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Elucidating the relation between childhood emotional abuse and depressive symptoms in adulthood: The mediating role of maladaptive interpersonal processes

Maya Massing-Schaffer[a], **Richard T. Liu**[a,*], **Morganne A. Kraines**[a], **Jimmy Y. Choi**[b], and **Lauren B. Alloy**[b]

[a]Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI, United States

[b]Department of Psychology, Temple University, Philadelphia, PA, United States

Abstract

Objective—The purpose of this study is to assess the potential unique and relative mediating effects of three interpersonal risk factors (i.e., excessive reassurance-seeking [ERS], negative feedback seeking [NFS], and rejection sensitivity [RS]) in the relationship between childhood emotional abuse (CEA) and depressive symptoms.

Method—One hundred eighty-five undergraduates were followed over a four-month interval. Participants completed assessments of childhood abuse history, ERS, NFS, and RS, and depressive symptoms at baseline, as well as depressive symptoms at four-month followup.

Results—Findings from single-mediator analyses indicated that RS and NFS, but not ERS, mediated the relationship between CEA and prospective depressive symptoms, after accounting for childhood sexual and physical abuse, as well as baseline depressive symptoms. In our multi-mediator model, only RS remained a significant mediator of the relationship between CEA and prospective depressive symptoms.

Conclusions—The current study provides preliminary evidence that negative behavioral styles may function as a mechanism linking prior experiences of CEA to subsequent depressive symptoms. Clinical implications of these findings suggest that targeting maladaptive behavioral tendencies, particularly RS, may be an effective adjunct in behavioral modification treatments of CEA victims at risk for depression.

Keywords

Childhood abuse; Depression; Excessive reassurance seeking; Negative feedback seeking; Rejection sensitivity

*Corresponding author at: Department of Psychiatry and Human Behavior, Brown University, 1011 Veterans Memorial Parkway, East Providence, RI 02915, United States. rtliupsych@gmail.com (R.T. Liu).

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1. Introduction

Substantial research has implicated a link between childhood maltreatment and psychological disorders such as depression. Although most studies have focused on the role of childhood physical abuse (CPA) and childhood sexual abuse (CSA) (Trickett, Mennen, Kim, & Sang, 2009), a growing body of literature points to childhood emotional abuse (CEA) as an important contributor to the development of depression (Gross & Keller, 1992; Spertus, Yehuda, Wong, Halligan, & Seremetis, 2003). Despite evidence of this link, little is known about the processes by which CEA predicts later depression. Elucidating these pathways is necessary to clarify targets for clinical intervention and reduce rates of depression among CEA victims.

Some theorists have suggested that the way individuals interpret negative life events, or cognitive styles, may mediate the relationship between CEA and depression (Rose & Abramson, 1992). Specifically, CEA may contribute to the development of depressogenic cognitive styles, leaving these individuals at heightened risk for developing depressive symptomology. Moreover, it has been hypothesized that CEA is more predictive of the development of negative cognitive styles than CPA or CSA. According to Rose and Abramson (1992), with CEA, negative cognitions are directly provided to the child by the abuser. With CPA and CSA, however, children must form their own attributions regarding the cause of the abuse, allowing increased potential for more adaptive attributions. A number of studies have found support for this model (see Gibb, Alloy, Abramson, & Marx, 2003; Gibb et al., 2001; Spasojevic & Alloy, 2002).

Although the negative cognitive styles that confer risk for depression among CEA victims have been established, no known studies have examined this model in the context of depressogenic *behavioral* risk factors, particularly interpersonal ones. Extending Rose and Abramson's (1992) theory, since victims of CEA tend to internalize the negative attributions directly supplied to them by their perpetrators, these individuals may be more accustomed to forming their sense of self-worth via a verbal, interpersonal medium. As such, it stands to reason that repeated experiences of CEA may heighten risk for developing interpersonal styles that involve evaluating and measuring one's self-worth verbally/interpersonally. In the current study, three such behavioral tendencies previously implicated in depression were examined as potential mediators of the relation between CEA and depressive symptoms: (1) excessive reassurance seeking; (2) negative feedback seeking; and (3) rejection sensitivity.

