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Childhood emotional abuse characteristics moderate associations with adult psychopathology and caregiving

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ABSTRACT

As the consequences of childhood maltreatment for adult adjustment become increasingly established in the literature, investigations of individual differences in these effects must evolve to examine more nuanced components of the maltreatment experience. This is particularly true for studies of childhood emotional abuse (CEA), which represents an umbrella label for numerous qualitatively different experiences. The present study examined the distinct contributions and potential interactive effects of CEA frequency and intensity on adult psychopathology, caregiving behaviors, and caregivers' representations of the caregiver-child relationship in a diverse sample of 62 female caregivers of 4-year-old children, all of whom had experienced CEA. Frequency and intensity emerged as orthogonal characteristics of CEA with differential effects on adult adaptation. Higher CEA frequency predicted increased adult psychopathology, whereas higher CEA intensity predicted increased boundary dissolution in caregivers' representations. Further, an interaction between frequency and intensity predicted negativity in caregivers' representations, such that higher frequency of high intensity, but not low intensity, CEA predicted decreased negativity. Neither frequency nor intensity of CEA predicted observed caregiving behaviors. These results provide evidence that characteristics of CEA signal important differences in its experience, with differential implications for later adjustment. The specific differences in caregiving representations associated with high vs. low intensity CEA suggest that diverging mechanisms by which these experiences eventuate in adult outcomes should also be investigated. Above all, this study suggests that the measurement of CEA, and childhood maltreatment broadly, will benefit from enhanced attention to specific characteristics of individuals' experiences.

1. Introduction

Disruptions in the security of the caregiver-child relationship by a caregiver's direct attacks on a child's sense of self and safety profoundly threaten that child's adaptive emotional development. These attacks, which are collectively defined as childhood emotional abuse (CEA), may take the form of denigrating insults, humiliating punishments, exploitation, and/or threats of abandonment (Slep, Heyman, & Snarr, 2011; Trickett, Mennen, Kim, & Sang, 2009). Although these incidents do not leave physical marks or bruises, evidence suggests that CEA may be associated with more long-term harm than other forms of childhood maltreatment, including childhood physical (CPA) or sexual (CSA) abuse, across numerous adjustment domains (Cecil, Viding, Fearon, Glaser, &

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McCrary, 2017; Chamberland, Fallon, Black, & Trocme, 2011; Dias, Sales, Hessen, & Kleber, 2015; Taillieu, Brownridge, Sareen, & Afifi, 2016; van Harmelen et al., 2010). In addition, multiple studies have identified CEA as the most common form of maltreatment (Cecil et al., 2017; Chamberland et al., 2011), although this can be difficult to ascertain because it is among the least likely forms of maltreatment to result in a substantiated child protective service report (Rees, 2010; Trickett et al., 2009). Due to these measurement difficulties, fewer studies exist of CEA than other forms of maltreatment, and those that are published are often limited in their ability to draw nuanced conclusions beyond the statement that exposure to CEA confers risk for negative outcomes. Further, individual differences in the effects of CEA likely reflect an inability to effectively distinguish between individuals' unique experiences. The present study extends the extant literature on CEA by examining the extent to which the frequency and intensity of CEA moderated its adaptive significance in a unique sample of CEA-exposed caregivers.

Importantly, the present study focuses specifically on CEA within the larger domain of psychological maltreatment (PM). PM encompasses a wide range of actions and omissions by caregivers that interfere with a child's ability to manage and predict their environment, and communicate to children that they are in danger, unwanted, or worthless. PM impacts adaptive psychological development across multiple domains including cognitive (e.g., intellectual, reasoning), affective (e.g., emotion regulation), and conative (e.g., motivation). Although CEA shares several defining behaviors with the broader construct of PM (e.g., terrorizing, threatening), CEA, as used here, is specific to actions that occur in the context of direct reciprocal emotional interactions between the child and caregiver, which specifically threaten the child's adaptive emotional, and by extension social, development (Hart, Brassard, Baker, & Chiel, 2017; O'Hagan, 1995).

2. Characteristics of childhood emotional abuse

Extant studies of CEA typically measure either amounts of CEA among individuals in a mixed-exposure sample (i.e., a sample including both exposed and non-exposed individuals), or divide those samples dichotomously by exposure to draw conclusions about CEA risk. However, these approaches fail to capture the heterogeneity of CEA. Individuals experience differing abusive behaviors (e.g., degradation, threatening) in isolation or combination, as well as differing frequencies and intensities of these behaviors. Frequency refers to the rate at which abuse is experienced (e.g., daily, weekly, once or twice ever). In contrast, intensity refers to the extent to which the abusive behavior threatens the child's sense of self and/or safety (e.g., low intensity: mildly insulting remarks, comparing the child to disliked others; high intensity: statements about possible abandonment/wishing the child was never born, insults that strike at the core of a child's being). Generally, threats to the child's sense of safety characterize high, but not low, intensity CEA (McGee & Wolfe, 1991; McGee, Wolfe, Yuen, Wilson, & Carnochan, 1995). Of note, intensity is distinct from severity, which takes into account both the frequency and intensity of maltreatment (Hart & Brassard, 1991). Because frequency and intensity are conceptually distinct, they may have different implications for adjustment and are not necessarily correlated. For example, a child may experience intense CEA episodes that occur only once or twice per year, or a high frequency of low level abusive remarks on a daily basis.

