Emotional Reactivity to Network Stress in Middle and Late Adulthood: The Role of Childhood Parental Emotional Abuse and Support

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Purpose: This study examined whether recalled childhood parental emotional abuse and support were associated with emotional reactivity to network stress among middle-aged and older adults. Design and Methods: Hypotheses were tested by performing 2-level multilevel modeling analysis on 787 participants aged 33–83 who participated in the Daily Stress Project (2004–2009). Results: Adult daughters who recalled more childhood emotional abuse from their mother reported a higher average level of daily emotional distress nearly a decade later. The association between network stress and emotional distress was only significant among adult daughters. This emotional reactivity was attenuated by greater childhood emotional support from mothers. Implications: Recalled childhood mother–child relationship continues to influence stress and coping across the lifespan, especially among women.

Key Words: Attachment, Abuse/neglect, Life course/life span, Stress and coping

Recent research has highlighted the influence of early life experiences on physical and mental health in late adulthood (Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010; Schafer & Ferraro, 2012). One possible pathway through which childhood experiences contribute to adulthood health is their influence on the development of coping resources that can affect physiological and psychological response to social stress (Repetti, Taylor, & Seeman, 2002). Few studies have looked at how early parent–child relationships may influence stress reactivity in the latter half of life (Andersson & Stevens, 1993; Russek & Schwartz, 1997). In recent years, there is a growing interest in the potential difference between the role of father–child and mother–child relationships in human development (Mallers, Charles, Neupert, & Almeida, 2010). This study examined whether childhood paternal and maternal emotional abuse and support retrospectively recalled in adulthood influenced emotional reactivity to daily network stress a decade later among individuals whose average age was almost 60.

Significance of Emotional Bonding Between Parents and Children

Attachment theory postulates that parent–child attachment promotes comfort with closeness and interdependence (Bowlby, 1982). Early parent–child relationships provide a secure base and safe haven for children to explore relationships and establish confidence that they will be accepted and helped by others in times of need. Early attachment
experiences contribute to an internal working model about the self, others, and self–other interaction across the lifespan (Maunder & Hunter, 2001; Wright, Crawford, & Castillo, 2009). As summarized by the Risky Families Model of Repetti and colleagues (2002), childhood family environment influences the development of emotion regulation and social skills, which can affect how individuals respond to stress later in life. The level of emotional distress experienced as a result of stressful life events may be viewed as an indicator of emotion regulation. Individuals from a cold and neglectful early family environment may react more strongly to stressors that involve close others and feel more insecure about the stability of intimate relationships. Indeed, studies have shown that a history of childhood abuse was related to interpersonal difficulties and marital problems in adulthood (Waldinger, Schulz, Barsky, & Ahern, 2006; Whisman, 2006).

**Long-term Impact of Parental Emotional Abuse and Support**

A key element of the parent–child relationship is the experience of emotional bonding. This study focused on parental emotional abuse and emotional support. Examples of childhood emotional abuse include spurning, terrorizing, isolating, and exploiting or corrupting a child (Brassard & Donovan, 2006). The prevalence of mild to severe childhood emotional abuse ranged from 10% to 43% in large-scale studies and small community samples (Dong et al., 2004; Spertus, Yehuda, Wong, Halligan, & Seremitis, 2003; Wilson et al., 2006). The National Survey of Midlife Development in the United States (MIDUS), childhood emotional abuse was associated with poorer self-rated health in adulthood and more sleep problems in old age (Irving & Ferraro, 2006; Poon & Knight, 2011). In a small community sample of older adults, there was a correlation between childhood emotional abuse and more anxiety and depression, even after childhood family turmoil, violence, and financial difficulties were considered (Wilson et al., 2006).