1.1. Excessive reassurance seeking

Excessive reassurance-seeking (ERS), a negative behavioral style associated with depression, refers to "the relatively stable tendency to excessively and persistently seek assurances from others that one is lovable and worthy, regardless of whether such assurance has already been provided" (Joiner, Metalsky, Katz, & Beach, 1999, p. 270). As outlined in Coyne (1976)'s interpersonal model of depression, depressed individuals try to assuage their feelings of low-self worth by enlisting others for reassurance. However, individuals with depression tend to doubt the initial feedback they receive, causing them to seek further affirmation. The subsequent pattern of soliciting and dismissing reassurance can cause others to become frustrated and lead to deterioration of these relationships (Joiner, Alfano,

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& Metalsky, 1992). As a result of this pattern of behavior, depressed individuals unsuspectingly confirm their negative self-perceptions and perpetuate social isolation (Evraire & Doizois, 2014; Joiner & Metalsky, 2001). Several studies support this model, showing a positive association between ERS and both concurrent and future symptoms of depression (for a meta-analysis, see Starr & Davila, 2008).

1.2. Negative feedback seeking

In addition to seeking positive reassurance, depressed individuals also solicit negative, self-confirmatory feedback through negative feedback seeking (NFS). According to Swann's self-verification theory, depressed individuals seek out disapproval, criticism, and disparagement from others because it is confirming of their negative self-concept (Swann, 1987). Unlike ERS, which is emotionally satisfying but cognitively dissonant, NFS is emotionally dissatisfying but cognitively confirming (Knobloch, Knobloch-Fedders, & Durbin, 2011). Evidence linking this behavioral tendency to depression has been found in a number of studies. Compared to non-depressed individuals, depressed individuals express more interest in negative feedback (Casbon, Burns, Bradbury, & Joiner, 2005), solicit more negative feedback (Swann, Wenzlaff, Krull, & Pelham, 1992), and prefer to surround themselves with people who view them negatively (Swann et al., 1992).

1.3. Rejection sensitivity

A third interpersonal risk factor for depression is rejection sensitivity (RS). In their RS model, Downey and Feldman (1996) assert that rejection-sensitive individuals are more likely to anxiously expect, perceive, and overreact to social rejection (Downey & Feldman, 1996). Previous studies have found RS to be a stable risk factor for depression. Indeed, greater interpersonal sensitivity is associated with higher depressive symptom count (Ayduk, Downey, & Kim, 2001; Downey & Feldman, 1996), greater severity and duration of current major depressive episodes (Posternak & Zimmerman, 2002), and among individuals with clinical depression, decreased likelihood of clinical remission at 1-year followup (Boyce et al., 1992).

In summary, the current study aimed to address several gaps in the literature. First, despite growing evidence of the association between CEA and depression, relatively few studies have examined the processes that account for this link. Moreover, although maladaptive *cognitive* styles have been shown to mediate the relationship between CEA and depression, no studies to date have considered *behavioral* risk factors such as ERS, NFS, and RS. Thus, the present study builds on the extant literature by assessing three interpersonal risk factors (i.e., ERS, NFS, and RS) as potential mediators of the relationship between CEA and depressive symptoms. First, we will use a single-mediator model to assess whether ERS, NFS, and RS separately mediate the link between CEA and depressive symptoms. Then, we will use a multi-mediator model to examine the relative and unique meditational effects of each risk factor.

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2. Method

2.1. Participants

Participants in the current study were 185 undergraduates recruited from introductory-level psychology courses at Temple University. The mean age of participants was 19.65 (*SD* = 1.48) and 75.1% were females. The ethnic composition of the current sample was 55.7% Caucasian, 24.3% African-American, 12.4% Asian-American, 5.4% Latino-American, and 1.6% other ethnicity. Participants received either course credit or a small monetary compensation.

