

Effects of Parental Childhood Abuse on Daily Stress Processes in Adulthood

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Abstract

Extensive evidence suggests that exposure to childhood abuse can lead to harmful health effects across a lifetime. To contribute to the literature, the current study examined whether and how a history of parental childhood abuse affects exposure to and severity appraisal of daily stressors in adulthood, as well as emotional reactivity to these stressors. We analyzed 14,912 daily interviews of 2,022 respondents from the second wave of the National Study of Daily Experiences. Multilevel modeling was utilized to analyze nested data, in that each person provided repeated measures of daily experience for eight consecutive study days. Results showed that more frequent experience of maternal childhood abuse was associated with more severe appraisal of daily stressors. In addition, adults with more frequent maternal childhood abuse exhibited greater emotional reactivity to daily stressors. The current study provides evidence that a history of parental childhood abuse may serve as a vulnerability factor in the process of experiencing and responding to stressful events encountered in daily life. Future research should further explore the long-term health effects of daily stress and emotional experience among adults with a history of parental

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childhood abuse. Interventions for these adults should focus on promoting emotional resilience in the face of daily stress.

Keywords

childhood maltreatment, daily stressor exposure, daily stressor severity, daily emotional reactivity

Exposure to childhood maltreatment is a well-documented risk factor for negative health outcomes in adulthood, including greater mortality risks, accelerated aging processes, and more psychiatric problems such as depression (Chen, Turiano, Mroczek, & Miller, 2016; Green et al., 2010; Kiecolt-Glaser et al., 2011). One of the recognized mechanisms for these long-term harmful health effects is victims' maladaptive responses to stress in childhood, such as elevated emotional reactivity (Repetti, Taylor, & Seeman, 2002; Shapero et al., 2014). However, there is an obvious research gap regarding the effects of parental childhood abuse on the ways in which adults experience, interpret, and respond to stressful events in their daily lives. The study of daily stress processes can offer a framework for understanding how parental childhood abuse may (a) disrupt day-to-day stress experiences and (b) affect the individual's well-being, both of which can have the potential to impair long-term health outcomes (Brosschot, 2010; Mroczek et al., 2013). Furthermore, rigorous evidence can be obtained through a daily diary approach that captures the association between the experience of daily stressors and changes in affect within an individual (Almeida, 2005; Larson & Almeida, 1999). To address this gap in the literature, the current study aimed to examine whether and how histories of parental childhood abuse affect daily stress processes in adulthood, with a specific focus on exposure to daily stressors, subjective severity ratings of daily stressors, and emotional reactivity to daily stressors. Using the National Study of Daily Experiences–II (NSDE II, 2004–2009) combined with the longitudinal National Survey of Midlife in the United States (MIDUS I and II), we examined 2,022 respondents' daily experiences over eight consecutive days.

Exposure and Reactivity to Daily Stressors

Daily stressors are defined as minor events arising out of day-to-day living, which include both routine and unexpected occurrences (e.g., work-related concerns, arguments with spouse/partner) that can pose a challenge and disruption in daily life (Almeida, 2005; Almeida, Wethington, & Kessler, 2002).

The primary foci of daily stress research have been exposure and reactivity to daily stressors. First, “exposure” refers to the frequency of experiencing daily stressors, whereas “reactivity to daily stressors” is defined as the difference in an individual’s level of health and well-being on days when stressors occur, compared with days when no stressors occur (Almeida & Davis, 2011; Almeida, Serido, & McDonald, 2006; Howland, Armeli, Feinn, & Tennen, 2017). Greater reactivity to daily stressors represents emotional and/or physical vulnerabilities to stimuli that may lead to cumulative health risks over time (Leger, Charles, & Almeida, 2018; Piazza and Charles, 2006; Uchino, Holt-Lunstad, Bloor, & Campo, 2005). Prior studies suggest that accumulated days with persistent frustrations and overload can be as damaging as major life events, resulting in more serious, chronic stress reactions and the attendant impairments in long-term health and functioning (Brosschot, 2010; Mroczek et al., 2013). Another aspect of daily stress research involves the subjective severity of the stressors people experience (Stawski, Almeida, Lachman, Tun, & Rosnick, 2010). According to prior research findings, there are individual differences, such as gender, in subjective severity reports of the daily stressors (Almeida & Horn, 2004; Stawski et al., 2010) that may significantly affect daily emotional well-being (Scott, Sliwinski, & Blanchard-Fields, 2013).

Effects of Parental Childhood Abuse on Daily Stress Processes

Considerable research has examined individual differences associated with resilience or vulnerability to daily stress processes based on ascribed characteristics (e.g., race/ethnicity), socioeconomic status (e.g., educational attainment), and psychosocial factors (e.g., social support; Almeida, 2005; Almeida, Stawski, & Cichy, 2010; Zautra, 2003). In the current study, we proposed that parental childhood abuse, a life-course factor, would contribute to susceptibility and vulnerability to daily stressors. First, adults with histories of parental childhood abuse may experience more frequent exposure to daily stressors, possibly because of psychosocial correlates of childhood abuse (e.g., a low self-esteem, lack of social competence, and use of maladaptive problem-solving skills) that can deteriorate previously abused adults’ ability to function and interact with others on a daily basis (Alink, Cicchetti, Kim, & Rogosch, 2012; Coates, Dinger, Donovan, & Phares, 2013; Riggs, 2010). According to Infurna, Rivers, Reich, and Zautra (2015), adults who experienced emotional, physical, and sexual abuse during childhood reported more frequent exposure to daily negative events, but not to daily

positive events. Second, parental childhood abuse may affect an individual's appraisal of daily stressors. Considering the significant link between insecure adult attachment and negative stress appraisal (Bryant & Guthrie, 2005; McLaughlin, Conron, Koenen, & Gilman, 2010), adults with a history of parental childhood abuse may amplify the severity or threats/risks associated with the daily stressors they experience.

