 GAD 4	0.173 ***	[0.150, 0.197]	1.338
T3 GAD 5	0.164 ***	[0.143, 0.185]	1.420
T3 GAD 6	0.121 ***	[0.105, 0.137]	1.361
T3 GAD 7	0.123 ***	[0.108, 0.138]	1.475
T3 GAD 8	0.133 ***	[0.112, 0.154]	1.149
T3 GAD 9	0.121 ***	[0.104, 0.139]	1.286
T3 GAD 10	0.185 ***	[0.164, 0.206]	1.610
T2 PR 1	0.389 ***	[0.368, 0.410]	3.357
T2 PR 2	0.430 ***	[0.405, 0.455]	3.150
T2 PR 3	0.147 ***	[0.129, 0.165]	1.509
T2 PR 4	0.150 ***	[0.128, 0.171]	1.267
Residual Variances			
Variance of (PatAf)[T1]	0.960 ***	[0.905, 1.016]	3.150
Variance of (GAD)[T3]	0.341 ***	[0.305, 0.378]	1.721
Variance of (PR)[T2]	0.119 ***	[0.102, 0.136]	1.251
Variance of (GAD)[T1]	0.468 ***	[0.424, 0.512]	1.960
Defined Parameters			
Indirect Effect	-0.009 ***	[-0.013, -0.005]	-0.392
Total Effect	-0.022	[-0.045, 0.002]	-0.169

Note. *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); PatAf = childhood paternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: $\chi^2(df = 429) = 3590.401, p < .001, CFI = .933, RMSEA = .065, 95\% CI [0.063, 0.067], SRMR = .028$.

reappraisal. In contrast, when included in the same model, both maternal and paternal affection remained significantly associated with reduced GAD symptoms via increased positive reappraisal. These findings are worth noting as much of the extant literature in this area examining parental abuse or affection often did not distinguish between parental figures (e.g., Butterfield et al., 2021; Kim & Cicchetti, 2010) or did not account for paternal roles (Brumariu & Kerns, 2010; Rutter,

³ Sensitivity analyses showed that our results remained similar when we used multiple imputation as the missing data strategy.

Longitudinal SEM Mediation of T1 Childhood Maternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD

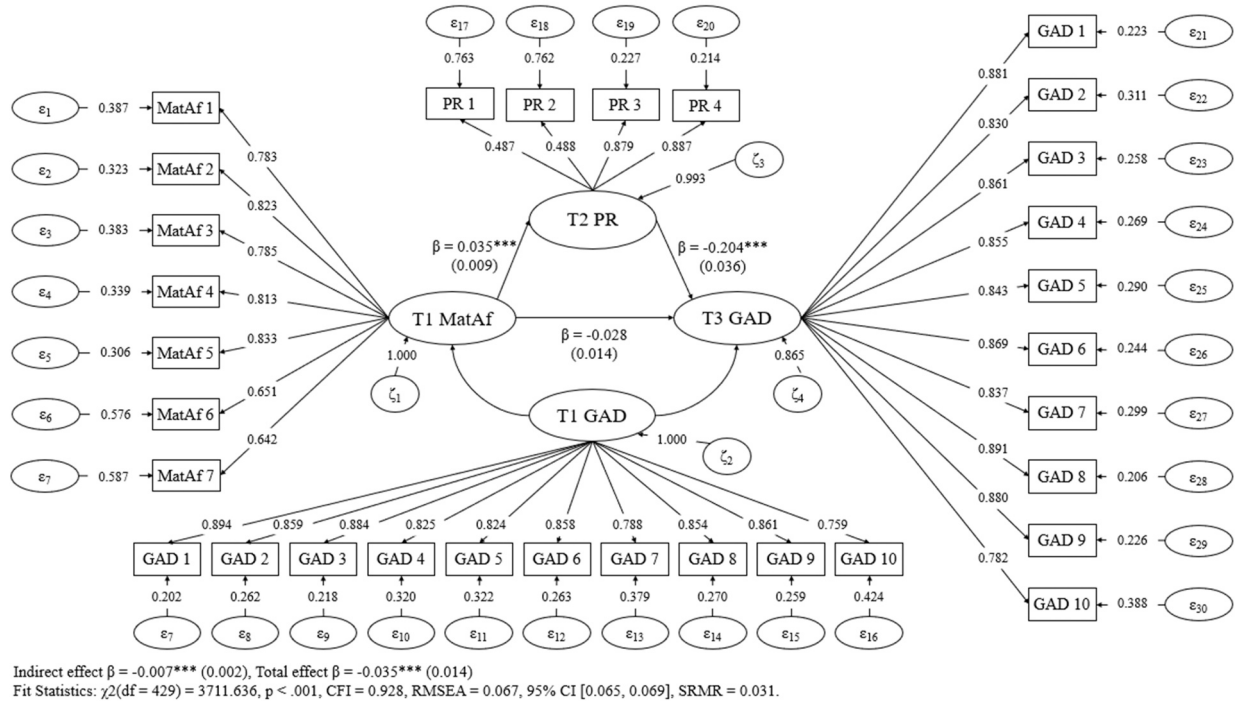


Fig. 3. Longitudinal SEM Mediation of T1 Childhood Maternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD. Note. $^{**} p < .01$; $^{***} p < .001$. T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAf = childhood maternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. β = unstandardized beta regression weight with standard error in parenthesis; ϵ = item residual variances; ζ = factor residual variances.