2.2. Procedures

Participants were assessed at two time-points separated by a four-month interval (*M* = 117.28 days, *SD* = 9.67). During the initial assessment (T1), participants completed self-report measures of depressive symptoms, childhood abuse, and interpersonal risk factors. At the follow-up assessment (T2), participants completed the same measure of depressive symptoms. They also completed a semi-structured diagnostic interview.

2.3. Measures

2.3.1. Depression history—The Schedule for Affective Disorders and Schizophrenia-Lifetime Interview (SADS-L; Endicott & Spitzer, 1978) is a semi-structured interview used to assess current and lifetime history of Axis I disorders. The original version was modified for the current study to meet DSM-IV-TR (American Psychiatric Association, 2000) criteria for major and minor depression (for details, see Alloy et al., 2012). The modified SADS-L has excellent inter-rater reliability, with $\kappa \geq .90$ for depression diagnoses (Alloy et al., 2000). The modified SADS-L was conducted by research assistants and clinical psychology doctoral students who had received extensive training in diagnostic interviewing, including didactic instruction, role-playing, and observation and practice of live interviews. Within the current sample, 33.5% had a lifetime history of major or minor depression. This lifetime prevalence rate is comparable to those reported in a previous study utilizing the same recruitment source (Alloy et al., 2000) and another study utilizing an undergraduate sample (Carver, Johnson, & Joormann, 2013). In addition, 3.8% of the sample met criteria for major or minor depression.

2.3.2. Depressive symptoms—The Beck Depression Inventory II (BDI-II; Beck, Brown, & Steer, 1996) is a 21-item self-report measure of current depressive symptoms, with higher scores reflecting greater symptom severity. In the current study, the BDI-II demonstrated excellent internal consistency ($\alpha_{T1} = .92$; $\alpha_{T2} = .88$).

2.3.3. Negative feedback-seeking—The Feedback Seeking Questionnaire (FSQ; Swann et al., 1992) is a measure assessing individuals' tendency to seek feedback from others within five domains: social, intellectual, artistic, athletic, and physical appearance. Within each domain, participants are presented with a list of six questions, three being positively framed (e.g., "*What is some evidence you have seen that ___ has good social skills?*"), and the other three being negatively framed (e.g., "*What is some evidence you have seen that ___ doesn't have good social skills?*"). Participants are asked to select two out of

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the six questions in each domain for which they would hypothetically like feedback from someone close to them. Scores are calculated by summing the number of negative questions selected, with higher scores indicating greater preference for negative feedback. In the current study, the FSQ demonstrated adequate internal consistency (α = .66).

2.3.4. Excessive reassurance-seeking—The Reassurance-Seeking Scale (RSS; Joiner et al., 1992) is a 4-item measure assessing the tendency to seek reassurance from close others as formulated in Coyne's (1976) interpersonal theory of depression (e.g., "In general, do you frequently seek reassurance from the people you feel close to as to whether they *really* care about you?"). Each item is rated on a 7-point scale (1 = "*no, not at all*," to 7 = "*yes, very much*."). Higher summed scores indicate higher reassurance-seeking. The RSS has adequate criterion and construct validity, predicting interpersonal reassurance-seeking behavior, increases in depressive symptomatology in response to stress, and diagnostic specificity to depression (Joiner & Metalsky, 2001). In the current study, the RSS demonstrated good internal consistency (α = .84).

2.3.5. Rejection sensitivity—Rejection sensitivity was assessed using the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996). This questionnaire presents 18 hypothetical situations in which an individual is susceptible to rejection by an important other (e.g., asking someone out on a date). For each scenario, respondents indicate their level of concern about the possibility for rejection on a 6-point Likert scale (1 = *very unconcerned;* 6 = *very concerned*). Participants then estimate the likelihood, using a 6-point Likert scale (1 = *very unlikely;* 6 = *very likely*), that the interactant will respond favorably. These acceptance expectations ratings were reverse-scored to obtain measures of rejection expectation. Total rejection sensitivity scores were computed by multiplying rejection expectations and rejection concern ratings, and then averaging the resultant values across the 18 situations. Higher scores on the RSQ reflect greater sensitivity to rejection. In the current study, this instrument had high internal consistency (α = .88).