Broadly defined, parental emotional support refers to the understanding, love, respect, trust, attention, and time parents provide to their child (e.g., Shaw, Krause, Chatters, Connell, & Ingersoll-Dayton, 2004). Whereas a lack of early parental emotional support was associated with more depressive symptoms, chronic medical conditions, and alcohol abuse (Russek & Schwartz, 1997; Shaw, 2006; Shaw et al., 2004), adequate parental emotional support can reduce vulnerability to future life stress. Cross-sectional and prospective studies revealed that individuals who reported closer parent–child attachment in childhood were more likely to be well adjusted and physically fit in adulthood (Andersson & Stevens, 1993; Clossoe & Elder, 2004; Wickrama, Lorenz, & Conger, 1997).

In the first wave of the National Study of Daily Experiences (NSDE-I), retrospectively recalled childhood maternal emotional support was associated with less daily emotional distress in adulthood (Mallers et al., 2010).

To date, few studies have examined the impact of maternal and paternal emotional bonding separately. Most researchers have aggregated maternal and paternal emotional abuse and support (e.g., Taylor, Karlamangla, Friedman, & Seeman, 2011). Although the most traditional view of early parent–child relationship held that negative consequences were mostly a result of maternal deprivation (Bretherton, 2010), fathers and mothers often played different roles in child development (Grossmann, Grossmann, Kindler, & Zimmermann, 2008). Thus, it is important to delineate their respective influence.

When examining the impact of emotional abuse, few studies have considered the concurrent impact of physical abuse. There were mixed findings regarding whether parental emotional abuse ceased to have an influence when physical abuse was controlled (Greenfield & Marks, 2009; Irving & Ferraro, 2006). In a recent study using the MIDUS-II sample, childhood emotional abuse, but not physical abuse, was most strongly related to sleep problems in old age (Poon & Knight, 2011). Thus, it is crucial to take into account the impact of physical abuse when examining the influence of emotional abuse.

**Emotional Reactivity to Daily Stress**

The past two decades have seen a surge in studies that documented an elevated physiological response to laboratory-induced stress among college students who reported childhood abuse or poor family relationships (L. Luecken, Kraft, & Hagan, 2009; L. J. Luecken, Rodriguez, & Appelhans, 2005). Stress reactivity is defined as an individual’s physical and psychological profile in stressful situations (Bolger & Zuckerman, 1995). Emotional reactivity refers to the level of emotional distress experienced in relation to the presence of a stressor. Findings were
mixed among nonlaboratory studies on stress reactivity. In a population-based sample aged 55–85, childhood adversity did not increase the vulnerability to depression subsequent to recent stressful events (Comijs et al., 2007). In the analysis of Mallers and colleagues (2010), emotional reactivity to interpersonal stressors was stronger among adult sons who recalled less childhood emotional support from their fathers.

Findings such as the above suggest that the influence of early parental emotional abuse and support may differ depending on specific types of life stress. The present study focused on network stress, an interpersonal stress that has not received much attention in the literature. Network stress refers to bad things happening to members in one’s social network (Almeida, Wethington, & Kessler, 2002). In the NSDE-I, older adults reported fewer daily stressors and exhibited less overall stress reactivity than younger adults but reported the highest proportion of network stress (Almeida, 2005; Almeida et al., 2002). Depending on the situation and people involved, the occurrence of something bad to a friend or family member can interfere with major relationships and diminish available coping resources. For example, extra financial or childcare responsibilities may ensue when a child is expelled from school or fired from a job.

The examination of network stress provides an opportunity to highlight how early attachment may affect one’s ability to deal with potentially stressful situations that may or may not immediately have a direct impact on one’s personal life. These stressful situations make it necessary for individuals to accurately identify and respond to emotions expressed by the person in distress, as well as their own emotional reaction, before devising a plan to help or to justify staying removed from the stressful situation. If these network stressors are not handled appropriately, interpersonal conflicts, overcommitment to help, or guilty feelings of not being able to help may diminish relationship quality and psychosocial resources, further compromising well-being.