Another goal of this study was to examine the effects of parental childhood abuse on emotional reactivity to daily stressors. Violence at the hands of parents, who are supposed to serve as a source of security and safety, can lead to the maladaptive development of physiological and emotional regulatory processes in children, which facilitate disruptions/vulnerabilities in emotional experience and expression in the face of stressful situations, such as elevated emotional reactivity to stress (McLaughlin et al., 2010; Schuengel, Oosterman, & Sterkenburg, 2009; Shapero et al., 2014). Only a few studies have addressed the effects of childhood adversity on emotional responses to daily stressors. Poon and Knight (2012) found that women with a history of maternal emotional abuse showed greater emotional reactivity to network stressors (i.e., one type of stressors that refers to anything happened to a close friend or relative that turned out to be stressful) compared with women who reported less maternal emotional abuse. Glaser, van Os, Portegijs, and Myin-Germeys (2006) revealed that a history of childhood sexual and/or physical trauma was associated with heightened emotional reactivity to daily stressors. Similarly, Infurna and colleagues (2015) showed that a history of childhood trauma was associated with a greater decrease in daily positive affect when experiencing daily negative events.

The Current Study

The current study used a daily diary design to examine the effects of parental childhood abuse on daily stress processes among a national sample of middle-aged and older adults from the NSDE II. Based on a review of previous research, we predicted that parental childhood abuse would be linked to greater exposure and emotional reactivity to daily stressors. Three questions regarding this link motivated the current study: First, is parental childhood abuse associated with greater exposure to daily stressors? Second, is parental childhood abuse associated with how individuals rate the severity of the stressors they report experiencing? Third, does parental child abuse moderate the associations between exposure to and severity of daily stressors and daily affect? Consistent with previous literature showing parental childhood abuse as a risk factor for adult health and well-being, we hypothesized that individuals with more frequent experiences of parental childhood abuse would

(a) exhibit greater exposure to daily stressors, (b) assess the stressors as more severe, and (c) be more emotionally reactive to daily stressors (i.e., a greater change in daily affect on stressor days compared with nonstressor days) compared with individuals who reported less frequent experiences of parental childhood abuse.

Method

Data Set and Study Sample

MIDUS is a national longitudinal study of 7,108 individuals who were first surveyed in 1995 to 1996. All eligible participants were noninstitutionalized, English-speaking adults in the United States, aged 25 to 74 years. The original MIDUS study sample comprised adults from four subsamples: a national random digit dialing (RDD) sample ($n = 3,487$), oversamples from five metropolitan areas ($n = 757$), siblings of individuals from the RDD sample ($n = 950$), and a national RDD sample of twin pairs ($n = 1,914$). A longitudinal follow-up of the MIDUS study (MIDUS II) was conducted in 2004 to 2006, in which 75% of the surviving original respondents ($n = 4,963$) participated.

The NSDE II (2004-2009) is one of the ancillary projects of MIDUS II. A representative subsample of 2,022 MIDUS II participants completed short telephone interviews about their daily experiences across eight consecutive days. Computer-assisted personal interviews (CAPIs) were conducted to incorporate skip patterns and open-ended probe questions as well as to key-punch data during the interview. Data collection was spread throughout the year and consisted of separate “flights” of interviews with each flight representing the 8-day sequence of interviews from approximately 20 respondents. The focal point of the NSDE II was to examine how sociodemographic factors, health status, or personality characteristics modify patterns of exposure to day-to-day life stressors as well as physical and emotional reactivity to these stressors. The respondents completed an average of seven out of the eight daily interviews, resulting in a total of 14,912 valid daily interviews (92% completion rate).

Measures

Childhood abuse. Parental childhood abuse was measured by six items from the Conflict Tactics Scale (Straus, Gelles, & Steinmetz, 1980). Emotional abuse was measured by the following item: “During your childhood, how often did your (a) mother or the woman who raised you; (b) father or the man who raised you insult you or swear at you, sulk or refuse to talk to you,

stomp out of the room, do or say something to spite you, threaten to hit you, smash or kick something in anger?" Physical abuse was measured by the following items: "During your childhood, how often did (c) your mother or the woman raised you; (d) father or the man raised you push, grab, or shove you, slap you, throw something at you?" and "During your childhood, how often did your (e) your mother or the woman raised you; (f) father or the man raised you, kick, bite, or hit you with a fist, hit or try to hit you with something, beat you up, choke you, burn or scald you?"

Respondents rated the items on a 4-point scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*). Based on the previous literature, as well as the results of a factor analysis of the six items, we averaged the three abuse items for mother and father separately and created two predictors: maternal childhood abuse ($\alpha = .80$) and paternal childhood abuse ($\alpha = .82$).

Daily affect. Daily negative and positive affect were assessed using the Positive and Negative Affect Schedule (PANAS) scales (Watson, Clark, & Tellegen, 1988). Daily negative affect was measured by responses to 14 negative emotions, including being restless or fidgety, nervous, worthless, everything was an effort, and hopeless ($\alpha = .85$). Daily positive affect was measured by responses to 13 positive emotions, including being in good spirits, cheerful, confident, enthusiastic, and satisfied ($\alpha = .94$). Respondents rated the items on a 5-point scale (0 = *none of the time*, 4 = *all of the time*). The total scores were calculated by averaging the specific affect items. For daily negative affect, the square root transformation was applied to minimize the impact of skewness on the assumption of normality.