2.3.6. Childhood abuse history—The Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003) is a widely-used self-report measure used to assess participants' history of CEA, CPA, and CSA. Participants rate each item on a 5-point Likert scale (from 1 = "*Never true*" to 5 = "*Very often true*"). Items included *"People in my family called me things like 'stupid,' 'lazy,' or 'ugly'"* for CEA, *"People in my family hit me so hard that it left me with bruises or marks"* for CPA, and *"Someone tried to make me do sexual things or watch sexual things"* for CSA. Higher scores for each subscale indicate greater abuse severity. The internal consistency for each abuse type in the current study was adequate (α's = .82, .74, and .92 for CEA, CPA, and CSA, respectively).

3. Results

3.1. Preliminary analyses

Preliminary analyses revealed that none of the demographic characteristics (i.e., gender, age, ethnicity, and education) were significantly correlated with past history of clinical depression, and baseline or prospective depressive symptoms. Consistent with previous

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studies, baseline BDI-II and past history of depression were entered as covariates in all subsequent analyses.

Descriptive statistics and correlations among the primary study variables are presented in Table 1. CEA was positively correlated with a history of clinical depression, depressive symptoms at T1 and T2, and all three negative behavioral tendencies (RS, ERS, and NFS). However, with the exception of a modest association with lifetime history of clinical depression, no correlation was found between childhood sexual abuse (CSA) and any of the latter variables. Further, childhood physical abuse (CPA) was not significantly associated with lifetime history of depression, T1 depressive symptoms, or NFS. As such, RS, ERS, and NFS were only evaluated as potential mediators of the relationship between CEA (but not CSA or CPA) and prospective depressive symptoms. Finally, all three interpersonal vulnerabilities were generally positively associated with depression.

3.2. Data analyses

We first examined rejection sensitivity, negative feedback seeking, and excessive reassurance-seeking individually as mediators of the relationship between CEA and prospective depressive symptoms in single-mediator models. Using methods outlined in Preacher and Hayes (2008), we used bootstrapping to determine which of these interpersonal vulnerabilities were significant mediators. Statistically significant mediators in single-mediator models were then entered into a multi-mediator model, with bootstrapping employed to assess the degree to which each interpersonal vulnerability uniquely mediated the relationship between CEA and prospective depressive symptoms. We covaried sex, history of major and minor depression, T1 depressive symptoms, CPA, and CSA in all analyses. The benefits of bootstrapping are that it is less vulnerable to Type 1 errors and is appropriate for use with relatively small sample sizes. Multi-mediator bootstrapping accounts for collinearity among variables and mediation effects. This technique allows for the assessment of the unique effect of each mediator after simultaneously accounting for the other mediators in the model. Significant mediation at $p < .05$ is indicated by 95% confidence intervals that do not include 0.

3.3. Single-mediator analyses

In assessing rejection sensitivity as a mediator of the relationship between CEA and T2 depressive symptoms, following procedures outlined by Preacher and Hayes (2008), we found that CEA was positively associated with rejection sensitivity ($B = .306$, $p < .001$). Additionally, CEA was positively associated with T2 depressive symptoms ($B = .086$, $p < .001$), whereas CPA and CSA were not ($B_{CPA} = .019$, $p > .05$; $B_{CSA} = .016$, $p > .05$). After CEA was covaried, rejection sensitivity was predictive of higher T2 depressive symptoms ($B = .048$, $p < .05$). Using bootstrapping, we found rejection sensitivity to be a significant mediator of the relationship between CEA and T2 depressive symptoms ($B = .015$, $SE = .009$, 95% CI = .002–.041).

Next, we assessed negative feedback seeking as a mediator of the relationship between CEA and T2 depressive symptoms. We found that CEA was positively associated with negative feedback seeking ($B = .160$, $p < .001$). As noted above, CEA was also positively associated

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with T2 depressive symptoms (B = .086, p < .001). After covarying CEA, we found that negative feedback seeking was predictive of higher T2 depressive symptoms (B = .087, p < .05). Applying bootstrapping, we found negative feedback seeking mediated the relationship between CEA and T2 depressive symptoms (B = .013, SE = .008, 95% CI = .001–.035).