The Present Study

Studies on the impact of early parental emotional abuse and support on stress reactivity have mostly included adolescents and young adults only (e.g., L. J. Luecken et al., 2005; Wickrama et al., 1997). Our study extended this line of research by examining the association between parental emotional abuse and support and emotional reactivity to network stress in midlife and old age. Most studies have relied on retrospective self-reports of parent–child bonding and cross-sectional data (Mallers et al., 2010). Our study matched retrospective self-reports of parent–child relationships recorded almost ten years ago with current emotional distress and network stress across eight consecutive days, so as to reduce the possibility that the correlation between childhood experiences and adulthood stress reactivity is an artifact of having all data collected at the same time point.

We hypothesized that individuals who reported more childhood parental emotional abuse would experience more daily emotional distress. Second, individuals would experience a heightened level of emotional distress on days when they encountered network stress. Finally, those who reported more childhood parental emotional abuse would show greater emotional reactivity to network stress. On the contrary, parental emotional support would have a buffering effect on emotional distress and emotional reactivity to network stress. Although we did not make any specific hypothesis regarding potential differences between father–child and mother–child relationships, we explored these potential differences in our analyses. Hypotheses were tested by applying multilevel models on a selected sample from the second Daily Stress Project (NSDE-II), a subsample of the MIDUS.

Design and Methods

Sample

Data from the NSDE-II (Ryff & Almeida, 2010) are available through the Inter-University Consortium for Political and Social Research online database.

Midlife Development in the United States.— Data were first collected from years 1995 to 1996, involving 3,487 participants in a national random digit dialing sample. All eligible participants were English-speaking and noninstitutionalized. Three thousand and thirty-four (87%) completed both the phone interview and self-administered questionnaire to provide sufficient information on early parent–child relationships. After excluding participants who did not live with both biological parents until the age of 16, there were a total of 2,309 (76%) participants. If participants with only one parent were included, it could confound the
number of parents with the amount of abuse and support experienced and might involve other extraneous variables, such as parental death or divorce (Pitzer & Fingerman, 2010).

**Daily Stress Project (2004–2009).**—Data were collected between 2004 and 2009. The NSDE-II participants were randomly recruited from MIDUS-II. In the main MIDUS longitudinal sample, the two major reasons of nonparticipation were refusal and nonworking phone numbers, thus yielding a retention rate of 75% (Radler & Ryff, 2010). In the current analysis, we only included 1,365 individuals who continued to participate in MIDUS-II and completed both the phone and self-administered questionnaire. Each participant was asked to respond to an 8-day daily telephone interview that measured their daily stressors and emotional distress. Of these 1,365 participants, a total of 787 (58%) participated in the 8-day NSDE-II study, resulting in a total of 6296 data points. Overall, 55% were women. Their average age was 58.21 (range: 33–83; SD = 12.30). Most completed high school or more (94%) and were non-Hispanic White (93%). About 72% were married.

**Measures**

**Outcome Variable.**—**Emotional distress.** In NSDE-II, emotional distress was measured by 14 items on each of the eight consecutive days. Respondents indicated how much of the day they experienced each emotion item on a 5-point Likert scale (0 = none of the time, 1 = a little of the time, 2 = some of the time, 3 = most of the time, 4 = all of the time). Examples of items included “nervous,” “restless and fidgety,” and “hopeless.” These scores were averaged, with higher scores indicating more emotional distress. Internal consistency based on 8 days of data was good (α = .84).

**Independent Variables.**—**Childhood parental emotional support.** Frequency of emotional or verbal abuse, such as being insulted, sworn at, or threatened with violence was assessed at Time 1 of the MIDUS. These items were adapted from the revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Respondents had to rate the occurrence of these abusive behaviors separately for their father and mother on a 4-point Likert scale (1 = often, 2 = sometimes, 3 = rarely, 4 = never). These two items for paternal and maternal emotional abuse were reverse coded, so that higher scores indicated more emotional abuse.

**Childhood parental emotional support.** Emotional closeness with one’s mother and father were constructed based on responses to four items at Time 1 of the MIDUS. Paternal and maternal emotional support were calculated separately by taking an average of four items that assessed each parent’s level of affection and love, time and attention, trust, and understanding toward the participant until the age of 16 on a 4-point Likert scale (1 = a lot, 2 = some, 3 = a little, 4 = not at all). This measure was reverse coded, so that higher scores indicated more parental emotional support. Paternal and maternal emotional support demonstrated good internal consistency (α = .88 and .90).