Any daily stressor. Daily stressors were assessed through the Daily Inventory of Stressful Events (DISE; Almeida et al., 2002). The instrument contains seven questions for identifying whether stressful events occurred (yes = 1, no = 0) within the past 24 hr in various life domains that include (a) having had an argument or disagreement with someone; (b) almost having had an argument or disagreement but having avoided it; (c) having had a stressful event happen at work or school; (d) having had a stressful event happen at home; (e) experiencing race, gender, or age discrimination; (f) having had something bad happens to a relative or close friend; and (g) having had anything else bad or stressful happen. Consistent with previous research (e.g., Surachman, Wardecker, Chow, & Almeida, 2019; Wong & Shobo, 2017), we created a binary daily stressor variable summarizing across the seven categories that indicated whether (= 1) or not (= 0) any daily stressor had occurred on the day of the interview. To assess respondents' overall exposure to stressors, we created a person-level stressor exposure variable by calculating the proportion of study days that any stressors had occurred.

Daily stressor severity. Participants were asked to rate the subjective severity of each stressor (i.e., “how stressful was this for you?”) they actually experienced on a 4-point scale ranging from 0 (*not at all stressful*) to 3 (*very stressful*).

Covariates. Several sociodemographic characteristics were included in the analyses as covariates, including gender, race, age, marital status, education, and self-reported physical health. In addition, we controlled for respondent’s other adverse experiences during childhood: whether (= 1) or not (= 0) the respondent had experienced (a) parental substance abuse issues (i.e., drinking problems and use of drugs) and (b) parental divorce. Father’s highest level of education was included to assess childhood socioeconomic status.

Analytic Strategy

A multilevel modeling approach was used to account for the nested data structure where an individual is considered a cluster (Level 2), and repeated measures across the 8 days are considered variations within an individual (Level 1). First, to test for the effects of parental childhood abuse on the exposure to any daily stressors (coded as 0 if no stressor occurred, and 1 if any stressors occurred), we estimated multilevel logistic models predicting the exposure to daily stressors as a function of maternal and paternal childhood abuse and the covariates. Second, to test for the effects of parental childhood abuse on subjective stressor severity, we modeled a multilevel linear model treating the severity ratings as a continuous dependent variable.

Third, multilevel linear models were estimated to examine the moderating effects of parental childhood abuse on the within-person association between daily stressor experience and daily affect. The equations for the analysis model are as follows:

$$\text{Level 1: Daily affect}_{di} = B_{0i} + B_{1i} (\text{any daily stressor exposure}_{di}) + \varepsilon_{di}$$

$$\begin{aligned} \text{Level 2: } B_{0i} &= \gamma_{00} + \gamma_{01} (\text{average daily stressor exposure}_i) \\ &+ \gamma_{02} (\text{maternal childhood abuse}_i) \\ &+ \gamma_{03} (\text{paternal childhood abuse}_i) + \gamma_{04-12} (\text{covariates}_i) + \mu_{0i} \end{aligned}$$

$$\begin{aligned} B_{1i} &= \gamma_{10} + \gamma_{11} (\text{maternal childhood abuse}_i) \\ &+ \gamma_{12} (\text{paternal childhood abuse}_i) + \mu_{1i} \end{aligned}$$

where B_{0i} is the intercept indicating person i ’s level of negative/positive affect on days with no stressor, B_{1i} is changes in negative/positive affect

from a nonstressor day to a stressor day, indicating emotional reactivity of person i to daily stressors. Error term ε_{di} represents a unique effect associated with person i . In the Level 2 equation, the within-person intercept coefficient (B_{0i}) was modeled as a function of between-person differences in terms of person i 's average exposure to daily stressors over the 8 days, maternal and paternal childhood abuse, and the list of covariates. The within-person slope coefficient (B_{1i}) was modeled as a function of parental childhood abuse to test whether these reactivity slopes varied by histories of parental childhood abuse. Specific parameters of interest were γ_{11} and γ_{12} , indicating the difference in daily stressor reactivity with respect to a unit increase in the frequency of maternal and paternal childhood abuse. Interindividual fluctuations from the level and slope were indicated by μ_{0i} and μ_{1i} , respectively. In addition, the identical multilevel models were estimated to examine the effect of the subjective stressor severity on daily affect, by replacing any daily stressors and average daily stressor exposure with the within-person and between-person daily stressor severity. Stata 14 was used for the set of analyses, and missing data were dealt by a full information maximum likelihood approach.

Results

Table 1 presents the descriptive characteristics of the study sample. On average, maternal and paternal abuse occurred *rarely* based on the 4-point scale ($M = 1.55$, $SD = 0.68$; $M = 1.59$, $SD = 0.71$, respectively). About half of the sample was male (42.8%, $n = 865$), and the majority were White (82.7%, $n = 1,672$) and married (68.6%, $n = 1,387$). The average age was 56.3 years with a range of 33 to 84 years. About 10% of respondents experienced parental divorce and parental substance abuse problems. In addition, respondents reported experiencing, on average, at least one stressor on 40% of the study days ($M = 0.40$, $SD = 0.27$).

Parental Childhood Abuse and Exposure and Severity of Daily Stressors

Table 2 shows the results of multilevel models predicting daily stressor exposure and severity as a function of parental childhood abuse. The results indicated that more frequent experience of maternal and paternal childhood abuse was not significantly associated with exposure to daily stressors, whereas more frequent experience of maternal childhood abuse predicted more severe ratings of stressors they experienced (est. = 0.09, $p < .01$). In terms of key sociodemographic predictors, excellent/good self-rated health was not associated with

Table 1. Summary Statistics of Study Sample and Key Variables ($N = 2,022$).

