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Childhood abuse affects emotional closeness with family in mid- and later life

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ABSTRACT

Objective: Knowledge about the effects of early life adversity on kin relationships in later years is sparse. The purpose of this study was to examine if childhood abuse and adversity negatively influences emotional closeness with family in mid- and later life. A second goal was to determine the role of psychosocial resources and personality traits in buffering the effects of early adversities. Gender and cohort differences were explored to see if men were differentially affected than women and whether middle-aged adults (35–49 years old) were differentially affected than older adults (50–74 years old) by the effects of childhood abuse and adversity.

Methods: Using retrospective accounts of early family abuse and adversities of 1,266 middle aged adults and 1,219 older adults from a large population-based survey, the National Survey of Midlife Development in United States (MIDUS), separate multiple regression analyses were conducted for the two cohorts to examine the effects of childhood emotional and physical abuse and family adversities on perceived emotional closeness with family. Interaction effects between childhood abuse and adversity (e.g., being expelled from school, death of sibling, parental divorce, losing a home to a natural disaster) with psychosocial resources (perceived control and self acceptance), personality characteristics (extraversion and neuroticism), and gender were examined.

Results: Results of OLS regressions suggest emotional and physical abuse predicted family closeness in middle-aged adults. Conversely, only emotional abuse predicted family closeness in older adults. Moderation models revealed that high levels of self acceptance were associated with better maintenance of emotional closeness among middle-aged adults who were emotionally and physically abused as children. Older adults with lower extraversion who experienced emotional abuse or reported greater number of adversities in childhood were found to be at higher risk for lower emotional closeness with family. Early life adversities were more detrimental for women.

Conclusions: Findings suggest that the aftermath of childhood abuse does not dissipate with time, but continues to influence family relationships in mid- and later life. Identifying the links between childhood adversities and adult relationships can help identify strategic points for intervention to reduce the long-term effects of accumulated adverse experiences over the life course.

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Introduction

Childhood maltreatment and adverse events occurring early in life can have a profound influence on the quality of relationships with family and others over the life course (e.g., Antonucci & Akiyama, 1987; Gregory, Caspi, Moffitt, & Poulton, 2006; Schafer, Ferraro, & Mustillo, 2011; Silverstein & Bengtson, 1997; Underwood & Rosen, 2011). Among adults, a history of abuse and adverse childhood experiences has been shown to be associated with a variety of social and psychological problems including detached relationships with parents (Davey, Eggebeen, & Savla, 2007), interpersonal difficulties (Johnson et al., 2002; Wilson et al., 2006), marital problems (Waldinger, Schulz, Barsky, & Ahern, 2006; Whisman, 2006), and impairment of emotional regulation (Repetti, Taylor, & Seeman, 2002).

By contrast, knowledge about the effects of early abuse and childhood adversity on kin relationships in later years is sparse. Most research has focused on parental physical abuse and its implications for physical and mental health in old age (Pitzer & Fingerman, 2010; Poon & Knight, 2012; Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010; Rothrauff, Cooney, & An, 2009; Schafer & Ferraro, 2012; Shaw & Krause, 2002). A few studies have found that current emotional support from family members moderates (Pitzer & Fingerman, 2010) as well as mediates (Shaw & Krause, 2002) the effects of severe physical abuse on mental and physical health outcomes. A study with a small sample of older adults has shown that negative relationships with parents and childhood adversities interfered with the development of social skills in adulthood, which in turn was associated with having fewer close relationships and feeling more emotionally isolated in later life (Wilson et al., 2006). The link between childhood abuse and adversity and relationship with family in later life warrants further investigation given the importance of family ties for positive physical, mental, and social well being in old age.

In this study, the process of coping with childhood abuse and adversity is examined through the lenses of the life course perspective (Elder & Conger, 2002) and attachment theory (Bowlby, 1982). Attachment theorists believe that abusive and neglectful parents promote an insecure attachment style, which can precipitate cognitive vulnerabilities that are fueled by a negative view about one's self worth and support from others (Bowlby, 1982; Styron & Janoff-Bulman, 1997; Wright, Crawford, & Del Castillo, 2009). This negative outlook may hinder the regulation of social relationships that involve trust, intimacy, and security in later life. The life course perspective also emphasizes that the consequences of negative events can be felt throughout life (Elder, 1974). More importantly, this theory posits that individuals are active participants in their own development and actively adapt and respond to challenges by accumulating psychosocial resources (e.g., perceived control, self-acceptance, personality) that may influence their recovery following abuse and adversity in early life (Repetti et al., 2002; Taylor & Stanton, 2007).

The influence of perceived control has been the most frequent psychosocial resource explored in the literature. Perceived control is defined as the degree to which a person believes they influence outcomes in their lives (Pearlin & Schooler, 1978). A greater sense of control has been found to be associated with a greater sense of well-being, life satisfaction (Lachman & Prenda, 2004) and better health-promoting behaviors (Neupert, Lachman, & Whitbourne, 2009). With respect to effects of early abuse, Pitzer and Fingerman (2010) reported that a high level of personal control was associated with better physical health and lower negative affect among adults who were severely physically abused as children. Conversely, Shaw and Krause (2002) and Shaw, Krause, and Chatters (2004) found personal control mediates the effects of childhood physical violence and lack of emotional support on depressive symptoms and chronic conditions in adulthood. These projects are informative in emphasizing the buffering effects of personal control on later life outcomes. However, because emotional abuse and neglect by family are more prevalent than physical abuse, it is also important to understand whether personal control buffers the effects of emotional abuse and childhood adversity.