Longitudinal SEM Mediation of T1 Childhood Paternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD

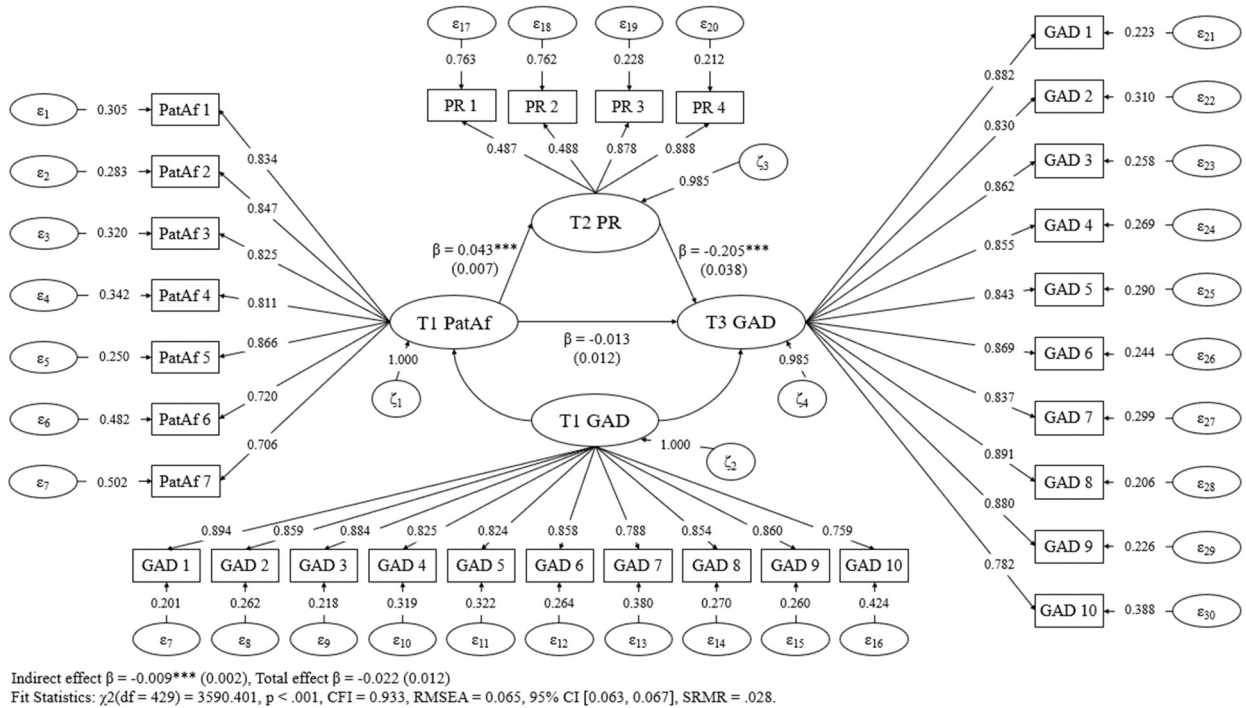


Fig. 4. Longitudinal SEM Mediation of T1 Childhood Paternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD. Note. $^{**} p < .01$; $^{***} p < .001$. T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); PatAf = childhood paternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. β = unstandardized beta regression weight with standard error in parenthesis; ϵ = item residual variances; ζ = factor residual variances.

Table 7
Supplemental incremental prediction analysis of T1 Childhood Maternal Affection and T1 Childhood Paternal Affection Predicting T3 GAD Severity via T2 Positive Reappraisal, controlling for T1 GAD.

	Estimate	95% CI	Cohen's d
Regressions			
MatAf[T1] → GAD[T3]	-0.023	[-0.058, 0.011]	-0.103
PatAf[T1] → GAD[T3]	0.002	[-0.027, 0.030]	0.008
MatAf[T1] → PR[T2]	0.026 *	[0.004, 0.048]	0.177
PatAf[T1] → PR[T2]	0.038 ***	[0.020, 0.056]	0.325
PR[T2] → GAD[T3]	-0.235 ***	[-0.309, -0.161]	-0.489
GAD[T1] → GAD[T3]	0.323 ***	[0.273, 0.372]	0.998
Covariances			
GAD[T1] ~ MatAf[T1]	-0.087 ***	[-0.113, -0.062]	-0.524
GAD[T1] ~ PatAf[T1]	-0.096 ***	[-0.123, -0.069]	-0.547
Factor Loadings			
T1 MatAf 1	1.000	-	-
T1 MatAf 2	0.867 ***	[0.830, 0.904]	3.580
T1 MatAf 3	0.932 ***	[0.890, 0.974]	3.393
T1 MatAf 4	0.764 ***	[0.727, 0.801]	3.127
T1 MatAf 5	0.822 ***	[0.785, 0.859]	3.379
T1 MatAf 6	0.531 ***	[0.496, 0.565]	2.343
T1 MatAf 7	0.773 ***	[0.727, 0.818]	2.614
T1 PatAf 1	1.000	-	-
T1 PatAf 2	0.806 ***	[0.780, 0.832]	4.720
T1 PatAf 3	0.816 ***	[0.786, 0.845]	4.294
T1 PatAf 4	0.787 ***	[0.760, 0.814]	4.467
T1 PatAf 5	0.877 ***	[0.849, 0.905]	4.836
T1 PatAf 6	0.680 ***	[0.649, 0.710]	3.385
T1 PatAf 7	0.724 ***	[0.692, 0.756]	3.468
T3 GAD 1	1.000	-	-
T3 GAD 2	0.925 ***	[0.871, 0.979]	2.641
T3 GAD 3	1.011 ***	[0.951, 1.070]	2.599
T3 GAD 4	1.102 ***	[1.04, 1.1640]	2.711
T3 GAD 5	1.021 ***	[0.957, 1.086]	2.415
T3 GAD 6	0.994 ***	[0.932, 1.056]	2.443
T3 GAD 7	0.854 ***	[0.799, 0.909]	2.395
T3 GAD 8	1.142 ***	[1.075, 1.208]	2.622
T3 GAD 9	1.033 ***	[0.968, 1.098]	2.420
T3 GAD 10	0.898 ***	[0.826, 0.969]	1.909
T2 PR 1	1.000	-	-
T2 PR 2	1.071 ***	[0.953, 1.188]	1.397
T2 PR 3	1.969 ***	[1.773, 2.165]	1.537
T2 PR 4	2.013 ***	[1.812, 2.215]	1.530
Residual Variances			
T1 MatAf 1	0.515 ***	[0.475, 0.554]	1.991
T1 MatAf 2	0.254 ***	[0.232, 0.277]	1.761
T1 MatAf 3	0.406 ***	[0.377, 0.435]	2.162
T1 MatAf 4	0.259 ***	[0.238, 0.280]	1.899
T1 MatAf 5	0.212 ***	[0.192, 0.231]	1.654
T1 MatAf 6	0.222 ***	[0.204, 0.240]	1.891
T1 MatAf 7	0.387 ***	[0.359, 0.414]	2.171
T1 PatAf 1	0.433 ***	[0.399, 0.467]	1.96
T1 PatAf 2	0.247 ***	[0.228, 0.266]	1.992
T1 PatAf 3	0.356 ***	[0.333, 0.380]	2.32
T1 PatAf 4	0.308 ***	[0.286, 0.331]	2.122
T1 PatAf 5	0.242 ***	[0.222, 0.262]	1.856
T1 PatAf 6	0.400 ***	[0.375, 0.426]	2.399
T1 PatAf 7	0.422 ***	[0.395, 0.449]	2.366
T3 GAD 1	0.123 ***	[0.103, 0.143]	0.933
T3 GAD 2	0.157 ***	[0.132, 0.182]	0.955
T3 GAD 3	0.124 ***	[0.104, 0.144]	0.943
T3 GAD 4	0.177 ***	[0.148, 0.206]	0.94
T3 GAD 5	0.164 ***	[0.137, 0.190]	0.961
T3 GAD 6	0.116 ***	[0.095, 0.136]	0.857
T3 GAD 7	0.131 ***	[0.111, 0.151]	1.011
T3 GAD 8	0.145 ***	[0.118, 0.171]	0.837
T3 GAD 9	0.128 ***	[0.106, 0.151]	0.867
T3 GAD 10	0.167 ***	[0.143, 0.191]	1.07
T2 PR 1	0.380 ***	[0.356, 0.404]	2.385
T2 PR 2	0.415 ***	[0.386, 0.444]	2.208
T2 PR 3	0.140 ***	[0.107, 0.173]	0.654
T2 PR 4	0.179 ***	[0.142, 0.217]	0.739
Residual Variances			
Variance of (MatAf)[T1]	0.670 ***	[0.612, 0.728]	1.775
Variance of (PatAf)[T1]	0.949 ***	[0.889, 1.008]	2.443
Variance of (GAD)[T3]	0.330 ***	[0.292, 0.367]	1.337