	<i>N/M (SD)</i>	<i>%/Minimum/Maximum</i>
Maternal childhood abuse	1.55 (0.68)	1/4
Paternal childhood abuse	1.59 (0.71)	1/4
Gender		
Male	865	42.78
Female	1,157	57.22
Race		
White	1,672	82.69
Others	291	14.39
Marital status		
Married	1,387	68.60
Nonmarried	633	31.31
Self-rated health		
Good/very good/excellent	1,729	85.51
Poor/fair	292	14.44
Age	56.25 (12.20)	33/84
Years of education	7.26 (2.53)	1/12
Years of father's education	4.84 (3.00)	1/12
Experience of other childhood adversity		
Parental divorce	607	9.13
Parental substance abuse problems	533	9.59
Any daily stressors ^a	0.40 (0.27)	0/1
Daily negative affect ^a	0.31 (0.26)	0/1.59
Daily positive affect ^a	2.72 (0.71)	0/4

^aRepeated measures were averaged across the eight study days.

daily stressor exposure but significantly associated with more severe ratings of stressors. Older age was associated with reduced exposure to stressors and lower severity ratings. More years of education was significantly associated with greater exposure to daily stressors.

Parental Childhood Abuse and Emotional Reactivity to Daily Stressors

Table 3 presents the results of the effects of daily stressor exposure and severity ratings on daily affect. We found that maternal childhood abuse moderated the association between daily stressors and daily negative affect (est. = 0.03, $p < .05$). In other words, the positive association between daily stressors

Table 2. Effects of Parental Childhood Abuse on Exposure and Severity of Daily Stressors.

	Any Daily Stressor	Stressor Severity
	Odds Ratio	Est. (SE)
Maternal childhood abuse	1.12	0.09**
Paternal childhood abuse	1.10	0.00
Female	1.27**	0.34***
White	1.21	0.06
Married	0.98	-0.00
Good health status	0.82	-0.34***
Age	0.98***	-0.01**
Years of education	1.11***	0.00
Years of father's education	1.05***	0.00
Parental divorce	1.15	0.08
Parental substance abuse	1.05	0.02

Note. $N = 2,022$. Any daily stressor was coded a binary variable indicating as to whether (= 1) or not (= 0) any daily stressor had occurred across the 8 days. The subjective severity of each stressor respondents experienced was rated on a 4-point Likert-type scale ranging from 0 to 3 (0 = *not at all stressful*, 3 = *very stressful*).

Significance levels are denoted as * $p < .05$. ** $p < .01$. *** $p < .001$.

and daily negative affect (i.e., reactivity to daily stressors) was stronger for adults who reported more frequent maternal childhood abuse (Figure 1). A similar pattern was found in the model predicting daily positive affect: Experiencing any daily stressors related to lower daily positive affect, but the within-person association was stronger for adults who reported more frequent maternal childhood abuse (est. = -0.05 , $p < .01$; Figure 2). In addition, we found the significant main effects of subjective ratings of daily stressor severity on both daily negative and positive affect, but the associations were not specific to parental childhood abuse. In other words, more frequent childhood abuse from the mother or father did not moderate the associations between daily stressor severity and daily affect. Excellent/good self-rated health, older age, and more years of educations showed greater daily emotional well-being (i.e., lower negative affect and higher positive affect).

Discussion

The current study investigated the effects of parental childhood abuse on daily stress processes in adulthood. Our specific focus was whether and how

Table 3. Emotional Stress Reactivity: Moderation by History of Childhood Abuse.

	Daily Negative Affect		Daily Positive Affect	
	Est. (SE)			
Fixed effects				
Intercept	0.40 (0.02)***	0.34 (0.04)***	2.36 (0.08)***	2.79 (0.10)***
Average daily stressor exposure (BP)	0.27 (0.02)***		-0.49 (0.08)***	
Average daily stressor severity (BP)		0.15 (0.01)***		-0.30 (0.03)***
Maternal childhood abuse	0.01 (0.01)	0.03 (0.01)	0.01 (0.04)	-0.03 (0.03)
Paternal childhood abuse	0.00 (0.01)	0.01 (0.01)	-0.05 (0.03)	-0.04 (0.03)
Any daily stressors (WVP)	0.21 (0.01)***		-0.15 (0.01)***	
Maternal Childhood Abuse × Any Daily Stressors (WVP)	0.03 (0.01)*		-0.05 (0.02)**	
Paternal Childhood Abuse × Any Daily Stressors (WVP)	0.01 (0.01)		0.01 (0.02)	
Stressor severity (WVP)		0.08 (0.01)***		-0.12 (0.01)***
Maternal Childhood Abuse × Stressor Severity (WVP)		0.01 (0.01)		-0.02 (0.02)
Paternal Childhood Abuse × Stressor Severity (WVP)		0.02 (0.01)		0.01 (0.02)
Female	-0.01 (0.01)	-0.03 (0.02)	0.05 (0.04)	0.11 (0.04)*
White	-0.02 (0.02)	-0.00 (0.03)	-0.03 (0.06)	-0.11 (0.06)
Married	-0.03 (0.01)*	-0.04 (0.02)*	0.05 (0.04)	0.09 (0.05)*
Good health status	-0.15 (0.02)***	-0.14 (0.02)***	0.45 (0.06)***	0.36 (0.06)***
Age	-0.00 (0.00)**	-0.00 (0.00)***	0.01 (0.00)***	0.01 (0.00)***
Years of education	-0.01 (0.00)*	-0.00 (0.00)	0.01 (0.01)	0.01 (0.01)
Years of father's education	0.00 (0.00)	0.00 (0.00)	-0.01 (0.01)	-0.02 (0.01)*
Parental divorce	0.01 (0.02)	-0.01 (0.03)	-0.00 (0.07)	0.01 (0.07)
Parental substance abuse problems	0.00 (0.02)	0.01 (0.02)	-0.14 (0.06)*	-0.15 (0.06)*
Random effects				
Variance of intercept	0.17***	0.05*	0.64***	0.58*
Variance of daily stressors (severity)	0.12***	0.12***	0.14***	0.08***
Covariance between intercept and daily stressor (severity)	0.01	0.43	-0.32	0.45
Residual variance	0.21	0.24	0.38	0.41
AIC	213.68	1,131.81	11,223.80	5,433.96
BIC	354.59	1,253.70	11,364.71	5,555.85

Note. BP = between person; WVP = within person; AIC = Akaike information criterion; BIC = Bayesian information criterion.