Self-acceptance, which is reflective of self-actualization, maturity and a sense of integrity, is another resource imperative for positive psychological functioning (Ryff & Singer, 1996). Acceptance of past and current life circumstances allows individuals to maintain their self-esteem when faced with some of the less desirable aspects of personal life (Keyes & Waterman, 2003). A positive relationship has been found between self-acceptance and subjective well-being in older adults (Ryff & Keyes, 1995; Jimenez, Niles, & Park, 2010), however, its role in resiliency has not been explored in the area of early abuse and trauma and its effects on later life outcomes.

Researchers have also asserted that stable personal dispositions interact with stressful experiences, influencing the appraisal of a stressor and associated outcomes (Ben Porath & Tellegen, 1990; Costa, Somerfield, & McCrae, 1996). In studies of personality traits, neuroticism predicted increased exposure and lowered adjustment to interpersonal stressors (Bolger & Zuckerman, 1995; Mroczek & Almeida, 2004). In contrast, extraversion (i.e., the extent to which one is sociable, fun-loving, affectionate and friendly) was positively related to perceived availability of support (Swickert, Rosentreter, Hittner, & Mushrush, 2002). The effect of personality factors on the relation between childhood abuse and family relationships in later life has not been investigated. If personality influences this relationship, the development of interventions focusing on individuals characterized by a vulnerable personality may be warranted.

Life course perspective urges researchers to situate individuals in their sociocultural and historical context to study development. Yet, none of the studies of early abuse on later life outcomes have examined cohort differences in experiences of abuse even though there are differences in child rearing and disciplinary practices over the last few decades (Baumrind, 1996). There is also some speculation that the relationship between a childhood history of abuse and lifetime psychopathology varies significantly by gender, wherein the association appears to be stronger for women than men (MacMillan et al., 2001). Thus it is important to examine cohort and gender differences in the association between early abuse and adversity and family closeness in later life.

Table 1
Frequency and percentage of childhood abuse and adversities in middle-aged adults (N = 1,266) and older adults (N = 1,219).

	Middle-aged cohort (35–49 years) N (%)	Older cohort (50–74 years) N (%)
Emotional abuse by family members[a]		
Never	109 (8.61)	264 (21.66)
Rarely	596 (47.08)	610 (50.04)
Sometimes	475 (37.52)	317 (26.00)
Often	86 (6.79)	28 (2.30)
Physical abuse by family members[a]		
Never	187 (14.77)	269 (22.10)
Rarely	702 (55.45)	687 (56.45)
Sometimes	338 (26.7)	252 (20.71)
Often	39 (3.08)	9 (0.74)
Number of childhood adversities experienced		
0	801 (63.27)	776 (63.66)
1	290 (22.91)	311 (25.51)
2	127 (10.03)	89 (7.30)
3	27 (2.13)	33 (2.71)
4	14 (1.11)	6 (0.49)
5	4 (0.32)	3 (0.25)
6	1 (0.08)	0 (0)
7	2 (0.16)	1 (0.08)

[a] Rated from 0 (*never*) to 4 (*often*).

Present study

Because negative life events can have deep and far reaching impact, in the present study we hypothesized that recounts of childhood emotional and physical abuse perpetrated by family members [mother, father, (or someone who raised you), brothers and sisters] and childhood family adversities would affect closeness to family members (not including spouse or partner) in midlife and older years. Specifically, we examined emotional closeness to family, also known as affectual solidarity. Unlike measures of social support, which typically focus only on the receipt of emotional, instrumental, and informational support, affectual solidarity characterized by both closeness and positivity, and strain and negativity toward family members, regardless of the amount of contact and exchange of support (Silverstein & Bengtson, 1997).

One's childhood family environment and present family and life circumstances are important correlates of relationships and support in later life (Springer, Sheridan, Kuo, & Carnes, 2007). Thus, we hypothesized that these variables will play a crucial role of lessening or exacerbating the impact of abuse. Our analyses controlled for parent's education and parent's mental and physical health (reported by participants) as a proxy for the family environment in childhood. While siblings can provide a positive social experience for children within the family context, they can also prompt competition for limited family resources (Brody, 1998; Parke, 2004). We hypothesized that having a greater number of siblings in the family may attenuate the effect of adverse experiences during childhood. We also controlled for participants current age, work status, health status, marital status, number of children and number of times they were married as a proxy for current family and life circumstances. Based on the literature, we also hypothesized that psychosocial resource such as having greater personal control and self-acceptance, as well as personality traits such as lower neuroticism and higher extraversion will buffer against the effects of early abuse and adversities on perceived family closeness.

Finally, we hypothesized that men and women will be affected differentially by childhood abuse and adversity, wherein women would be more susceptible to childhood abuse and adversities in early life. We did not propose any directional hypothesis for cohort differences in the experiences and effects of early abuse and childhood adversities. Thus, our research questions (RQ) are:

RQ1: Are there cohort and gender differences in severity of emotional and physical abuse, number of childhood adversities and emotional closeness to family?
RQ2: Does emotional and physical abuse and childhood adversity have an independent effect on emotional closeness to family?
RQ3: Do psychosocial resources, personality traits and gender moderate the effects of early abuse and adversity on emotional closeness to family?