Table 7 (continued)

	Estimate	95% CI	Cohen's d
Variance of (PR)[T2]	0.127 ***	[0.105, 0.150]	0.876
Variance of (GAD)[T1]	0.458 ***	[0.413, 0.503]	1.565
Defined Parameters			
Indirect Effect of MatAf	-0.006 *	[-0.012, 0.000]	-0.165
Indirect Effect of PatAf	-0.009 ***	[-0.014, -0.004]	-0.276
Total Effect	-0.037 *	[-0.067, -0.007]	-0.187

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

T1 = time 1; T2 = time 2 (9 years after T1); T3 = time 3 (9 years after T2, 18 years after T1); MatAf = childhood maternal affection; PatAf = childhood paternal affection; GAD = generalized anxiety disorder; PR = positive reappraisal; CI = confidence interval; CFI = confirmatory fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean squared residual. Model fit indices: ($\chi^2(df = 656) = 1980.437, p < .001, CFI = .988, RMSEA = .026, 95\% CI [0.024, 0.027], SRMR = .030$)

1981). A small handful of studies pointed to maternal figures as having significantly more impact than paternal figures in terms of effects on psychological well-being (Rosenthal & Kobak, 2010) and common mental disorders (Sanghvi et al., 2023). However, other studies suggested that paternal figures might have been stronger predictors of mental health outcomes (Summers et al., 1998). Our findings seem to align more with the extant literature, which suggests that maternal (vs. paternal) abuse is especially deleterious on tendencies to engage in positive reappraisal, which may, in turn, lead to increased GAD symptoms. Maternal abuse might present a more immediate risk for adult psychopathology than paternal abuse, potentially shaped by differences in interaction frequency with each parent (Moretti & Craig, 2013). On the other hand, our findings also highlight the importance of both parental figures in the development and tendencies to engage in positive reappraisal via parental affection (perhaps via positive behavioral modeling and related processes) and its significant association with reduced GAD severity in adulthood. Taken together, these findings are vital in informing treatment targets and prevention efforts geared toward improving positive reappraisal tendencies in individuals exposed to parental abuse (especially maternal abuse) and low affection from both parental figures during childhood.

The current study had some limitations. First, parental abuse and affection were measured retrospectively, which might have been susceptible to recall bias. However, empirical evidence has supported the construct validity and retest reliability of retrospective reports of childhood experiences (Cay et al., 2022; Schauss et al., 2021; Yancura & Aldwin, 2009; Zanotti et al., 2018). Further, retrospective reports of childhood experiences demonstrated stability over time and were independent of mood (Gerlisma et al., 1993, 1994). Thus, it is unlikely that retrospective reports of childhood experiences in this study were affected by recall biases. Second, only one aspect of emotion regulation, positive reappraisal, was examined in this study. Other emotion regulation strategies exist, such as acceptance, avoidance, problem-solving, rumination, and suppression (Gross, 2014; Marr et al., 2022), which were not included in the scope of this study. Emotion regulation strategies such as suppression have been found to be maladaptive in nature and were associated with poorer outcomes, including psychopathology (Dryman & Heimberg, 2018; Hu et al., 2014). Future research should examine how childhood parental abuse or affection may affect the development and utilization of these other emotion regulation strategies in adulthood and their potential to function as mechanisms for childhood experiences predicting future GAD symptom severity. Lastly, participant demographics in the current research were mostly White, highly educated, financially and physically healthy, and married individuals (Radler & Ryff, 2010). Furthermore, the current data set did not include information on the participant's family structure during childhood. Hence, these findings may not be entirely generalizable to more culturally or socio-economically diverse contexts and could not account for non-traditional family structures. For example, childrearing