To assess whether excessive reassurance seeking mediates the relationship between CEA and prospective depressive symptoms, we again applied Preacher and Hayes (2008) procedures to these variables. In this model, CEA was positively associated with excessive reassurance-seeking (B = .354, p < .05). However, excessive reassurance-seeking did not predict T2 depressive symptoms (B = .001, p > .05). Therefore, excessive reassurance-seeking did not mediate the relationship between CEA and T2 depressive symptoms.

3.4. Multi-mediator analysis

As rejection sensitivity and negative feedback seeking were identified as significant mediators in the single-mediator models, they were entered simultaneously in the multi-mediator model to assess the unique effect of each in accounting for the relationship between CEA and T2 depressive symptoms. Given that excessive reassurance seeking was not found to mediate the relationship between CEA and T2 depressive symptoms in its single-mediator model, it was not considered in the multi-mediator model. As shown in Fig. 1, CEA was positively associated with both rejection sensitivity and negative feedback seeking. In this multi-mediator model, rejection sensitivity was predictive of T2 depressive symptoms, whereas negative feedback seeking was not. Applying bootstrapping procedures to this model, we found that the indirect effects of rejection sensitivity were significant, indicating that it mediated the relationship between CEA and T2 depressive symptoms, even after accounting for negative feedback seeking (see Fig. 1). In contrast, negative feedback seeking was not a significant mediator in the model after accounting for the mediational role of rejection sensitivity.

4. Discussion

The goal of the current investigation was to broaden our understanding of the link between CEA and later depressive symptoms by assessing three negative behavioral tendencies (ERS, NFS, and RS) as explanatory processes accounting for this relationship. Findings from our single-mediator analyses generally supported the study hypotheses. First, we replicated previous studies indicating that CEA and negative behavioral tendencies (i.e., RS, NFS, and ERS) are positively associated with subsequent depressive symptoms (Ayduk et al., 2001; Starr & Davila, 2008; Swann et al., 1992). Moreover, we found RS and NFS to mediate the relationship between CEA and prospectively occurring depressive symptoms. These findings are generally consistent with the literature implicating these interpersonal risk factors in depression (Ayduk et al., 2001; Downey & Feldman, 1996; Swann et al., 1992). However, our results did not provide support for the mediating effects of ERS. It is worth noting that the majority of past studies documenting a relationship between ERS and depressive symptoms have been cross-sectional (Joiner & Metalsky, 2001; Starr & Davila, 2008), so causal interpretations cannot be inferred. Longitudinal studies of ERS and depression, such as ours, are still rare and generally offer modest evidence of this

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association (for a review, see Starr & Davila, 2008). Thus, the lack of longitudinal evidence from this study may substantiate previous researchers' claim that ERS could instead function as a proxy variable for other risk factors, including RS, or occur concomitantly with depression (Greenberg, 1999; Starr & Davila, 2008).

The second aim of this study was to examine the selected three negative behavioral tendencies using a multiple mediator model to determine the unique effect of each. Given that RS and NFS were found to be significant mediators in our single-mediator models, we only considered these risk factors in the secondary analyses. Our findings indicated that while RS was a significant mediator even after accounting for NFS, the reverse was not true. Thus, these results suggest that RS best accounts for the relationship between CEA and depressive symptoms. One interpretation of this finding is that CEA and RS, compared to CEA and NFS, are perhaps more closely linked conceptually. Given that CEA victims commonly experience rejection directly, it seems likely that these individuals would be especially sensitive to rejection. Indeed, studies have shown that aversive social experiences lead to the development of RS (Chango, McElhaney, Allen, Schad, & Marston, 2012; Downey, Lebolt, Rincon, & Freitas, 1998). Therefore, it is not surprising that sensitivity to rejection would be particularly important in linking CEA and depressive symptoms. While CEA victims may also receive negative feedback, NFS requires an extra step of seeking negative feedback from others, allowing more opportunities for adaptive behaviors.