Methods

Sample and design

The sample for this study comes from a large population-based survey, the National Survey of Midlife Development in the United States (MIDUS; Brim et al., 1996; Ryff, Almeida, & Ayanian, 2006). Data for MIDUS was collected on two occasions in

Table 2
Descriptive statistics for study variables.

Variables in the model	Middle-aged cohort (35–49 years) $N = 1,266$ M (SD)/N (%)	Older cohort (50–74 years) $N = 1,219$ M (SD)/N (%)	Range	Significance levels[a]
Age	42.15 (4.28)	59.14 (6.56)	35–74	[a],***
Employment status			0–1	***
Employed	931 (73.54)	620 (50.86)		
Not employed	335 (26.46)	599 (49.14)		
Current health status[b]	3.72 (0.91)	3.57 (0.93)	1–5	***
Sex			0–1	*ns*
Female	655 (51.74)	650 (53.32)		
Male	611 (48.26)	569 (46.68)		
Marital status			0–1	*ns*
Married	1,052 (83.10)	957 (78.51)		
Not married	214 (16.90)	262 (21.49)		
Times married	1.25 (0.52)	1.29 (0.57)	1–4	*ns*
Number of children	2.29 (1.29)	3.06 (1.54)	0–10	***
Race			0–1	*ns*
White	1,204 (95.10)	1,174 (96.31)		
Non-white	62 (4.90)	45 (3.69)		
Father education[c]	5.32 (2.96)	3.96 (2.80)	1–12	***
Mother education[c]	5.25 (2.33)	4.21 (2.34)	1–12	***
Mother's health when child was 16 years old[d]	3.49 (1.17)	3.53 (1.36)	1–5	*ns*
Father's health when child was 16 years old[d]	3.41 (1.21)	3.52 (1.29)	1–5	*
Number of siblings	3.55 (2.45)	3.49 (2.56)	0–16	*ns*
Family Closeness	24.75 (4.25)	26.06 (3.86)	0–32	***
Emotional abuse	1.09 (0.68)	0.80 (0.65)	0–3	**
Physical abuse	0.62 (0.52)	0.49 (0.45)	0–3	**
Childhood adversity	0.57 (0.93)	0.52 (0.84)	0–7	*ns*
Extraversion	3.16 (0.56)	3.23 (0.54)	1–4	**
Neuroticism	2.27 (0.66)	2.08 (0.62)	1–4	**
Depression	0.85 (1.99)	0.41 (1.42)	0–7	***
Perceived control	5.56 (0.99)	5.54 (1.05)	1–7	*ns*
Self acceptance	14.20 (3.04)	14.46 (2.77)	0–18	*

[a] Significance values represent mean differences between middle-aged cohort and older cohort using chi-square tests (dichotomous) and *t*-tests (continuous).
[b] Rated from 1 (*poor*) to 5 (*excellent*).
[c] Rated from 1 (some grade school) to 12 (doctorate or other professional degree).
[d] Rated from 1 (*excellent*) to 5 (*poor*).
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

1995–1996 (Wave 1) and 2004–2006 (Wave 2). Participants were a nationally representative sample of noninstitutionalized, English-speaking adults between the ages of 25 and 74 years living in the United States. The data was collected via an initial telephone interview followed by a mail-in questionnaire. All data used in the current study are from MIDUS Wave 1, except for variables representing recalled childhood adversities, which were collected at Wave 2 only. Although there were 3,487 main respondents included in MIDUS Wave 1, only participants who answered key questions on childhood abuse and childhood adversity were included in the data analysis for the present study. Two cohorts roughly of equal size were created next. Thus, participants in this study included 1,266 middle-aged adults (35–49 years old) and 1,219 young-older adults (50–74 years old) at Wave 1. The majority of participants (96%) were White, 74% of the middle-aged adults were employed and 51% of the older adults were employed. At the time of the interview, approximately 80% of the participants were married and reported an average of 2–3 children. Characteristics of the study sample are provided in Tables 1 and 2.

Independent variables

Childhood abuse and adversity.

Emotional abuse in childhood. The Conflicts Tactics Scale (Straus, 1979) was used to assess the extent of emotional and physical abuse experienced in childhood. According to this scale, emotional abuse was characterized by a variety of actions such as someone insulting or swearing at the respondent, sulking or refusing to talk to them, stomping out of the room, doing or saying something to spite them, threatening to hit them, and smashing or kicking something in anger. Respondents indicated how often any members of their family (mother, father, brothers and sisters) engaged in such actions on a 4-point scale ranging from 0 (never) to 3 (often). Responses were averaged across all family members to create an

indicator of the frequency of emotional abuse experienced in childhood ($\alpha = 0.71$ for middle-aged adults; $\alpha = 0.72$ for older adults).

Physical abuse in childhood. The Conflicts Tactics Scale identified physical abuse and severe physical abuse by the following actions: someone pushing, grabbing, or shoving the respondent, someone slapping them, someone throwing something at them, someone kicking, biting or hitting them with a fist, or with an object, someone beating them up, or choking or burning or scalding them. Respondents indicated how often any members of their family (mother, father, brothers and sisters) engaged in such actions on a 4-point scale ranging from 0 (never) to 3 (often). Responses were averaged across all family members (mother, father, sisters, brothers) to create an indicator of the frequency of physical abuse experienced in families ($\alpha = 0.92$ for both cohorts). Table 1 displays descriptive statistics for this and other analytic variables.