norms might differ across racial/ethnic groups and various family structures in the U.S. (Pachter et al., 2006; Weinraub & Wolf, 1983), which might substantially alter the results, warranting further research. However, the study could be a basis for exploration by future researchers on the etiology of GAD symptoms in more diverse populations. Limitations notwithstanding, study strengths included the use of longitudinal structural equation mediation modeling in ways that reduced measurement error, established temporal precedence, and improved the inferential rigor of our findings (Cole & Maxwell, 2003). Another strength was the novelty of the research question. Specifically, examining both parental roles in the context of abuse and affection during childhood separately allowed for the determination of their potentially different effects on positive reappraisal and GAD symptom severity in adulthood.

In summary, the present study found that positive reappraisal significantly mediated the relationship longitudinally between higher childhood parental abuse and lower childhood parental affection on GAD symptoms in adulthood. Examined separately, childhood maternal and paternal maltreatment was associated with decreased positive reappraisal, which led to increased GAD symptoms in adulthood. Lower childhood maternal and paternal affection were independently associated with reduced positive reappraisal, which resulted in increased GAD symptoms in adulthood. Examined concurrently, only maternal abuse was significantly associated with elevated GAD symptoms via decreased positive reappraisal tendencies. However, both maternal and paternal affection remained significant predictors of lower GAD symptoms via positive reappraisal coping. These findings highlight positive reappraisal as a potential underlying mechanism linking childhood experiences to the development and maintenance of psychopathology, which may have important practical implications for the treatment and prevention of elevated GAD symptoms.

Funding

The data used in this publication were made available by the Data Archive on the University of Wisconsin - Madison Institute on Aging, 1300 University Avenue, 2245 MSC, Madison, Wisconsin 53706–1532. Since 1995 the Midlife Development in the United States (MIDUS) study has been funded by the following: John D. and Catherine T. MacArthur Foundation Research Network; National Institute on Aging (P01-AG020166; U19-AG051426). The current study also received partial funding from the National Institute of Mental Health (NIMH) (R01 MH115128). The original investigators and funding agency are not responsible for the analyses or interpretations presented here.

CRediT authorship contribution statement

Zainal Nur Hani: Methodology, Supervision, Writing – original draft, Writing – review & editing. **Ng Matthew H. S.:** Conceptualization, Data curation, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Newman Michelle Gayle:** Supervision, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Adrian, C., & Hammen, C. (1993). Stress exposure and stress generation in children of depressed mothers. *Journal of Consulting and Clinical Psychology, 61*(2), 354–359. <https://doi.org/10.1037/0022-006X.61.2.354>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*(2), 217–237. <https://doi.org/10.1016/j.cpr.2009.11.004>

- Alonso, J., Lépine, J. P., & SEMeD/MHEDEA Scientific Committee, E. (2007). Overview of key data from the European study of the epidemiology of mental disorders (ESEMeD). *Journal of Clinical Psychiatry, 68*(Suppl. 2), 3–9.
- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders, 3rd Edition (DSM-III-R)*. American Psychiatric Association.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5; 5th ed.)*. American Psychiatric Association. <https://doi.org/10.1176/appi.books.9780890425596>
- Aunola, K., Ruusunen, A.-K., Viljaranta, J., & Nurmi, J.-E. (2015). Parental affection and psychological control as mediators between parents' depressive symptoms and child distress. *Journal of Family Issues, 36*(8), 1022–1042. <https://doi.org/10.1177/0192513X13494825>
- Barber, K. E., Zainal, N. H., & Newman, M. G. (2023). Positive relations mediate the bidirectional connections between depression and anxiety symptoms. *Journal of Affective Disorders, 324*, 387–394. <https://doi.org/10.1016/j.jad.2022.12.082>
- Bartek, M. E., Zainal, N. H., & Newman, M. G. (2021). Individuals' marital instability mediates the association of their perceived childhood parental affection predicting adulthood depression across 18 years. *Journal of Affective Disorders, 291*, 235–242. <https://doi.org/10.1016/j.jad.2021.04.091>
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238–246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample: Associations across adverse childhood experiences levels. *JAMA Pediatrics, 173*(11), Article e193007. <https://doi.org/10.1001/jamapediatrics.2019.3007>
- Blackwell, M., & Glynn, A. N. (2018). How to make causal inferences with time-series cross-sectional data under selection on observables. *American Political Science Review, 112*(4), 1067–1082. <https://doi.org/10.1017/S0003055418000357>
- Boyes, M. E., Hasking, P. A., & Martin, G. (2016). Adverse life experience and psychological distress in adolescence: Moderating and mediating effects of emotion regulation and rumination. *Stress and Health, 32*(4), 402–410. <https://doi.org/10.1002/smi.2635>
- Brim, O. G., Baltes, P. B., Bumpass, L. L., Cleary, P. D., Featherman, D. L., Hazzard, W. R., & Shweder, R. A. (1999). Interuniversity consortium for political and social research. In *Midlife in the United States (MIDUS 1), 1995–1996: Version 19 ICPSR*. <https://doi.org/10.3886/ICPSR02760.V19>
- Brumariu, L. E., & Kerns, K. A. (2010). Mother-child attachment patterns and different types of anxiety symptoms: Is there specificity of relations? *Child Psychiatry and Human Development, 41*(6), 663–674. <https://doi.org/10.1007/s10578-010-0195-0>
- Butterfield, R. D., Silk, J. S., Lee, K. H., Siegle, G. S., Dahl, R. E., Forbes, E. E., & Ladouceur, C. D. (2021). Parents still matter! parental warmth predicts adolescent brain function and anxiety and depressive symptoms 2 years later. *Development and Psychopathology, 33*(1), 226–239. <https://doi.org/10.1017/S0954579419001718>
- Byrne, B. M. (1998). *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Lawrence Erlbaum Associates Publishers.
- Cay, M., Chouinard, V.-A., Hall, M.-H., & Shinn, A. K. (2022). Test-retest reliability of the childhood trauma questionnaire in psychotic disorders. *Journal of Psychiatric Research, 156*, 78–83. <https://doi.org/10.1016/j.jpsychires.2022.09.053>
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders, 82*(2), 217–225. <https://doi.org/10.1016/j.jad.2003.12.013>
- Chapman, H., & Gillespie, S. M. (2019). The revised conflict tactics scales (CTS2): A review of the properties, reliability, and validity of the CTS2 as a measure of partner abuse in community and clinical samples. *Aggression and Violent Behavior, 44*, 27–35. <https://doi.org/10.1016/j.avb.2018.10.006>
- Chen, Y., Kawachi, I., Berkman, L. F., Trudel-Fitzgerald, C., & Kubzansky, L. D. (2019). Does optimal parenting style help offspring maintain healthy weight into mid-life? *Preventive Medicine, 123*, 84–90. <https://doi.org/10.1016/j.ypmed.2019.03.001>
- Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational Research Methods, 11*(2), 296–325. <https://doi.org/10.1177/1094428107300343>
- Cloitre, M., Hyland, P., Bisson, J. I., Brewin, C. R., Roberts, N. P., Karatzias, T., & Shevlin, M. (2019). ICD-11 posttraumatic stress disorder and complex posttraumatic stress disorder in the United States: A population-based study. *Journal of Traumatic Stress, 32*(6), 833–842. <https://doi.org/10.1002/jts.22454>
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. <https://doi.org/10.2307/2136404>
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*(4), 558–577. <https://doi.org/10.1037/0021-843x.112.4.558>
- Copeland, W. E., Shanahan, L., Hinesley, J., Chan, R. F., Aberg, K. A., Fairbank, J. A., & Costello, E. J. (2018). Association of childhood trauma exposure with adult psychiatric disorders and functional outcomes. *JAMA Network Open, 1*(7), Article e184493. <https://doi.org/10.1001/jamanetworkopen.2018.4493>
- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48*(1), 243–267. <https://doi.org/10.1146/annurev.psych.48.1.243>
- Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse and Neglect, 96*, Article 104089. <https://doi.org/10.1016/j.chiabu.2019.104089>
- Cui, N., Dearrick, J. A., & Liu, J. (2018). Maternal and paternal physical abuse: Unique and joint associations with child behavioral problems. *Child Abuse and Neglect, 76*, 524–532. <https://doi.org/10.1016/j.chiabu.2017.05.003>