The present study addresses several gaps in the extant literature. First, although previous studies have found maladaptive *cognitive* styles to mediate the relation between CEA and depressive symptoms (Gibb et al., 2001, 2003; Spasojevic & Alloy, 2002), the present study is the first to examine *behavioral* risk factors as potential mediators of this relationship. Indeed, the current study provides preliminary evidence that negative behavioral styles, especially in individuals with a history of CEA, may play an important role in the development of depressive symptoms. Moreover, no known studies have directly compared the potential depressogenic effects of different negative behavioral risk factors. By examining three commonly studied negative interpersonal styles concurrently (i.e., ERS, NFS, and RS), the current study provided a test of the unique relative effects of each of these risk factors, thereby arriving at a more parsimonious model.

Several limitations must be considered in the context of these findings. First, measures of CEA and negative behavioral tendencies were self-report and therefore susceptible to shared method variance. In addition, the measure used to assess CEA (CTQ) was retrospective, so individuals' reports may have been influenced by recall bias. Concerns regarding these limitations may be relatively minor, however, given that the use of these measures in the present study effectively replicated previous studies implicating RS, NFS, and ERS in depression and yielded findings highlighting the specificity of these risk factors to CEA (and not CSA or CPA). That is, the observed depressogenic effect of childhood abuse being specific to CEA is unlikely to be accounted for by shared method variance and recall bias. Still, future studies may consider using other methodological approaches (e.g., interview-based assessments such as the Childhood Experience of Care and Abuse Interview; Bifulco, Brown, & Harris, 1994). Additionally, since the sample was normative and not selected based on any particular risk for depression, depressive symptoms (and not clinical

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depression) were evaluated as the outcome measure. Future investigations should consider using other types of samples to assess whether these findings can be generalized to individuals with clinical depression. Finally, the retrospective design of the current study limits our ability to conclude that interpersonal behavioral vulnerabilities are acquired through the experience of CEA. It is possible, for example, that genetic differences among depressed, CEA victims predispose them to RS, ERS, or NFS. Indeed, studies have found significant associations between gene variations and individual differences in RS (e.g., Way, Taylor, & Eisenberger, 2009). Longitudinal studies of children with different predispositions would be helpful for clarifying the role of emotional abuse and genetic factors in the emergence of negative behavior styles.

Overall, our results shed light on potential interpersonal processes underlying the heightened risk for depression that has been observed in individuals with a history of CEA. Specifically, this study provides evidence that negative behavioral styles may function as a mechanism linking prior experiences of CEA to subsequent depressive symptoms. Though preliminary, these findings may have important implications for treatment providers. First, our results suggest that targeting maladaptive behavioral tendencies may be an effective adjunct in behavioral modification treatments of CEA victims at risk for depression. Second, clinicians may consider targeting RS in particular, given that this interpersonal risk factor was found to best account for the relationship between CEA and depressive symptoms. Continuing to flesh out the processes linking CEA and depressive symptoms remains a high priority for future research.