Childhood adversity. Participants responded to 27 questions related to adversity experienced as a child or teenager (e.g., being expelled from school, death of a sibling, parental divorce, parental substance abuse, losing a home to a natural disaster). Dummy codes (0 = no; 1 = yes) were created to indicate if the respondent experienced an adversity before the age of 16. These dummy codes were then summed to create a count variable of the number of adversities experienced in childhood. Scores ranged from 0 to 7 ($\alpha = 0.79$ for middle-aged adults; $\alpha = 0.74$ for older adults).

Family environment. Respondents reported on mother's and father's level of education, which ranged from 1 (no formal school, some grade school) to 12 (PhD or other professional degree). Respondent's perception of parental health was assessed with the following question: "Looking back to when you were 16, how would you rate your biological mother's (father's) health at that time?" Response options ranged from 1 (excellent) to 5 (poor). Parental health scores were reverse coded so that higher scores indicate better health. Respondents also indicated how many brothers and sisters they had. The total number of siblings ranged from 0 to 16.

Personal characteristics. Age was computed by subtracting date of birth from interview date. Other personal characteristics included in the analyses were sex (1 = female and 0 = male), current employment status (1 = employed, 0 = not employed), current health status (1 = poor to 5 = excellent), current marital status (1 = married, 0 = not married), number of times married, total number of children (including biological and adopted) and self-identified race (dummy coded as 1 = non-white, 0 = white).

Psychosocial characteristics. Perceived control was constructed based on the mean of a 12-item scale combining four personal mastery items (e.g., "I can do just about anything I really set my mind to."; "When I really want to do something, I usually find a way to succeed at it.") and eight perceived constraints items (e.g., "There is little I can do to change the important things in my life."; "I often feel helpless in dealing with the problems of life."; "Other people determine most of what I can and cannot do."). Responses ranged from 1 = strongly agree to 7 = strongly disagree. Select items were reverse-coded so that the higher score represent greater perceived control ($\alpha = 0.85$ for both age groups).

Self acceptance was constructed by calculating a mean score of three questions: "I like most parts of my personality."; "When I look at the story of my life, I am pleased with how things have turned out so far."; and, "In many ways I feel disappointed about my achievements in life." Original answers ranged from 1 = strongly agree to 7 = strongly disagree. Items were reverse coded to create a final scale where a higher score indicates a higher level of self-acceptance ($\alpha = 0.65$ for middle-aged adults and $\alpha = 0.56$ for older adults).

Neuroticism and extraversion were constructed based on validated scales (Lachman & Weaver, 1997). *Neuroticism* was measured by having the respondents answer the following questions: "Please indicate how well each of the following describes you: moody, worrying, nervous and calm." Responses ranged from 1 to 4 ($\alpha = 0.75$ for middle-aged adults and $\alpha = 0.74$ for older adults). *Extraversion* was measured using the same item stem and response set, with the adjectives: outgoing, friendly, lively, active and talkative. Responses ranged from 1 to 4 ($\alpha = 0.78$ for middle-aged adults and $\alpha = 0.76$ for older adults). Mean scores were calculated for each of these scales, with higher scores indicating higher levels of neuroticism or extraversion.

Control variables.

Depression. To assess symptoms of depression, respondents were asked, "During two weeks in past 12 months, when you felt sad, blue, or depressed, did you": "lose interest in most things?; feel more tired out or low on energy than is usual?; lose your appetite?; have more trouble falling asleep than usual?; have a lot more trouble concentrating than usual?; feel down on yourself, no good, or worthless?; think a lot about death?" Item responses (1 = yes; 0 = no) were summed with higher scores indicating more depressive symptoms ($\alpha = 0.60$ in both cohorts).

Episodic memory. In MIDUS, seven cognitive dimensions were tested using the Brief Test of Adult Cognition by Telephone (Lachman & Tun, 2008). This measure included two measures of episodic memory (immediate and delayed free recall of 15 words), working memory span, verbal fluency, inductive reasoning, processing speed, attention switching and inhibitory control. Since we wanted to control for differences in cognitive functioning within and between cohorts to account for

differences in the ability to recall events during childhood, episodic memory score was used as a control variable. This score was computed as standardized mean of the z-scores of the scores (see Lachman, Agrigoroaei, Murphy, & Tun, 2010) for immediate ($\alpha = 0.72$ for middle-aged adults and $\alpha = 0.80$ for older adults) and delayed free recall ($\alpha = 0.81$ for middle aged adults and $\alpha = 0.54$ for older adults).

Dependent variable

Emotional closeness with family. Emotional closeness with family was constructed by summing responses to eight questions on the family affectual solidarity scale (Whalen & Lachman, 2000). Respondents were asked four questions regarding their perception of how family members (excluding the spouse or partner) care, understand, help with a serious problem, and are available to the participant to talk about their worries. Respondents were also asked four questions regarding their perception of strain with family members, specifically, whether their family was too demanding, criticized them, let them down, and get on their nerves. Responses ranged from 0 (often) to 3 (never). Select items were reverse-coded and summed such that higher scores indicated greater emotional closeness to family (range = 0–32; $\alpha = 0.82$ for middle-aged adults and $\alpha = 0.80$ for older adults).

Statistical analysis

Bivariate comparisons of demographic, psychosocial predictors, early abuse and childhood adversity for middle-aged and older cohort were performed individually by *t*-tests and chi-square tests. When cohort or gender differences were found, separate analyses were performed for the two groups. Multiple regression analyses were conducted to estimate the association between early abuse and adversities and emotional closeness to family in later life. The following ordinary least squares multiple regression equation was used to test for these effects: Emotional Closeness = $a + b_1$Emotional Abuse + b_2Physical Abuse + b_3Childhood Adversity + b_4Psychosocial Factors + b_5Control, where a is the intercept, and b_{1-5} are regression coefficients; psychosocial factors include perceived control, self acceptance, neuroticism and extraversion; and controls include demographics, family environment variables, depression and episodic memory.