- D'Onofrio, B. M., Sjolander, A., Lahey, B. B., Lichtenstein, P., & Oberg, A. S. (2020). Accounting for confounding in observational studies. *Annual Review of Clinical Psychology*, 16, 25–48. <https://doi.org/10.1146/annurev-clinpsy-032816-045030>
- Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1998). Multiple risk factors in the development of externalizing behavior problems: Group and individual differences. *Development and Psychopathology*, 10(3), 469–493. <https://doi.org/10.1017/s0954579498001709>
- Ding, R., & He, P. (2022). Parenting styles and health in mid- and late life: Evidence from the China health and retirement longitudinal study. *BMC Geriatrics*, 22(1), Article 463. <https://doi.org/10.1186/s12877-022-03157-6>
- Dryman, M. T., & Heimberg, R. G. (2018). Emotion regulation in social anxiety and depression: A systematic review of expressive suppression and cognitive reappraisal. *Clinical Psychology Review*, 65, 17–42. <https://doi.org/10.1016/j.cpr.2018.07.004>
- Dvir, Y., Ford, J. D., Hill, M., & Frazier, J. A. (2014). Childhood maltreatment, emotional dysregulation, and psychiatric comorbidities. *Harvard Review of Psychiatry*, 22(3), 149–161. <https://doi.org/10.1097/hrp.0000000000000014>
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry*, 9(4), 241–273. https://doi.org/10.1207/s15327965pli0904_1
- Enns, M. W., Cox, B. J., & Clara, I. (2002). Parental bonding and adult psychopathology: Results from the US National Comorbidity Survey. *Psychological Medicine*, 32(6), 997–1008. <https://doi.org/10.1017/S0033291702005937>
- Everaert, J., & Joormann, J. (2019). Emotion regulation difficulties related to depression and anxiety: A network approach to model relations among symptoms, positive reappraisal, and repetitive negative thinking. *Clinical Psychological Science*, 7(6), 1304–1318. <https://doi.org/10.1177/2167702619859342>
- Fabes, R. A., Poulin, R. E., Eisenberg, N., & Madden-Derdich, D. A. (2002). The coping with children's negative emotions scale (CCNES): Psychometric properties and relations with children's emotional competence. *Marriage & Family Review*, 34(3–4), 285–310. https://doi.org/10.1300/J002v34n03_05
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Gerlsma, C., Das, J., & Emmelkamp, P. M. G. (1993). Depressed patients' parental representations: Stability across changes in depressed mood and specificity across diagnoses. *Journal of Affective Disorders*, 27(3), 173–181. [https://doi.org/10.1016/0165-0327\(93\)90005-5](https://doi.org/10.1016/0165-0327(93)90005-5)
- Gerlsma, C., Kramer, J. J. A. M., Scholing, A., & Emmelkamp, P. M. G. (1994). The influence of mood on memories of parental rearing practices. *British Journal of Clinical Psychology*, 33(2), 159–172. <https://doi.org/10.1111/j.2044-8260.1994.tb01107.x>
- Green, J. G., McLaughlin, K. A., Berglund, P. A., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychiatric disorders in the national comorbidity survey replication I: Associations with first onset of DSM-IV disorders. *Archives of General Psychiatry*, 67(2), 113–123. <https://doi.org/10.1001/archgenpsychiatry.2009.186>
- Gross, J. J. (2014). *Handbook of emotion regulation* (second edition, .). The Guilford Press.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, 2(2), 151–164. <https://doi.org/10.1111/j.1468-2850.1995.tb00036.x>
- Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., & Scheuerer-Engelsch, H. (2002). The uniqueness of the child–father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development*, 11(3), 301–337. <https://doi.org/10.1111/1467-9507.00202>
- Haynes, T. L., Heckhausen, J., Chipperfield, J. G., Perry, R. P., & Newall, N. E. (2009). Primary and secondary control strategies: Implications for health and well-being among older adults. *Journal of Social and Clinical Psychology*, 28(2), 165–197. <https://doi.org/10.1521/jscp.2009.28.2.165>
- Hoffman, D. L., Dukas, E. M., & Wittchen, H.-U. (2008). Human and economic burden of generalized anxiety disorder. *Depression and Anxiety*, 25(1), 72–90. <https://doi.org/10.1002/da.20257>
- Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hu, T., Zhang, D., Wang, J., Mistry, R., Ran, G., & Wang, X. (2014). Relation between emotion regulation and mental health: A meta-analysis review. *Psychological Reports*, 114(2), 341–362. <https://doi.org/10.2466/03.20.PR0.114k22w4>
- Huppert, F. A., Abbott, R. A., Ploubidis, G. B., Richards, M., & Kuh, D. (2010). Parental practices predict psychological well-being in midlife: Life-course associations among women in the 1946 British birth cohort. *Psychological Medicine*, 40(9), 1507–1518. <https://doi.org/10.1017/S0033291709991978>
- Jamieson, J. P., Nock, M. K., & Mendes, W. B. (2012). Mind over matter: Reappraising arousal improves cardiovascular and cognitive responses to stress. *Journal of Experimental Psychology: General*, 141(3), 417–422. <https://doi.org/10.1037/a0025719>
- Joormann, J. (2010). Cognitive inhibition and emotion regulation in depression. *Current Directions in Psychological Science*, 19(3), 161–166. <https://doi.org/10.1177/0963721410370293>
- Jorm, A. F., Dear, K. B., Rodgers, B., & Christensen, H. (2003). Interaction between mother's and father's affection as a risk factor for anxiety and depression symptoms—evidence for increased risk in adults who rate their father as having been more affectionate than their mother. *Social Psychiatry and Psychiatric Epidemiology*, 38(4), 173–179. <https://doi.org/10.1007/s00127-003-0620-9>