In the NSDE-II, daily network stress was assessed via the Daily Inventory of Stressful Events (Almeida et al., 2002). Network stress was assessed each day by a single item that asked if “anything happen[ed] to a close friend or relative that turned out to be stressful” for the participant. The binary variable indicated whether network stress was present (1) or absent (0) in the past 24 hr.

**Covariates.**—**Demographic variables.** Age in years, gender, and education level were included in the analysis when data were available. Gender was represented as a binary measure (1 = male, 2 = female). The educational attainment measure assessed the highest grade completed and was coded with a 12-point ordinal scale ranging from 1 (no school or some grade school) to 12 (doctoral or other professional degree).

**Early parental physical abuse.** Four physical abuse items assessed the frequency of moderate and severe physical abuse in the MIDUS, namely being pushed, grabbed, shoved, slapped, thrown at, beaten up, choked, burned, or scalded by parents. Items for moderate and severe physical abuse were reverse coded, with higher scores indicating greater frequency of paternal and maternal physical abuse in childhood (1 = never, 2 = rarely, 3 = sometimes, 4 = often).

**Data Analysis**

General linear models compared whether there were gender and age differences in reported network...
stressed, childhood emotional abuse, and support. Multigroup multilevel models for emotional distress were estimated using the MPlus statistical software (Muthén & Muthén, 1998–2011). Individual variation in emotional distress was entered on the intra-individual level. Retrospectively recalled childhood parental emotional abuse and support, along with other control variables, were entered on the interindividual level. The association between network stress and emotional distress was estimated for each individual. A stronger association would suggest stronger emotional reactivity to network stress. A significant association between parental emotional abuse and support and the covariation between network stress and emotional distress would indicate a significant effect on emotional reactivity.

Results

Descriptive Results

Table 1 presents correlations of major variables. Of the 787 participants included in the analysis, network stress was reported by 232 (29%). Network stress was reported by 75% of these participants on 1 day, 19% on 2 days, and 6% on 3 or more days. Among 311 episodes of network stress, 28% happened to a close friend, 20% happened to a child or grandchild, 17% happened to relatives other than spouses, parents, or siblings, 9% happened to one’s spouse, another 9% happened to parents, 7% happened to siblings, and the remaining 10% happened to neighbors, coworkers, classmates, church members, and others. Men (M = 0.04, SD =0.20) were significantly less likely than women (M = 0.06, SD =0.25) to report network stress, F(1, 5862) = 18.26, p < .001, η² = 0.003. Though statistically nonsignificant, there was a trend that individuals aged 60 and above (M = 0.06, SD =0.23) were more likely than younger adults (M = 0.05, SD =0.22) to experience network stress across eight consecutive days, F(1, 5862) = 2.82, p = .09, η² < .001.

Table 2 provides means and standard deviations of parental emotional abuse and support reported at Time 1. General linear models revealed that recalled maternal emotional abuse was significantly less frequent than paternal emotional abuse, F(1, 752) = 25.97, p < .001, η² = 0.03. An interaction between emotional abuse type (mother vs. father) and participants’ gender was significant, F(1, 752) = 16.78, p < .001, η² = 0.02. Men reported significantly more paternal emotional abuse than women, F(1, 761) = 16.78, p < .001, η² = 0.02. However, men and women reported similarly low levels of maternal emotional abuse. The interaction between emotional abuse type and age group was nonsignificant, F(1, 752) = 0.93, p = .34, η² < 0.01. Compared with younger participants, adults aged 60 and above reported significantly less paternal emotional abuse, F(1, 761) = 19.65, p < .001, η² = 0.03, and less maternal emotional abuse, F(1, 757) = 14.67, p < .001, η² = 0.02.