To examine the direct interaction effects of childhood abuse (emotional and physical abuse) and adversity with psychosocial resources (self acceptance and perceived control), personality characteristics (extraversion and neuroticism) and gender, the above regression models were re-run with the interaction variables added to the model. Following procedures described by Aiken and West (1991), variables were centered and then multiplied to create the interaction terms. Only interactions that were significant are presented in this paper.

Results

Descriptive statistics

Table 1 presents the proportion of the sample that reported emotional abuse, physical abuse and childhood adversities among middle-aged ($N = 1{,}266$) and older adults ($N = 1{,}219$). Middle-aged adults recalled experiencing emotional and physical abuse more frequently than older adults. Specifically, 91.38% of the middle-aged adults reported experiencing family emotional abuse compared to 78.32% of older adults ($\chi^2 = 82.87$, $p < 0.01$) and 85.97% of middle-aged adults reported experiencing physical abuse compared to 79.14% of older adults ($\chi^2 = 22.25$, $p < 0.01$). Approximately 36.73% middle-aged and 36.34% older adults reported experiencing at least 1 or more adversities in childhood ($\chi^2 = 12.21$, *ns*).

RQ1: Mean differences between cohort and gender

Table 2 depicts mean group differences between the middle-aged and older cohort. There were significant differences in family solidarity ($t = -8.03$, $p < 0.01$) between the middle-aged ($M = 24.75$, $SD = 4.25$) and older cohort ($M = 26.06$, $SD = 3.86$). As mentioned earlier, there were significant differences between the two cohorts on the frequency of emotional and physical abuse but not the number of childhood adversities experienced. Gender differences in family solidarity and emotional abuse between the two cohorts (gender differences not shown in table) were not found. However, older men reported significantly more ($t = 3.76$, $p < 0.01$) physical abuse ($M = 0.78$, $SD = 0.55$) than older women ($M = 0.66$, $SD = 0.60$). Older men ($M = 0.57$, $SD = 0.86$) also reported greater number of childhood adversity ($t = 1.99$, $p < 0.05$) than older women ($M = 0.47$, $SD = 0.81$). Since significant differences in emotional closeness to family between cohorts were found, the authors next proceeded with OLS regressions separately for the two cohorts. Since there were no gender differences in emotional closeness to family, but there significant gender differences in the severity of physical abuse and number of childhood adversity experienced, the authors further explored these gender differences through interaction effects in the OLS regression models.

In addition, middle-aged adults were younger, married, in better health, had parents with higher education, had higher episodic memory and more were currently working compared to older adults. On the other hand, older adults reported having more children, recalled having fathers in better health during childhood, and had higher extraversion, lower neuroticism, lower depression, and higher self-acceptance compared to middle-aged adults. No differences were found between the

Table 3
Multiple regression coefficients predicting emotional closeness to family.

	Middle-aged cohort		Older cohort	
	B (*SE*)	*β*	*B* (*SE*)	*β*
Abuse and adversities in childhood				
Emotional abuse	−1.58 (0.22)	−0.25***	−0.65 (0.22)	−0.11***
Physical abuse	−0.74 (0.29)	−0.09**	−0.38 (0.31)	−0.04
Number of adversities	0.02 (0.12)	0.00	−0.08 (0.13)	−0.02
Family environment in childhood				
Mother's education	0.02 (0.05)	0.01	−0.03 (0.05)	−0.02
Father's education	−0.02 (0.04)	−0.01	−0.03 (0.04)	−0.02
Mother's health at age 16	−0.10 (0.09)	−0.03	0.11 (0.08)	0.04
Father's health at age 16	0.30 (0.09)	0.09***	0.07 (0.09)	0.02
Number of siblings	0.02 (0.05)	0.01	0.07 (0.04)	0.05
Personal characteristics				
Current age	−0.02 (0.03)	−0.02	0.07 (0.02)	0.11***
Female	0.15 (0.22)	0.02	0.30 (0.22)	0.04
Currently working	0.28 (0.24)	0.03	0.12 (0.23)	0.02
Current health status	0.27 (0.13)	0.06*	0.36 (0.12)	0.09***
Married	0.16 (0.30)	0.01	0.89 (0.26)	0.10***
Number of times married	0.26 (0.21)	0.03	0.16 (0.19)	0.02
Number of children	−0.03 (0.08)	−0.01	0.03 (0.07)	0.01
Non-white	0.63 (0.49)	0.03	0.30 (0.56)	0.01
Psychosocial characteristics				
Extraversion	0.13 (0.21)	0.02	−0.03 (0.20)	0.00
Neuroticism	−0.43 (0.19)	−0.07*	−0.47 (0.19)	−0.08**
Personal control	0.73 (0.14)	0.17***	0.34 (0.12)	0.09**
Self acceptance	0.15 (0.05)	0.10***	0.22 (0.05)	0.16***
Depression	0.03 (0.06)	0.02	−0.01 (0.08)	0.00
Episodic memory	−0.03 (0.12)	−0.01	−0.13 (0.11)	−0.03
Intercept	24.87 (0.23)***		25.25 (0.18)***	
		R^2		R^2
Main effect model		0.25		0.16
Interaction model[a]				
Self acceptance × physical abuse	0.16 (0.06)**	0.26	–	
Self acceptance × emotional abuse	0.16 (0.05)***	0.26	–	
Perceived control × physical abuse	0.30 (0.18)	0.26		
Extraversion × emotional abuse	–		0.71 (0.29)*	0.17
Extraversion × adversity	–		0.47 (0.21)*	0.17
Female × adversity	−0.61 (0.23)**	0.26	−0.48 (0.25)*	0.17

[a] Unstandardized coefficients are reported for interaction effects because the standardized estimates are meaningless in this context.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

participants of the two cohorts on the number of women in the sample, number of times participants were married, total number of siblings, number of non-white participants, mother's health during childhood, and perceived control.