Significance levels are denoted as * $p < .05$. ** $p < .01$. *** $p < .001$.

histories of parental childhood abuse were associated with exposure and severity ratings of daily stressors, and whether parental childhood abuse moderated the within-person associations between daily stressor exposure/severity and daily affect. Overall, our findings offer evidence that a history of parental childhood abuse may serve as a vulnerability factor in the process of experiencing and responding to stressful events encountered in daily life.

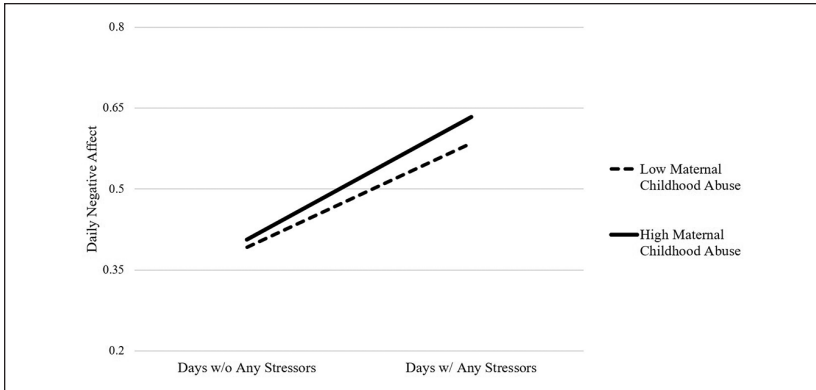


Figure 1. Emotional reactivity to daily stressors: Negative affect.

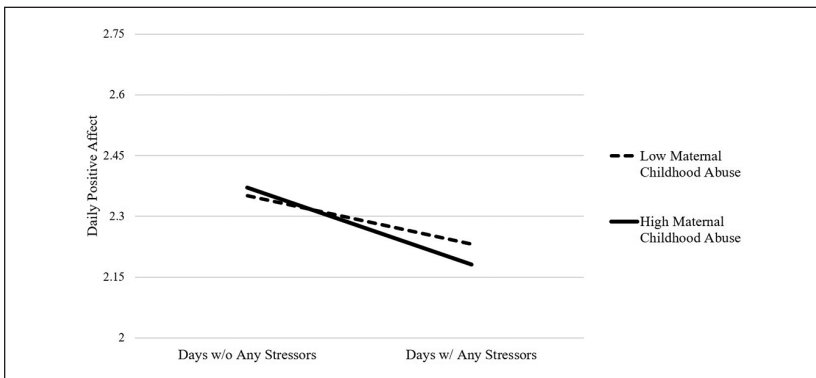


Figure 2. Emotional reactivity to daily stressors: Positive affect.

Maternal Childhood Abuse Linked to Severity Ratings of Daily Stressors

Contrary to our hypothesis, parental childhood abuse was not significantly associated with exposure to daily stressors. However, we did find that more frequent exposure to maternal childhood abuse was associated with more severe appraisals of the daily stressor experienced. This result is somewhat consistent with prior studies that indicated a significant link between a history of childhood abuse and a global assessment of stress. For example, Hyman, Paliwal, and Sinha (2007) found that adults who experienced more

severe childhood maltreatment showed greater levels of perceived stress (i.e., subjective appraisals of the stressfulness of recent life events) than adults who reported less severe childhood maltreatment. These results suggest that histories of parental childhood abuse may have more to do with the ways of interpreting the intensity of the daily stressors experienced, rather than the actual occurrence of daily stressors.

Maternal Childhood Abuse Linked to Heightened Emotional Reactivity to Daily Stressors

Our hypothesis was partially supported, namely, that adults with more frequent experiences of maternal childhood abuse were emotionally more reactive to daily stressors than adults who reported less frequent experience of maternal childhood abuse. Paternal childhood abuse was not significantly associated with emotional reactivity to daily stressors. In addition, the effect of stressor severity on daily affect did not differ between abused and non-abused adults, suggesting that an individual's appraisal of stressor severity may not explain greater emotional responses for previously abused adults, but stressor exposure itself may do. However, we can at least say that adults with greater exposure to maternal childhood abuse may experience more days with negative emotions and fewer days with positive emotions, considering that maternal childhood abuse was associated with more severe ratings of the daily stressor experienced, which had direct effects on daily affect.

Our findings are consistent with previous studies that have shown the significant effects of mother–child relationship quality on daily stress and emotional experience in adulthood. For example, Poon and Knight (2012) asserted that the quality of the mother–child relationship can influence stress and coping in later adulthood based on their findings: (a) Adult daughters who recalled more frequent maternal emotional abuse showed greater daily emotional distress across study days and (b) adult daughters' recalled emotional closeness with their mother attenuated emotional reactivity to daily network stressors (i.e., anything happened to a close friend or relative that turned out to be stressful). Similarly, Mallers, Charles, Neupert, and Almeida (2010) identified the protective aspect of childhood relationships with mothers by showing that a high-quality mother–child relationship was significantly associated with less exposure to daily stressors and reduced daily psychological distress across the study days.