- Kessler, R. C., Andrews, G., Mroczek, D., Ustun, B., & Wittchen, H.-U. (1998). The World Health Organization composite international diagnostic interview - short-form (CIDI-SF). *International Journal of Methods in Psychiatric Research*, 7(4), 171–185. <https://doi.org/10.1002/mpr.47>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62(6), 593–602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *British Journal of Psychiatry*, 197(5), 378–385. <https://doi.org/10.1192/bjp.bp.110.080499>
- Keyes, C. L. M., & Shapiro, A. D. (2004). Social well-being in the United States: A descriptive epidemiology. In O. G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we?: A national study of well-being at midlife* (pp. 350–372). University of Chicago Press.
- Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 51(6), 706–716. <https://doi.org/10.1111/j.1469-7610.2009.02202.x>
- Kim-Spoon, Cicchetti, D. J., & F. A. Rogosch (2013). A longitudinal study of emotion regulation, emotion lability/negativity, and internalizing symptomatology in maltreated and nonmaltreated children. *Child Development*, 84(2), 512–527. <https://doi.org/10.1111/j.1467-8624.2012.01857.x>
- Kivity, Y., & Huppert, J. D. (2018). Are individuals diagnosed with social anxiety disorder successful in regulating their emotions? A mixed-method investigation using self-report, subjective, and event-related potentials measures. *Journal of Affective Disorders*, 236, 298–305. <https://doi.org/10.1016/j.jad.2018.02.029>
- Kong, J., & Martire, L. M. (2019). Parental childhood maltreatment and the later-life relationship with parents. *Psychology and Aging*, 34(7), 900–911. <https://doi.org/10.1037/pag0000388>
- Kong, J., Martire, L. M., Liu, Y., & Almeida, D. M. (2019). Effects of parental childhood abuse on daily stress processes in adulthood. *Journal of Interpersonal Violence*, 36(19–20), 9580–9599. <https://doi.org/10.1177/0886260519869068>
- Lee, T., & Shi, D. (2021). A comparison of full information maximum likelihood and multiple imputation in structural equation modeling with missing data. *Psychological Methods*, 26(4), 466–485. <https://doi.org/10.1037/met0000381>
- Liu, D. Y., & Thompson, R. J. (2017). Selection and implementation of emotion regulation strategies in major depressive disorder: An integrative review. *Clinical Psychology Review*, 57, 183–194. <https://doi.org/10.1016/j.cpr.2017.07.004>
- Maier, W., Gansicke, M., Freyberger, H. J., Linz, M., Heun, R., & Lecrubier, Y. (2000). Generalized anxiety disorder (ICD-10) in primary care from a cross-cultural perspective: A valid diagnostic entity?: Generalized anxiety disorder in primary care. *Acta Psychiatrica Scandinavica*, 101(1), 29–36. <https://doi.org/10.1034/j.1600-0447.2000.101001029.x>
- Majeed, N. M., Chua, Y. J., Kothari, M., Kaur, M., Quek, F. Y. X., Ng, M. H. S., & Hartanto, A. (2023). Anxiety disorders and executive functions: A three-level meta-analysis of reaction time and accuracy. *Psychiatry Research Communications*, 3(1), Article 100100. <https://doi.org/10.1016/j.pscym.2022.100100>
- Marr, N. S., Zainal, N. H., & Newman, M. G. (2022). Focus on and venting of negative emotion mediates the 18-year bi-directional relations between major depressive disorder and generalized anxiety disorder symptoms. *Journal of Affective Disorders*, 303, 10–17. <https://doi.org/10.1016/j.jad.2022.01.079>
- Mattanah, J. F. (2001). Parental psychological autonomy and children's academic competence and behavioral adjustment in late childhood: more than just limit-setting and warmth. *Merrill-Palmer Quarterly*, 47(3), 355–376. <https://doi.org/10.1353/mpq.2001.0017>
- Mennin, D. S., Turk, C. L., Heimberg, R. G., & Carmin, C. N. (2003). Regulation of emotion in generalized anxiety disorder. In M. A. Reinecke, & D. A. Clark (Eds.), *Cognitive therapy across the Lifespan* (pp. 60–89). Cambridge University Press. <https://doi.org/10.1017/CBO9781139087094.005>
- Miu, A. C., Szentágotai-Táti, A., Balázs, R., Nechita, D., Bunea, I., & Pollak, S. D. (2022). Emotion regulation as mediator between childhood adversity and psychopathology: A meta-analysis. *Clinical Psychology Review*, 93, Article 102141. <https://doi.org/10.1016/j.cpr.2022.102141>
- Moretti, M. M., & Craig, S. G. (2013). Maternal versus paternal physical and emotional abuse, affect regulation and risk for depression from adolescence to early adulthood. *Child Abuse and Neglect*, 37(1), 4–13. <https://doi.org/10.1016/j.chiabu.2012.09.015>
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16(2), 361–388. <https://doi.org/10.1111/j.1467-9507.2007.00389.x>
- Newman, M. G., Clayton, L., Zullig, A., Cashman, L., Arnow, B., Dea, R., & Taylor, C. B. (2000). The relationship of childhood sexual abuse and depression with somatic symptoms and medical utilization. *Psychological Medicine*, 30(5), 1063–1077. <https://doi.org/10.1017/S003329179900272X>
- Newman, M. G., Crits-Christoph, P., & Szkodny, L. E. (2013a). Generalized anxiety disorder. In L. G. Castonguay, & T. F. Oltmanns (Eds.), *Psychopathology: From science to clinical practice* (pp. 62–80). Guilford Press.
- Newman, M. G., & Llera, S. J. (2011). A novel theory of experiential avoidance in generalized anxiety disorder: A review and synthesis of research supporting a Contrast Avoidance Model of worry. *Clinical Psychology Review*, 31(3), 371–382. <https://doi.org/10.1016/j.cpr.2011.01.008>
- Newman, M. G., Llera, S. J., Erickson, T. M., Przeworski, A., & Castonguay, L. G. (2013b). Worry and generalized anxiety disorder: A review and theoretical synthesis of