RQ2: OLS regressions to predict family solidarity

The results of the multiple regression analyses are shown in Table 3. For middle-aged adults, the regression model including main effects for abuse and adversity, demographic variables, personality characteristics and psychosocial resources explained 25% of the variance in emotional closeness to family ($R^2 = 0.25$). Having experienced emotional abuse ($B = -1.58$) and physical abuse ($B = -0.74$) during childhood predicted lower levels of emotional closeness to family in midlife, however, childhood adversities were not associated with family closeness. Participants' current health ($B = 0.27$) and father's health in childhood ($B = 0.30$) predicted family closeness in midlife, however, none of the other family environment variables or personal characteristics predicted family closeness. Among the psychosocial variables, higher neuroticism ($B = -0.43$) was associated with lower family closeness, while greater personal control ($B = 0.73$) and greater self acceptance ($B = 0.15$) were associated with higher levels of family closeness.

For older adults, the regression model including main effects explained 16% of the variance in family closeness ($R^2 = 0.16$) and the explanatory variables differed from those for middle-aged adults. Of the different types of abuse perpetrated by family members, only emotional abuse ($B = -0.65$) was associated with lower family closeness. Among the family environment variables and personal characteristics, being older ($B = 0.07$), currently in better health ($B = 0.36$), and being married ($B = 0.89$) were associated with higher levels of family closeness. Finally, higher psychosocial resources, specifically, higher levels of

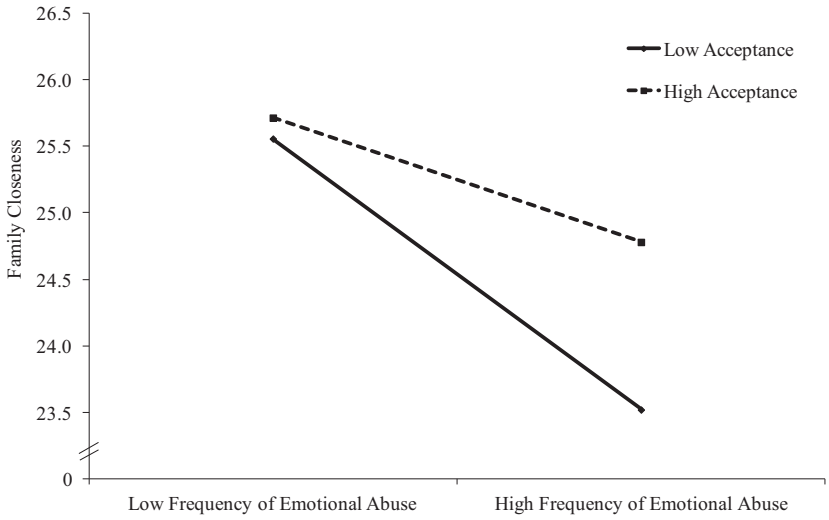

Fig. 1. Family closeness and interaction between family emotional abuse and self-acceptance in middle-aged adults.

perceived control ($B = 0.34$) and self acceptance ($B = 0.22$) and lower levels of neuroticism ($B = -0.47$) predicted greater family closeness.

RQ3: Moderating effects of psychosocial factors, personality and gender

A significant interaction between self acceptance and emotional abuse ($B = 0.16$) and physical abuse ($B = 0.16$) was found. We probed these interactions using the methods of Aiken and West (1991). Fig. 1 illustrates the interaction effects between physical abuse and self-acceptance, by estimating the relation between the severity of physical abuse and family closeness at 1 *SD* above (high) and 1 *SD* below (low) the mean of self acceptance. As Fig. 1 shows, the relation of emotional abuse to family closeness was buffered by self-acceptance, wherein, higher frequency of emotional abuse is associated with diminished family closeness, particularly when an individual has lower levels of self-acceptance. The association of physical abuse to family closeness was also buffered by self-acceptance ($B = 0.16$) in the same direction (figure not shown). The interaction between perceived control and physical abuse among middle-aged adults was also in the same direction, but not significant ($B = 0.30$, $p < 0.08$).

Although the main effect of extraversion on family closeness was not significant, the hypothesized interaction effects were explored. Indeed, extraversion moderated the effects of early emotional abuse ($B = 0.71$) and childhood adversities ($B = 0.47$) on family closeness for older adults. We probed these interactions (Aiken & West, 1991) by estimating the relation between frequency of emotional abuse and family closeness at 1 *SD* above (high) and 1 *SD* below (low) the mean of extraversion. Fig. 2 illustrates a cross-over interaction. Older adults with low levels of extraversion who experienced low frequency of emotional abuse reported high family closeness. On the other hand, older adults with low extraversion who experienced higher frequency of emotional abuse reported lower family closeness. In contrast, high extraversion facilitated the maintenance of closeness with family. Similar buffering effects of extraversion on childhood adversity were found (figure not shown).