Furthermore, our findings regarding the specific risks associated with childhood abuse from mothers, but not fathers, may be in line with the large body of literature on attachment theory. Bowlby (1988) and Bartholomew

(1990, 1993) emphasize the significance of a secure emotional connection between children and their primary caretaker, especially mothers for currently middle-aged and older adults, on individual development across life. Negative internal working modes of self and others (i.e., a view/perception of the self as unworthy and unlovable and others as untrustworthy and non-available)—which are strong correlates of maternal childhood abuse (Crawford & Wright, 2007; Griffin & Bartholomew, 1994)—influence the ways in which individuals cope with and respond to stressful situations or distress (Browne & Winkelman, 2007; Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Mikulincer, Shaver, & Pereg, 2003; Wei, Vogel, Ku, & Zakalik, 2005). Future research should explore the impact of the adult attachment system as a consequence of dysfunctional parent–child relationships on daily stress processes to better understand how the underpinning beliefs of the self and others can be manifested throughout daily life.

Effects of Health, Education, and Age on Daily Stress Experience and Well-Being

We note significant findings regarding the effects of self-rated health status, age, and socioeconomic status on daily stress experiences and well-being. Consistent with the findings of prior studies (Almeida & Horn, 2004; Hill et al., 2018; Neupert, Almeida, & Charles, 2007), excellent/good self-rated health status and older age were associated with less severe ratings of stressors and greater daily well-being. As discussed in prior studies (e.g., Almeida, Piazza, Stawski, & Klein, 2011), more years of education was associated with lower negative affect, although it was associated with more frequent exposure to daily stressors.

Limitations and Implications

We acknowledge the limitations of our study. First, childhood abuse measures were based on retrospective self-reports that could involve recall errors (Macmillan, 2009). In addition, the measures lacked certain specific details, such as the timing and duration of abuse. Second, the study sample may not reflect characteristics of the general population because of the attrition in the MIDUS II. According to Radler and Ryff (2010), higher retention rates for the MIDUS II were found among respondents who were White, female, and married, as well as those with better self-reported health and higher levels of education. We also note that the longitudinal MIDUS sample and the NSDE subsample had similar distributions for age as well as for marital and parenting status. However, the NSDE subsample had better educated participants,

on average, along with more female and fewer minority participants. In terms of the daily stressors measure, we focused on examining the exposure to any daily stressors that occurred in the past 24 hr rather than differentiating specific stressor types. In accordance with this approach, we also averaged stressor severity ratings across different types of stressors. Although much of previous daily stress studies (e.g., Surachman et al., 2019; Wong & Shobo, 2017) relied on this *any daily stressor* approach to offer a comprehensive examination across a diverse venue of potential stressor exposures as well as to increase statistical power, future research may incorporate examining the interactive health effects of childhood adversity and specific daily stressor types.

Despite these noted limitations, the current study further advances existing knowledge by demonstrating that, at the micro, daily level, adults with a history of maternal childhood abuse may experience heightened emotional vulnerabilities in the face of stressors that can pose long-term cumulative risks on their health and well-being (Brosschot, 2010; Mroczek et al., 2013). Our approach was to integrate life-course perspectives into the daily stress framework by positing that stressors are not limited to contemporary time frames but rather can, in fact, be “more distally located in the life course” (Pearlin, 2010, p. 213). Future research should continue to explore the intersection between interindividual characteristics embedded in the life-course experiences and transitions and daily stress processes. It also warrants further research to empirically test the cumulative effects of these microlevel stress processes on long-term health and functioning of adults with a history of childhood maltreatment. In addition, future research may conceptualize childhood adversity based on the adverse childhood experiences (ACEs) framework to acknowledge that parental abuse often co-occurs with other traumatic experiences, such as neglect and household dysfunction (Danielson & Sanders, 2018; Felitti et al., 1998). This inquiry will expand the well-established ACEs literature by positing daily stress experiences and well-being as potential mechanisms linking childhood adversity and negative health outcomes in later adulthood.

This study also provides important implications for practice. First, adults who experienced dysfunctional interactions with their mothers during childhood should be aware that past abuse has repercussions for the ways they interpret and respond to daily stressful events. This self-awareness may help reduce emotional vulnerabilities of these adults by enhancing their sense of control over daily situations or stressors (Koffer et al., 2017). In addition, practitioners can facilitate previously abused adults’ positive appraisal of daily stressors and help them use adaptive coping strategies to ameliorate negative emotional experience and increase emotional resilience in daily life.

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References

- Alink, L. R. A., Cicchetti, D., Kim, J., & Rogosch, F. A. (2012). Longitudinal associations among child maltreatment, social functioning, and cortisol regulation. *Developmental Psychology, 48*, 224-236. doi:10.1037/a0024892
- Almeida, D. M. (2005). Resilience and vulnerability to daily stressors assessed via diary methods. *Current Directions in Psychological Science, 14*, 62-68. doi:10.1111/j.0963-7214.2005.00336.x
- Almeida, D. M., & Davis, K. D. (2011). Workplace flexibility and daily stress processes in hotel employees and their children. *The Annals of the American Academy of Political and Social Science, 638*, 123-140. doi:10.1177/0002716211415608
- Almeida, D. M., & Horn, M. C. (2004). Is daily life more stressful during middle adulthood? In O. G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we? A national study of well-being at midlife* (pp. 425-451). Chicago, IL: University of Chicago Press.
- Almeida, D. M., Piazza, J. R., Stawski, R. S., & Klein, L. C. (2011). The speedometer of life: Stress, health and aging. In K. W. Schaie & S. L. Willis (Eds.), *The Handbooks of Aging. 3 vols.: Handbook of the psychology of aging* (pp. 191-206). San Diego, CA: Elsevier Academic Press. doi:10.1016/B978-0-12-380882-0.00012-7
- Almeida, D. M., Serido, J., & McDonald, D. (2006). Daily life stressors of early and late baby boomers. In S. K. Whitbourne & S. L. Willis (Eds.), *The baby boomers at midlife: Contemporary perspectives on middle age*. Hillsdale, NJ: Lawrence Erlbaum.
- Almeida, D. M., Stawski, R. S., & Cichy, K. E. (2010). Combining checklist and interview approaches for assessing daily stressors: The Daily Inventory of Stressful Events. In R. J. Contrada & A. Baum (Eds.), *The handbook of stress science: Biology, psychology, and health* (pp. 583-595). New York, NY: Springer.