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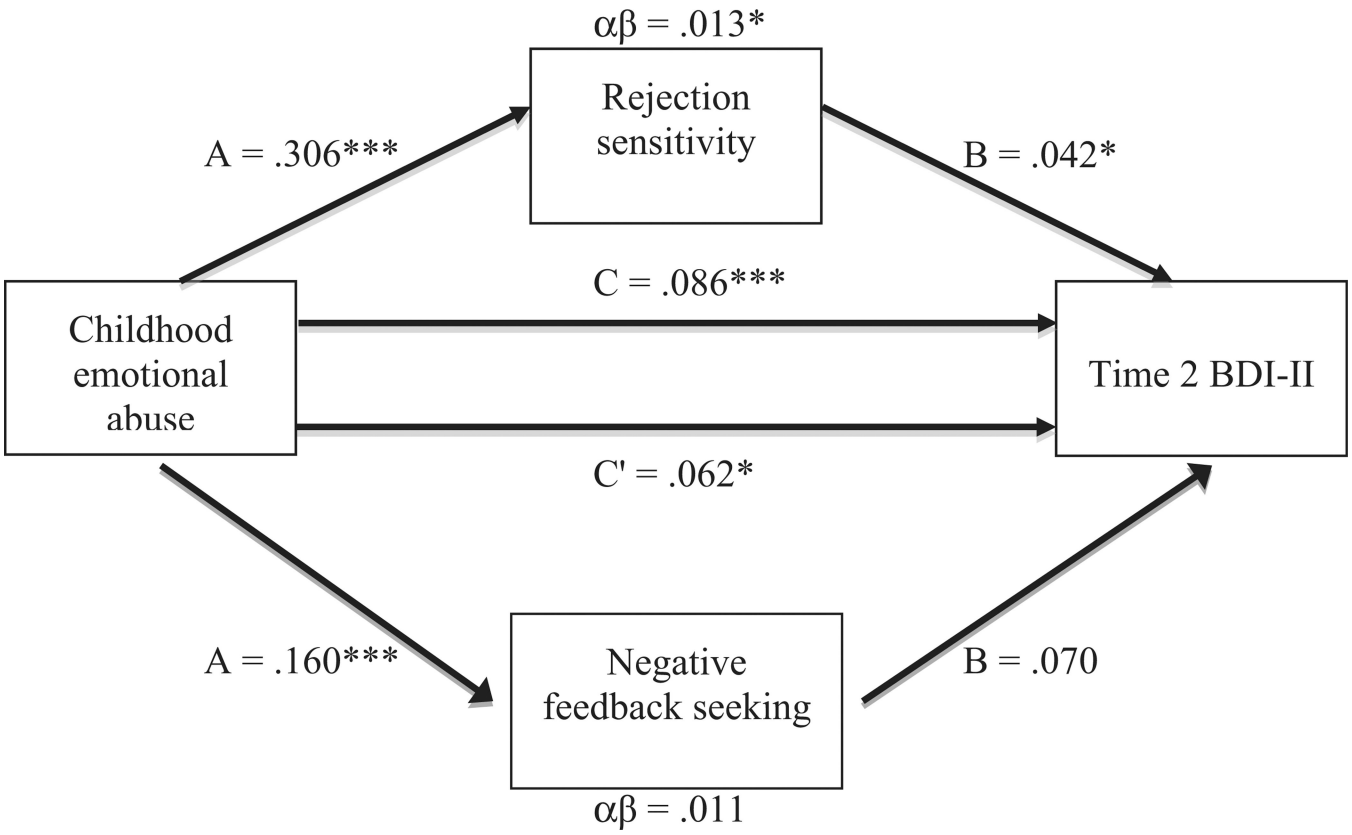

Fig. 1.

Bootstrapping of indirect effects in the multi-mediator model. *Note:* $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$; BDI-II = Beck Depression Inventory II.

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Table 1

Summary of intercorrelations between study variables.

Variable	1	2	3	4	5	6	7	8	9
1. Childhood emotional abuse	–								
2. Childhood physical abuse	.509***	–							
3. Childhood sexual abuse	.178*	.206**	–						
4. Time 1 history of clinical depression	.269***	.046	.146*	–					
5. Time 1 BDI-II	.302***	.140	.082	.251***	–				
6. Time 2 BDI-II	.444***	.189**	.095	.252***	.648***	–			
7. Rejection sensitivity	.390***	.196**	.066	.204**	.363***	.409***	–		
8. Reassurance seeking	.295***	.145*	.083	.046	.239***	.211**	.318***	–	
9. Negative feedback seeking	.337***	.066	.013	.151*	.302***	.372***	.343***	.100	–
Mean	9.162	6.443	5.674	–	8.192	6.256	9.228	11.915	2.834
Standard Deviation	4.090	2.588	2.448	–	7.146	7.383	4.166	5.460	1.970

Note: BDI-II = Beck Depression Inventory II; Spearman correlations are reported for history of clinical depression and Pearson correlations for all remaining variables.

* $p < .05$.

** $p < .01$.

*** $p < .001$.