A significant interaction between being female and childhood adversities in the two cohorts ($B = -0.61$ and $B = -0.48$ for middle aged and older adults respectively) was found, indicating that the effect of childhood adversities on family closeness was significantly different for women than for men. Specifically, a higher number of childhood adversities experienced by women was associated with lower levels of family closeness relative to women who experienced fewer number of adversities in childhood (Fig. 3 only shows interactions for older adults).

Discussion

This study extends previous research on the impact of childhood abuse and adversities on later life outcomes in several ways. First, unlike previous studies that have focused on the impact of either severe physical abuse in adults aged 25–74 years (Pitzer & Fingerman, 2010; Shaw & Krause, 2002; Shaw et al., 2004), or emotional abuse and neglect in adults aged 60 and older (Poon & Knight, 2011) on later life outcomes, this study highlights the unique contribution of childhood physical abuse, emotional abuse and adversities in middle-aged adults and older adults separately. Similar to previous studies (Pitzer & Fingerman, 2010; Shaw & Krause, 2002), results of this study found physical abuse had detrimental effects on family closeness for middle-aged adults only. The lack of association between reports of physical abuse and family closeness for older adults is curious. This difference can be attributed, at least in part, to the way the cohorts were raised, wherein strict

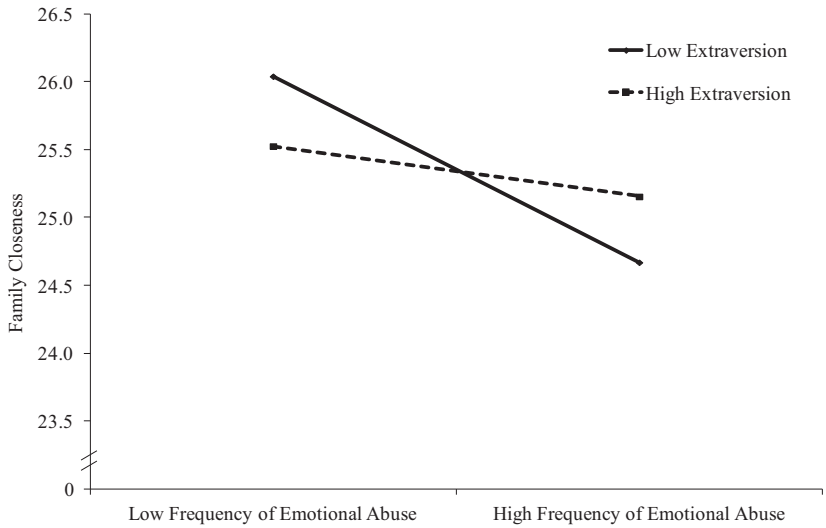

Fig. 2. Family closeness and interaction between family emotional abuse and extraversion in older adults.

parenting might have been interpreted as acceptable among the older cohort but not for the younger cohort (Forehand & McKinney, 1993). Additional research that explores interpretations of childhood disciplinary strategies (appropriate vs. abusive) among different cohorts is needed to shed light on the influence of physical abuse in childhood on adult relationships.

Consistent with attachment theory, we found childhood emotional abuse had a negative impact on middle-aged adults as well as older adults' feelings of closeness to family. We speculate that respondents' early negative experiences had a cumulative effect on their personal relationships throughout their lives and may have contributed to social and psychological distance from their own family in their later years (Winterstein & Eisikovitz, 2005). However, contrary to expectations and previous research (Wilson et al., 2006), childhood adversities were not associated with emotional closeness to family in this study. This could be attributed to the low number of childhood adversities experienced by this sample. Perhaps it might also be that we were examining the total number of adversities and not the type of adversity, which might be more predictive of relationships in later life.

Previous studies have found that personal control and the presence of stable and close relationships were major factors in children's resilience to abuse (Bolger & Patterson, 2003; Cicchetti & Rogosch, 1997; Pitzer & Fingerman, 2010). Even though personal control was associated with family closeness, a marginal trend for the buffering effects of personal control in our sample of middle aged adults was detected. When this interaction effect was examined in the completed sample (i.e., 25–74 years old), a significant interaction effect was found, indicative of a small effect size that was hard to detect in our sample of

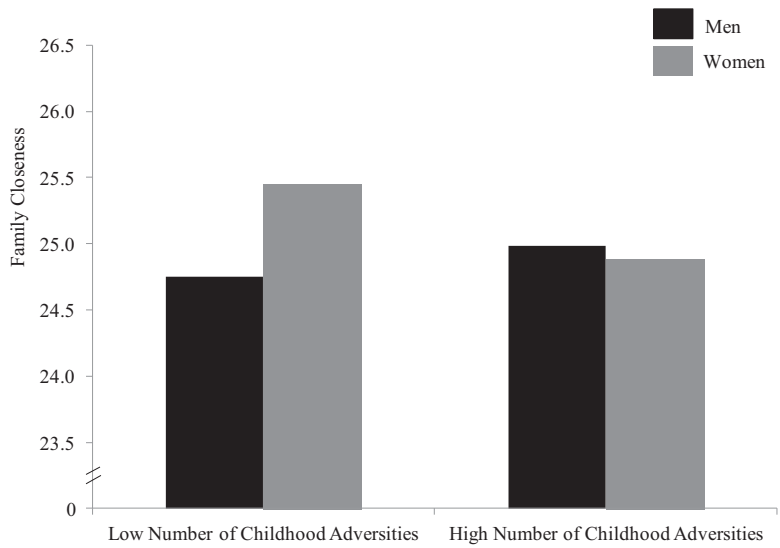

Fig. 3. Family closeness and childhood adversities in older men and women.

middle-aged adults. This also suggests that personal control might be an important psychosocial resource for middle-aged adults but not for older adults. Future research is needed to explore if perceived control is a protective factor for more severe traumas in childhood such as severe physical abuse compared to emotional neglect.