Maternal emotional support was rated significantly higher than paternal emotional support, F(1, 779) = 191.73, p < .001, η² = 0.20. An interaction between emotional support type (mother vs. father) and participants’ gender was significant, F(1, 779) = 10.81, p = .001, η² = 0.01. Men reported significantly more maternal emotional

Table 1. Correlation Matrix for Daily Stress Project 2004–2009 (N = 787)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
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<tr>
<td>2. Sex</td>
<td>−0.05</td>
<td>—</td>
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<tr>
<td>3. Education</td>
<td>−0.06</td>
<td>−0.12**</td>
<td>—</td>
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<tr>
<td>4. ESM</td>
<td>0.06</td>
<td>−0.18***</td>
<td>0.05</td>
<td>—</td>
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</tr>
<tr>
<td>5. ESF</td>
<td>0.08*</td>
<td>−0.05</td>
<td>0.05</td>
<td>0.43***</td>
<td>—</td>
<td></td>
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<tr>
<td>6. EAM</td>
<td>−0.13***</td>
<td>0.06</td>
<td>−0.02</td>
<td>−0.47***</td>
<td>−0.21***</td>
<td>—</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>7. EA</td>
<td>−0.16***</td>
<td>−0.11**</td>
<td>−0.06</td>
<td>−0.20***</td>
<td>−0.50***</td>
<td>0.44***</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. PAM</td>
<td>−0.05</td>
<td>0.04</td>
<td>−0.09*</td>
<td>−0.36***</td>
<td>−0.20***</td>
<td>0.62***</td>
<td>0.32***</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. PAF</td>
<td>−0.03</td>
<td>−0.16***</td>
<td>−0.07*</td>
<td>−0.16***</td>
<td>−0.37***</td>
<td>0.32***</td>
<td>0.66***</td>
<td>0.48***</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>10. Network stress</td>
<td>0.02</td>
<td>0.24***</td>
<td>0.13***</td>
<td>0.05</td>
<td>0.01</td>
<td>0.05</td>
<td>0.06</td>
<td>0.01</td>
<td>0.03</td>
<td>—</td>
</tr>
<tr>
<td>11. Emotional distress</td>
<td>−0.18***</td>
<td>0.11**</td>
<td>−0.04</td>
<td>−0.15***</td>
<td>−0.10**</td>
<td>0.22***</td>
<td>0.11**</td>
<td>0.13***</td>
<td>0.07*</td>
<td>0.24***</td>
</tr>
</tbody>
</table>

Notes: Gender is dichotomous (1 = male; 2 = female); point biserial correlations are reported. EAF = paternal emotional abuse; EAM = maternal emotional abuse; ESF = paternal emotional support; ESM = maternal emotional support; PAF = paternal physical abuse; PAM = maternal physical abuse.

*p < .05. ** p < .01. *** p < .001.
support than women, $F(1, 782) = 26.38, p < .001$, $\eta^2 = 0.03$, but a similar level of paternal emotional support compared with women. The interaction between emotional support type and age group was nonsignificant, $F(1, 779) = 2.44, p = .12, \eta^2 = 0.003$. Compared with younger participants, adults aged 60 and above reported significantly more paternal emotional support, $F(1, 785) = 11.84, p = .001, \eta^2 = 0.02$, and more maternal emotional support, $F(1, 782) = 5.29, p = .02, \eta^2 = 0.01$.

**Multilevel Analyses**

There was significant between-level variance in emotional distress in the overall sample (interclass correlation = .49), indicating that 49% of the variance was between participants. Multilevel models were therefore computed to identify between-participant predictors of emotional distress. In light of significant gender differences between maternal and paternal emotional abuse and support, we performed multigroup multilevel analyses to better identify similarities and differences between adult sons and daughters (Table 3).

Partially consistent with the first hypothesis, maternal emotional abuse significantly predicted the average level of emotional distress across eight consecutive days at the between-subject level among women ($b = .08, SE = 0.03, p = .002$) but not men ($b < 0.01, SE = 0.02, p = .97$). The Wald test revealed that this gender difference was statistically significant ($z = 6.50, p = .01$). Only daughters who recalled more childhood maternal emotional abuse experienced more daily emotional distress.