- evidence on nature, etiology, mechanisms, and treatment. *Annual Review of Clinical Psychology*, 9, 275–297. <https://doi.org/10.1146/annurev-clinpsy-050212-185544>
- Newman, M. G., Shin, K. E., & Zuelig, A. R. (2016). Developmental risk factors in generalized anxiety disorder and panic disorder. *Journal of Affective Disorders*, 206, 94–102. <https://doi.org/10.1016/j.jad.2016.07.008>
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3(5), 400–424. <https://doi.org/10.1111/j.1745-6924.2008.00088.x>
- Pachter, L. M., Auinger, P., Palmer, R., & Weitzman, M. (2006). Do parenting and the home environment, maternal depression, neighborhood, and chronic poverty affect child behavioral problems differently in different racial-ethnic groups? *Pediatrics*, 117(4), 1329–1338. <https://doi.org/10.1542/peds.2005-1784>
- Pleck, J. H. (2010). Paternal involvement: Revised conceptualization and theoretical linkages with child outcomes. In M. E. Lamb (Ed.), *The role of the father in child development* (5th ed., pp. 58–93). John Wiley & Sons, Inc.
- Porensky, E. K., Dew, M. A., Karp, J. F., Skidmore, E., Rollman, B. L., Shear, M. K., & Lenze, E. J. (2009). The burden of late-life generalized anxiety disorder: Effects on disability, health-related quality of life, and healthcare utilization. *American Journal of Geriatric Psychiatry*, 17(6), 473–482. <https://doi.org/10.1097/JGP.0b013e31819b87b2>
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, 16(2), 93–115. <https://doi.org/10.1037/a0022658>
- Radler, B. T., & Ryff, C. D. (2010). Who Participates? Accounting for Longitudinal Retention in the MIDUS National Study of Health and Well-Being. *Journal of Aging and Health*, 22(3), 307–331. <https://doi.org/10.1177/0898264309358617>
- Rieder, C., & Cicchetti, D. (1989). Organizational perspective on cognitive control functioning and cognitive-affective balance in maltreated children. *Developmental Psychology*, 25(3), 382–393. <https://doi.org/10.1037/0012-1649.25.3.382>
- Rosenbaum, P. R. (1984). The consequences of adjustment for a concomitant variable that has been affected by the treatment. *Journal of the Royal Statistical Society Series A (General)*, 147(5), 656–666. <https://doi.org/10.2307/2981697>
- Rosenthal, N. L., & Kobak, R. (2010). Assessing adolescents' attachment hierarchies: Differences across developmental periods and associations with individual adaptation. *Journal of Research on Adolescence*, 20(3), 678–706. <https://doi.org/10.1111/j.1532-7795.2010.00655.x>
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1–36. <https://doi.org/10.18637/jss.v048.i02>
- Rossi, A. S. (2001). Developmental roots of adult social responsibility. In A. S. Rossi (Ed.), *Caring and doing for others: Social responsibility in the domains of family, work, and community*. University of Chicago Press.
- Rudolph, K. D., & Hammen, C. (1999). Age and gender as determinants of stress exposure, generation, and reactions in youngsters: a transactional perspective. *Child Development*, 70(3), 660–677. <https://doi.org/10.1111/1467-8624.00048>
- Rutter, M. (1981). Stress, coping and development: some issues and some questions. *J Child Psychol Psychiatry*, 22(4), 323–356. <https://doi.org/10.1111/j.1469-7610.1981.tb00560.x>
- Ryff, C., Almeida, D., Ayanian, J., Binkley, N., Carr, D.S., Coe, C., Williams, D. (2015). Midlife in the United States (MIDUS 3), 2013–2014: Version 7 Inter-University Consortium for Political and Social Research. <https://doi.org/10.3886/ICPSR36346.V7>
- Ryff, C., Almeida, D., Ayanian, J., Carr, D.S., Cleary, P.D., Coe, C., Williams, D.R. (2007). Midlife in the United States (MIDUS 2), 2004–2006: Version 8 ICPSR - Interuniversity Consortium for Political and Social Research. <https://doi.org/10.3886/ICPSR04652.V8>
- Saarni, C. (1999). *The development of emotional competence*. Guilford press.
- Sanghvi, D., Zainal, N. H., & Newman, M. G. (2023). Trait self-acceptance mediates parental childhood abuse predicting depression and anxiety symptoms in adulthood. *Journal of Anxiety Disorders*, 94, Article 102673. <https://doi.org/10.1016/j.janxdis.2023.102673>