In contrast to previous findings, results from the present study propose another component in the connection between childhood family abuse and family closeness in later life. Specifically, self-acceptance was found to be positively associated with family closeness and also buffered the effects of childhood emotional abuse and physical abuse on maintaining family closeness among middle-aged adults but not for older adults. Perhaps these differences are a result of values inherent to each cohort. The older adults came of age at a time of war and economic hardship, yet they preserved and went on to build lives (Elder & Conger, 2002). The middle-aged respondents are part of the Baby Boom generation. With great optimism and high educational attainment, they embraced civil rights, fought for equal rights and opportunities for women, and learned to tolerate those whose lifestyle preferences differ from the mainstream. Thus, rather than being driven by outside forces, they sought self-fulfillment and respect (Stewart & Torges, 2006). These differences between cohorts can have important implications for interventions and require further study.

An important methodological consideration in studies on self-reported, retrospective accounts of abuse is that there is a likelihood of inherent bias. Specifically, personality characteristics as well as mental health (past and present) may predispose individuals to negative outcomes and also affect whether abuse is perceived, thereby spuriously inflating associations between abuse and negative outcomes. In this paper we explored this possibility by controlling for these variables in our analysis, as well as by examining the moderating effect of these variables. Neuroticism, but not extraversion or depression, predicted family closeness in both the cohorts. However, extraversion moderated the effects of emotional abuse and childhood adversity among older adults. This cross-over interaction is interesting as it sheds light on how personality traits that may impede or facilitate the maintenance of family closeness among older adults who experience childhood abuse. This study is among the first to examine how personality characteristics might influence the association between perceived abuse and family closeness.

Furthermore, this study is novel in its exploration of gender differences in the effects of childhood adversity on family closeness in later life. Both researchers and clinicians alike report that experiencing adversities in childhood affects the development and maintenance of healthy relationships in young adulthood (Colman & Widom, 2004; Tell, Pavkov, Hecker, & Fontaine, 2006; Walker, Holman, & Busby, 2009). Our findings suggest that the aftermath of childhood adversity does not dissipate with time, but continues to influence closeness to kin, more so for women than men.

Attachment theory emphasizes that early parent-child relationships provide a safe haven for children to explore relationships and establish confidence that they will be accepted and helped by others in times of need (Bowlby, 1982). Even after controlling for an extensive array of past and current family background variables, current health, depression, personality factors, and episodic memory, when adults recalled their family to be abusive in childhood, the long-term impact on family relationships appeared to be detrimental even after decades. Yet, the current study shares several weaknesses common to studies of childhood abuse and adult life outcomes. First, despite the longitudinal nature of the MIDUS and controlling for memory, the results of this study are limited by the retrospective and cross-sectional accounts of abuse and childhood adversity variables in this dataset. Second, unlike past studies (e.g., Wilson et al., 2006), childhood adversity might not have achieved statistical significance in our study because of the relatively small number of adversities reported by respondents. Third, we examined emotional closeness to family members, but not include spouses or partners. Studies show that childhood abuse and adversity diminishes the victim's ability to establish and maintain healthy intimate relationships in adulthood (Belt & Abidin, 1996; Colman & Widom, 2004). In order to determine the effect of early abuse and adversity on later life relationship, it would then be important to examine not only the victim's relationship with their current spouse/partner, but also the nature of their past intimate relationships. The dataset we used for this study did not contain this information. Future research may want to consider examining the impact of early abuse and adversities on relationships with current and ex-spouses or partners, as well as on their friendship network. Fourth, our analyses did not control for sexual abuse nor does it take into the account polyvictimization in childhood (Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011) or violence experienced in adulthood. Finally, past studies have examined family ties by considering the different aspects of family relationships such as normative obligations, emotional closeness, instrumental support and geographical proximity to family (Grzywacz & Marks, 1999). We do not examine these dimensions of family solidarity and instead focus on emotional closeness since it is a direct assessment of family relationship quality despite the degree of contact and exchange of support (Silverstein & Bengtson, 1997).

Despite these limitations, this study contributes additional evidence for the long-term mental health consequences of children's experiences of abuse and neglect from family members. Findings suggest that community professionals working with older adults who have experienced childhood adversities may find that they can help older adults learn adaptive coping and self-care strategies to address their emotional needs and maintain close relationships. A range of interventions can be used to promote healthy aging, including mindfulness meditation (Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010), which helps cultivate acceptance and positive reappraisal of stressful and traumatic experiences and reduce the long-term effects of accumulated adverse experiences. The results in this study also point to several areas for future research. In particular, future studies should replicate the results with prospective longitudinal datasets such as The National Longitudinal Study of Adolescent Health (Add Health). Future research should also examine potential mechanisms linking childhood trauma with later life outcomes, including mortality and morbidity. Exploring health behaviors can be another

potential mechanism given that previous literature links negative health outcomes to social support and health behaviors exercised in the household.

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