Partially supporting the second hypothesis, network stress was associated with greater emotional distress among women ($b = .51, SE = 0.19, p = .008$) but not men ($b = .36, SE = 0.37, p = .33$). The Wald test revealed that this gender difference was not statistically significant ($z = 0.01, p = .94$). On days when network stress was reported, adult daughters were more likely to experience more emotional distress. Although it was not statistically significant, it was likely that there was also a positive association between network stress and emotional distress among adult sons.

Partially supporting the third hypothesis, maternal emotional support was significantly associated with emotional reactivity to network stress among daughters ($b = -.11, SE = 0.04, p = .004$) and

Table 2. Descriptive Statistics for Parental Emotional Abuse and Emotional Support

<table>
<thead>
<tr>
<th></th>
<th>Maternal emotional abuse</th>
<th>Paternal emotional abuse</th>
<th>Maternal emotional support</th>
<th>Paternal emotional support</th>
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<tr>
<td></td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
</tr>
<tr>
<td>All participants</td>
<td>1.72 (0.87)</td>
<td>1.89 (0.93)</td>
<td>3.15 (0.73)</td>
<td>2.74 (0.85)</td>
</tr>
<tr>
<td>Male</td>
<td>1.67 (0.79)</td>
<td>1.99 (0.92)</td>
<td>3.30 (0.60)</td>
<td>2.78 (0.79)</td>
</tr>
<tr>
<td>Female</td>
<td>1.76 (0.93)</td>
<td>1.80 (0.93)</td>
<td>3.03 (0.80)</td>
<td>2.71 (0.89)</td>
</tr>
<tr>
<td>Younger than age 60</td>
<td>1.83 (0.91)</td>
<td>2.02 (0.95)</td>
<td>3.10 (0.76)</td>
<td>2.65 (0.87)</td>
</tr>
<tr>
<td>Aged 60 and above</td>
<td>1.59 (0.80)</td>
<td>1.72 (0.87)</td>
<td>3.22 (0.69)</td>
<td>2.85 (0.81)</td>
</tr>
</tbody>
</table>

Table 3. Unstandardized Regression Coefficients Estimated From Multilevel Models

<table>
<thead>
<tr>
<th></th>
<th>Fixed effect</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emotiona l distress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>0.33 (0.10)**</td>
<td>0.20 (0.09)*</td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td>-0.05 (0.02)**</td>
<td>-0.07 (0.03)**</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>0.00 (0.00)</td>
<td>-0.01 (0.01)</td>
<td></td>
</tr>
<tr>
<td>PAM</td>
<td>0.01 (0.02)</td>
<td>-0.02 (0.03)</td>
<td></td>
</tr>
<tr>
<td>PAF</td>
<td>0.00 (0.02)</td>
<td>0.05 (0.04)</td>
<td></td>
</tr>
<tr>
<td>EAM</td>
<td>0.00 (0.02)</td>
<td>0.08 (0.03)**</td>
<td></td>
</tr>
<tr>
<td>EAF</td>
<td>0.01 (0.02)</td>
<td>0.00 (0.02)</td>
<td></td>
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<tr>
<td>ESM</td>
<td>-0.04 (0.02)</td>
<td>0.02 (0.03)</td>
<td></td>
</tr>
<tr>
<td>ESF</td>
<td>0.00 (0.02)</td>
<td>-0.01 (0.03)</td>
<td></td>
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<tr>
<td>Network stress/reactivity</td>
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<tr>
<td>Intercept</td>
<td>0.36 (0.37)</td>
<td>0.51 (0.19)*</td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td>-0.05 (0.05)</td>
<td>-0.01 (0.05)</td>
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<tr>
<td>Education</td>
<td>0.01 (0.02)</td>
<td>-0.01 (0.01)</td>
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<tr>
<td>PAM</td>
<td>0.05 (0.05)</td>
<td>-0.03 (0.03)</td>
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<tr>
<td>PAF</td>
<td>-0.03 (0.04)</td>
<td>0.05 (0.04)</td>
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<tr>
<td>EAM</td>
<td>0.04 (0.03)</td>
<td>-0.04 (0.04)</td>
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<tr>
<td>EAF</td>
<td>-0.08 (0.04)</td>
<td>-0.05 (0.04)</td>
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<tr>
<td>ESM</td>
<td>-0.08 (0.04)</td>
<td>-0.11 (0.04)**</td>
<td></td>
</tr>
<tr>
<td>ESF</td>
<td>-0.01 (0.03)</td>
<td>0.02 (0.03)</td>
<td></td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional distress</td>
<td>0.03 (0.01)**</td>
<td>0.06 (0.01)**</td>
<td></td>
</tr>
<tr>
<td>Within-person variation</td>
<td>0.01 (0.01)</td>
<td>0.01 (0.01)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Robust standard errors are in parentheses. Age group is dichotomous (1 = aged under 60; 2 = aged 60 and above). EAF = paternal emotional abuse; EAM = maternal emotional abuse; ESF = paternal emotional support; ESM = maternal emotional support; EAM = maternal physical abuse; PAM = maternal physical abuse.