- Almeida, D. M., Wethington, E., & Kessler, R. C. (2002). The daily inventory of stressful experiences (DISE): An interview-based approach for measuring daily stressors. *Assessment, 9*, 41-55.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships, 7*, 147-178. doi:10.1177/0265407590072001
- Bartholomew, K. (1993). From childhood to adult relationships: Attachment theory and research. In S. W. Duck (Ed.), *Understanding relationship processes 2: Learning about relationships* (pp. 30-62). London: Sage.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York, NY: Basic Books.
- Brosschot, J. F. (2010). Markers of chronic stress: Prolonged physiological activation and (un)conscious perseverative cognition. *Neuroscience & Biobehavioral Reviews, 35*, 46-50. doi:10.1016/j.neubiorev.2010.01.004
- Browne, C., & Winkelman, C. (2007). The effect of childhood trauma on later psychological adjustment. *Journal of Interpersonal Violence, 22*, 684-697. doi:10.1177/0886260507300207
- Bryant, R. A., & Guthrie, R. M. (2005). Maladaptive appraisals as a risk factor for posttraumatic stress: A study of trainee firefighters. *Psychological Science, 16*, 749-752. doi:10.1111/j.1467-9280.2005.01608.x
- Chen, E., Turiano, N. A., Mroczek, D. K., & Miller, G. E. (2016). Association of reports of childhood abuse and all-cause mortality rates in women. *JAMA Psychiatry, 73*, 920-927. doi:10.1001/jamapsychiatry.2016.1786
- Coates, E. E., Dinger, T., Donovan, M., & Phares, V. (2013). Adult psychological distress and self-worth following child verbal abuse. *Journal of Aggression, Maltreatment and Trauma, 22*, 394-407. doi:10.1080/10926771.2013.775981
- Crawford, E., & Wright, M. O. (2007). The impact of childhood psychological maltreatment on interpersonal schemas and subsequent experiences of relationship aggression. *Journal of Emotional Abuse, 7*, 93-116. doi:10.1300/J135v07n02_06
- Danielson, R., & Sanders, G. F. (2018). An effective measure of childhood adversity that is valid with older adults. *Child Abuse & Neglect, 82*, 156-167. doi:10.1016/j.chiabu.2018.05.028
- 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: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*, 245-258. doi:10.1016/S0749-3797(98)00017-8
- Glaser, J., van Os, J., Portegijs, P. J. M., & Myin-Germeys, I. (2006). Childhood trauma and emotional reactivity to daily life stress in adult frequent attenders of general practitioners. *Journal of Psychosomatic Research, 61*, 229-236. doi:10.1016/j.jpsychores.2006.04.014
- 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*, 113-123. doi:10.1001/archgenpsychiatry.2009.186

- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*, 430-445. doi:10.1037/0022-3514.67.3.430
- Hill, P. L., Sin, N. L., Turiano, N. A., Burrow, A. L., & Almeida, D. M. (2018). Sense of purpose moderates the associations between daily stressors and daily well-being. *Annals of Behavioral Medicine, 52*, 724-729. doi:10.1093/abm/kax039
- Howland, M., Armeli, S., Feinn, R., & Tennen, H. (2017). Daily emotional stress reactivity in emerging adulthood: Temporal stability and its predictors. *Anxiety, Stress, and Coping, 30*, 121-132. doi:10.1080/10615806.2016.1228904
- Hyman, S. M., Paliwal, P., & Sinha, R. (2007). Childhood maltreatment, perceived stress, and stress-related coping in recently abstinent cocaine dependent adults. *Psychology of Addictive Behaviors, 21*, 233-238. doi:10.1037/0893-164X.21.2.233
- Infurna, F. J., Rivers, C. T., Reich, J., & Zautra, A. J. (2015). Childhood trauma and personal mastery: Their influence on emotional reactivity to everyday events in a community sample of middle-aged adults. *PLoS ONE, 10*(4), e0121840. doi:10.1371/journal.pone.0121840
- Kiecolt-Glaser, J. K., Gouin, J., Weng, N., Malarkey, W. B., Beversdorf, D. Q., & Glaser, R. (2011). Childhood adversity heightens the impact of later-life caregiving stress on telomere length and inflammation. *Psychosomatic Medicine, 73*, 16-22. doi:10.1097/PSY.0b013e31820573b6
- Koffer, R., Drewelies, J., Almeida, D. M., Conroy, D. E., Pincus, A. L., Gerstorf, D., & Ram, N. (2017). The role of general and daily control beliefs for affective stressor-reactivity across adulthood and old age. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 74*, 242-253. doi:10.1093/geronb/gbx055
- Larson, R. W., & Almeida, D. M. (1999). Emotional transmission in the daily lives of families: A new paradigm for studying family process. *Journal of Marriage and Family, 61*, 5-20. doi:10.2307/353879
- Leger, K. A., Charles, S. T., & Almeida, D. M. (2018). Let it go: Lingering negative affect in response to daily stressors is associated with physical health years later. *Psychological Science, 29*, 1283-1290. doi:10.1177/0956797618763097
- Lopez, F. G., Mauricio, A. M., Gormley, B., Simko, T., & Berger, E. (2001). Adult attachment orientations and college student distress: The mediating role of problem coping styles. *Journal of Counseling and Development, 79*, 459-464. doi:10.1002/j.1556-6676.2001.tb01993.x
- Macmillan, R. (2009). The life course consequences of abuse, neglect, and victimization: Challenges for theory, data collection, and methodology. *Child Abuse & Neglect, 33*, 661-665. doi:10.1016/j.chiabu.2009.09.002
- Mallers, M. H., Charles, S. T., Neupert, S. D., & Almeida, D. M. (2010). Perceptions of childhood relationships with mother and father: Daily emotional and stressor experiences in adulthood. *Developmental Psychology, 46*, 1651-1661. doi:10.1037/a0021020
- McLaughlin, K. A., Conron, K. J., Koenen, K. C., & Gilman, S. E. (2010). Childhood adversity, adult stressful life events, and risk of past-year psychiatric disorder: A