- Schauss, E., Zettler, H., Patel, M., Hawes, K., Dixon, P., Bartelli, D., & West, S. (2021). Exploring the test-retest differences of self-reported adverse childhood experiences among adolescents in residential treatment. *Journal of Family Trauma, Child Custody & Child Development*, 18(3), 263–278. <https://doi.org/10.1080/26904586.2021.1918037>
- Shih, J. H., Eberhart, N. K., Hammen, C. L., & Brennan, P. A. (2006). Differential exposure and reactivity to interpersonal stress predict sex differences in adolescent depression. *Journal of Clinical Child and Adolescent Psychology*, 35(1), 103–115. https://doi.org/10.1207/s15374424jccp3501_9
- Silove, D., & Marnane, C. (2013). Overlap of symptom domains of separation anxiety disorder in adulthood with panic disorder–agoraphobia. *Journal of Anxiety Disorders*, 27(1), 92–97. <https://doi.org/10.1016/j.janxdis.2012.10.005>
- Spielberger, C. D. (1983). Manual for the State-trait Anxiety inventory STAI (Form Y). *Mind Garden*.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25(2), 173–180. https://doi.org/10.1207/s15327906mbr2502_4
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, 17(3), 283–316. <https://doi.org/10.1177/019251396017003001>
- Summers, P., Forehand, R., Armistead, L., & Tannenbaum, L. (1998). Parental divorce during early adolescence in Caucasian families: The role of family process variables in predicting the long-term consequences for early adult psychosocial adjustment. *Journal of Consulting and Clinical Psychology*, 66(2), 327–336. <https://doi.org/10.1037/0022-006x.66.2.327>
- Teachman, B. A., Joormann, J., Steinman, S. A., & Gotlib, I. H. (2012). Automaticity in anxiety disorders and major depressive disorder. *Clinical Psychology Review*, 32(6), 575–603. <https://doi.org/10.1016/j.cpr.2012.06.004>
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38(1), 1–10. <https://doi.org/10.1007/BF02291170>
- Weinraub, M., & Wolf, B. M. (1983). Effects of Stress and Social Supports on Mother-Child Interactions in Single- and Two-Parent Families. *Child Development*, 54(5), 1297–1311. <https://doi.org/10.2307/1129683>
- Wen, Z., & Fan, X. (2015). Monotonicity of effect sizes: Questioning kappa-squared as mediation effect size measure. *Psychological Methods*, 20(2), 193–203. <https://doi.org/10.1037/met0000029>
- Win, E., Zainal, N. H., & Newman, M. G. (2021). Trait anger expression mediates childhood trauma predicting for adulthood anxiety, depressive, and alcohol use disorders. *Journal of Affective Disorders*, 288, 114–121. <https://doi.org/10.1016/j.jad.2021.03.086>
- Wittchen, H.-U. (1994). Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): A critical review. *Journal of Psychiatric Research*, 28(1), 57–84. [https://doi.org/10.1016/0022-3956\(94\)90036-1](https://doi.org/10.1016/0022-3956(94)90036-1)
- Wittchen, H.-U. (2002). Generalized anxiety disorder: Prevalence, burden, and cost to society. *Depression and Anxiety*, 16(4), 162–171. <https://doi.org/10.1002/da.10065>
- Wrosch, C., Heckhausen, J., & Lachman, M. E. (2000). Primary and secondary control strategies for managing health and financial stress across adulthood. *Psychology and Aging*, 15(3), 387–399. <https://doi.org/10.1037/0882-7974.15.3.387>
- Yancura, L. A., & Aldwin, C. M. (2009). Stability and change in retrospective reports of childhood experiences over a 5-year period: Findings from the Davis Longitudinal Study. *Psychology and Aging*, 24(3), 715. <https://doi.org/10.1037/a0016203>
- Yapici-Eser, H., Kacar, A. S., Kilciksiz, C. M., Yalçınay-Inan, M., & Ongur, D. (2018). Prevalence and associated features of anxiety disorder comorbidity in bipolar disorder: A meta-analysis and meta-regression study. *Frontiers in Psychiatry*, 9, Article 229. <https://doi.org/10.3389/fpsy.2018.00229>
- Zainal, N. H., & Newman, M. G. (2022). Executive functioning constructs in anxiety, obsessive-compulsive, post-traumatic stress, and related disorders. *Current Psychiatry Reports*, 24(12), 871–880. <https://doi.org/10.1007/s11920-022-01390-9>
- Zanotti, D. C., Kaier, E., Vanasse, R., Davis, J. L., Strunk, K. C., & Cromer, L. D. (2018). An examination of the test-retest reliability of the ACE-SQ in a sample of college athletes. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(5), 559–562. <https://doi.org/10.1037/tra0000299>