*p < .05. ** p < .01. *** p < .001.
marginally significant among sons ($b = - .08, SE = 0.04, p = .08$). The Wald test revealed that this gender difference was not statistically significant ($z = 0.24, p = .63$). Recalled maternal emotional support in childhood attenuated the association between network stress and emotional distress among daughters in adulthood. Though statistically nonsignificant, a similar trend was observed among sons. Figure 1 illustrates a significantly weaker association between network stress and emotional distress among individuals whose reported childhood maternal emotional support was 1 $SD$ above the mean compared with those whose maternal emotional support was 1 $SD$ below the mean. In all of the above analyses, no significant interaction with age groups was observed.

**Exploratory Analysis**

Post hoc analysis revealed that even when emotional support was not included in the statistical models, emotional abuse was only associated with the average level of daily emotional distress but not emotional reactivity to network stress. When emotional abuse was not included in the models, emotional support alleviated stress reactivity but did not significantly correlate with daily emotional distress.

**Discussion**

To the best of our knowledge, this is the first study that examined the long-term consequences of early parental emotional abuse and support on stress reactivity a decade after parent–child relationships were recalled by a community-dwelling sample whose average age was near 60 when stress reactivity was assessed. Childhood maternal emotional abuse was uniquely associated with more daily emotional distress decades later among women only. This was consistent with other studies that have found significant negative consequences of childhood emotional abuse (Wilson et al., 2006; Wright et al., 2009). Second, this study highlighted the protective influence of early maternal emotional support on limiting emotional reactivity to network stress, especially among women.

The present study did not rely on data from one time point only. Childhood emotional abuse and support were retrospectively recalled almost a decade before stress reactivity was assessed. Significant findings were less likely an artifact of simultaneous measurement of recalled parent–child relationships and stress reactivity. Our study departed from similar studies by looking at maternal and paternal emotional abuse and support separately while controlling for maternal and paternal physical abuse. Because the present study only included individuals who lived with both biological parents until at least age 16, our findings implied that even for individuals from intact families, the emotional aspect of the mother–child relationship was particularly important to their emotional experience later in life.

Although maternal and paternal emotional abuse and support were all significantly correlated with daily emotional distress in the expected direction, only women who reported greater maternal emotional abuse were more likely to experience daily emotional distress. Attachment theory emphasizes mothers’ role as primary caregivers...

**Figure 1.** Interaction between early maternal emotional support and network stress on average daily emotional distress.
early in life and their sensitivity to their child’s needs and provision of comfort and support during stressful circumstances (Bowlby, 1982; Bretherton, 2010). When mothers were recalled to be emotionally abusive in childhood, the long-term impact on well-being appeared to be particularly detrimental among daughters. This may be explained by the tendency for mothers to be spending more time with their daughters when they are growing up, thus having a greater influence on their daughters’ level of emotional distress.