- test of the stress sensitization hypothesis in a population-based sample of adults. *Psychological Medicine*, *40*, 1647-1658. doi:10.1017/S0033291709992121
- Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, *27*, 77-102. doi:10.1023/A:1024515519160
- Mroczek, D. K., Stawski, R. S., Turiano, N. A., Chan, W., Almeida, D. M., Neupert, S. D., & Spiro, A., III. (2013). Emotional reactivity and mortality: Longitudinal findings from the VA normative aging study. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *70*, 398-406. doi:10.1093/geronb/gbt107
- Neupert, S. D., Almeida, D. M., & Charles, S. T. (2007). Age differences in reactivity to daily stressors: The role of personal control. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *62*, 216-225.
- Pearlin, L. I. (2010). The life course and the stress process: Some conceptual comparisons. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *65*, 207-215. doi:10.1093/geronb/gbp106
- Piazza, J., & Charles, S. T. (2006). Mental health and the baby boomers. In S. K. Whitbourne & S. L. Willis (Eds.), *The baby boomers grow up: Contemporary perspectives on midlife* (pp. 111-146). Hillsdale, NJ: Lawrence Erlbaum.
- Poon, C. Y. M., & Knight, B. G. (2012). Emotional reactivity to network stress in middle and late adulthood: The role of childhood parental emotional abuse and support. *The Gerontologist*, *52*, 782-791. doi:10.1093/geron/gns009
- 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*, 307-331. doi:10.1177/0898264309358617
- Repetti, R., Taylor, S., & Seeman, T. (2002). Risky families: Family social environments and the mental and physical health of offspring. *Psychological Bulletin*, *128*, 330-366. doi:10.1037/0033-2909.128.2.330
- Riggs, S. (2010). Childhood emotional abuse and the attachment system across the life cycle: What theory and research tell us. *Journal of Aggression, Maltreatment & Trauma*, *19*, 5-51. doi:10.1037/a0021319
- Schuengel, C., Oosterman, M., & Sterkenburg, P. S. (2009). Children with disrupted attachment histories: Interventions and psychophysiological indices of effects. *Child and Adolescent Psychiatry and Mental Health*, *3*, 1-10. doi:10.1186/1753-2000-3-26
- Scott, S. B., Sliwinski, M. J., & Blanchard-Fields, F. (2013). Age differences in emotional responses to daily stress: The role of timing, severity, and global perceived stress. *Psychology and Aging*, *28*, 1076-1087. doi:10.1037/a0034000
- Shapero, B. G., Black, S. K., Liu, R. T., Klugman, J., Bender, R. E., Abramson, L. Y., & Alloy, L. B. (2014). Stressful life events and depression symptoms: The effect of childhood emotional abuse on stress reactivity. *Journal of Clinical Psychology*, *70*, 209-223. doi:10.1002/jclp.22011
- Stawski, R. S., Almeida, D. M., Lachman, M. E., Tun, P. A., & Rosnick, D. B. (2010). Fluid cognitive ability is associated with greater exposure and smaller reactions to daily stressors. *Psychology and Aging*, *25*, 330-342. doi:10.1037/a0018246

- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind closed doors: Violence in the American family*. New York, NY: Anchor Books.
- Surachman, A., Wardecker, B., Chow, S. M., & Almeida, D. (2019). Life course socioeconomic status, daily stressors, and daily well-being: Examining chain of risk models. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 74*, 126-135.
- Uchino, B. N., Holt-Lunstad, J., Bloor, L. E., & Campo, R. A. (2005). Aging and cardiovascular reactivity to stress: Longitudinal evidence for changes in stress reactivity. *Psychology and Aging, 20*, 134-143. doi:10.1037/0882-7974.20.1.134
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.
- Wei, M., Vogel, D. L., Ku, T. Y., & Zakalik, R. A. (2005). Adult attachment, affect regulation, negative mood, and interpersonal problems: The mediating roles of emotional reactivity and emotional cutoff. *Journal of Counseling Psychology, 52*, 14-24. doi:10.1037/0022-0167.52.1.14
- Wong, J. D., & Shobo, Y. (2017). The moderating influences of retirement transition, age, and gender on daily stressors and psychological distress. *International Journal of Aging and Human Development, 85*, 90-107.
- Zautra, A. (2003). *Emotions, stress, and health*. New York, NY: Oxford University Press.

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