Responsive and warm mothers help foster successful negotiation of interpersonal situations in the future. In the NSDE-I, only men who recalled having a closer relationship with their father in childhood experienced less emotional distress on days when they experienced any types of stress (Mallers et al., 2010). In our analysis, a different gender-specific pattern emerged: Maternal emotional support attenuated emotional reactivity to network stress among women. When confronted with network stress, women who reported higher early maternal emotional support might be better at recalling and modeling their mother’s attempts to be soothing and understanding to social network partners to whom something bad has happened, thus having greater confidence in their ability to cope with the situation and solicit help should the network stressor become personally relevant, such as when one’s elderly parent was hospitalized.

Father’s emotional abuse or support was not significantly associated with daily level of emotional distress. This is consistent with findings in the study of Mallers and colleagues (2010), in which only the quality of mother–child relationship was uniquely associated with overall levels of psychological distress in the NSDE-I. Previous studies have also shown that men are closer to their sons and spend less time with their daughters (Aldous, Mulligan, & Bjarnason, 1998). This may partly explain why father’s emotional abuse or support has a smaller influence on their daughters’ emotional distress level later in life.

Emotional abuse and support are not opposite ends of parental behavior, as it is possible to experience both during childhood. Although more research is needed to replicate these findings, the observed pattern suggests that the presence of emotional abuse may have a longer-lasting negative impact on overall emotional distress among women later in life than the presence of emotional support. However, when confronted with problems facing people within one’s social network, having learned from a maternal figure the necessary skills to provide emotional support appears to be the most beneficial in protecting against emotional distress.

**Limitations and Future Directions**

Despite a number of important findings on the influence of maternal emotional abuse and support on the emotional experience and stress reactivity in adulthood, this study had several limitations. The use of retrospective self-report of childhood family experiences raised the question of the accuracy of these reported experiences. Studies on the reliability of retrospectively reported childhood adversity have demonstrated good to excellent test–retest reliability (Dube, Williamson, Thompson, Felitti, & Anda, 2004; Wilson et al., 2006; Yancura & Aldwin, 2009). Thus, recollections of the past were not completely influenced by present experience. The present study contributed to the literature by demonstrating an effect when the memories of abuse and support are recalled years before the dependent measures, albeit still not during childhood. If possible, future studies should include subjective and objective measures of parental emotional abuse and support while adopting a longitudinal design.

The second limitation was the lack of specificity of measures used. Emotionally abusive behaviors were presented on a single list. Combining these behaviors could have affected the perceived frequency of emotional abuse. In order to have a more detailed appraisal of what types of emotional abuse are most damaging, future studies should employ self-report measures and coding schemes that are more specific. This study also did not account for how the identity of the intensity and chronicity of the network stress might moderate the outcome. Learning that one’s child was hit by a car would likely be more stressful than knowing one’s friend had lost his cat. In the former case, the individual might be physically and emotionally more involved. It might have a stronger interaction with early life experiences that have either bolstered or dampened coping resources. Research is needed to better delineate how early emotional abuse and support influence reactivity to specific types of network stress.

Despite these limitations, this study added to the existing literature in several ways. Extending attachment theory across the lifespan, this study
showed the unique contribution of perceived early maternal emotional support on emotional reactivity to network stress. It highlighted the benefits of an emotionally positive mother–child relationship early in life. Findings that early maternal emotional abuse was associated with more emotional distress in adulthood and early maternal emotional support predicted less emotional reactivity to network stress highlighted the dual emphasis on both early diathesis and resources contributing to well-being across the life span. Clinically, although network stress may not be as common as other kinds of interpersonal stress, it is nonetheless important to ensure that individuals who did not experience adequate maternal emotional support are given opportunities to acquire sufficient emotion regulation skills to deal with potentially stressful situations in their social network, particularly in later life stages when these types of life stress may become more frequent.

Acknowledgments

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