Despite the important distinctions between frequency and intensity, specific investigations of these characteristics and their relation to each other using a CEA-exposed sample have not been conducted. Although some studies have measured CEA frequency, in mixed exposure samples frequency is conflated with exposure/non-exposure. A notable exception to the preponderance of mixed-exposure studies is the LONGSCAN consortium of studies (Runyan et al., 1998), which follow a large sample of maltreated and non-maltreated individuals across development and into young adulthood. These authors have published several studies focusing on the maltreated subsample, which supports more nuanced comparisons of maltreatment features, including work comparing various methods of calculating maltreatment severity (analogous to the present study's construct of intensity) and work exploring maltreatment subtypes and chronicity (English, Graham, Litrownik, Everson, & Bangdiwala, 2005; English, Upadhyaya et al., 2005; Litrownik et al., 2005). Across the studies, these authors have identified the concerns we noted earlier regarding the inability of mixed-exposure studies to separate the effects of increased exposure from those of exposure vs. non-exposure. Studies in the LONGSCAN consortium have confirmed that the degree to which maltreatment threatens adaptive development, defined in the present study as intensity, has significant effects beyond mere exposure (English, Upadhyaya et al., 2005; Litrownik et al., 2005). However, the present study takes an additional step toward isolating the unique contributions of CEA frequency, CEA intensity, and their interaction in a sample of CEA-exposed caregivers.

Only a few studies have distinguished between the effects of CEA based on intensity (or an analogously-defined characteristic). Although one study noted earlier from the LONGSCAN group did find an effect on social competence (English, Upadhyaya et al., 2005), another study from this same group did not observe effects of this same measure on any child adjustment outcomes (Litrownik et al., 2005). Of note, these studies were conducted on a maltreated sample in which not all participants had specifically experienced CEA, and only examined childhood outcomes. Only one study has examined either CEA or PM characteristics beyond frequency with adult outcomes, and this study did find unique effects of subtypes that differ in intensity (e.g., belittling vs. terrorizing; Allen, 2008). Specifically, Allen examined PM and found that terrorizing predicted somatic complaints and anxiety above and beyond the contribution of any other type of PM, whereas ignoring predicted depression, and degradation and ignoring each predicted borderline personality disorder features. Thus, there is some suggestion that CEA subtypes that are typically associated with higher intensity may predict more negative consequences.

Although intensity has rarely been examined in research on CEA, investigations of CSA (e.g., Bennett, Hughes, & Luke, 2000; Senn, Carey, Vanable, Coury-Doniger, & Urban, 2007) and CPA (Kiser, Heston, Millsap, & Pruitt, 1991; Naar-King, Silvern, Ryan, & Sebring, 2002; Wind & Silvern, 1992) confirm that intensity is an important facet of the maltreatment experience, with compelling evidence that more intense abusive experiences are more harmful than less intense experiences. Critically though, it remains to be

determined whether high frequency and high intensity are equally pernicious facets of CEA and/or whether they interact with each other such that certain combinations of experiences may differentially predict negative outcomes.

In studies of CSA, specific combinations and profiles of characteristics (e.g., chronicity, intensity) predict distinct outcomes (McCrae, Chapman, & Christ, 2006; Trickett, Noll, Reiffman, & Putnam, 2002). Further, a study examining CPA, CSA, and physical neglect found that severity (comparable to the present study's intensity), frequency, and an interaction between severity and frequency differentially predicted child adjustment (Manly, Cicchetti, & Barnett, 1994). Specifically, these authors found that increased frequency and severity of maltreatment predicted increased behavior problems and decreased social competence among school-age children, and that frequency was a stronger predictor of outcomes when severity was lower. Given the tremendously variable nature of CEA experiences, examining its characteristics has important implications for assessment and treatment protocols, as well as for informing our understanding of the mechanisms by which CEA influences differential adult outcomes (Yates & Wekerle, 2009).

3. Childhood emotional abuse and later psychopathology

There is robust consensus that the experience of CEA is linked with later psychopathology in adolescence and adulthood (Dias et al., 2015; Taillieu et al., 2016), including depression (e.g., Martins, Von Werne Baes, de Carvalho Tofoli, & Juruena, 2014; Massing-Schaffer, Liu, Kraines, Choi, & Alloy, 2015), anxiety disorders (e.g., Banducci, Felton, Bonn-Miller, Lejuez, & MacPherson, 2017; Banducci, Lejuez, Dougherty, & MacPherson, 2017; Nanda, Reichert, Jones, & Flannery-Schroeder, 2016), eating disorders (e.g., Caslini et al., 2016; Hund & Espelage, 2006), borderline personality disorder (e.g., Bounoua et al., 2015; Kuo, Khoury, Metcalfe, Fitzpatrick, & Goodwill, 2015), and substance use problems (e.g., Banducci, Felton, Bonn-Miller, Lejuez, & MacPherson, 2017; Banducci, Lejuez, Dougherty, & MacPherson, 2017). However, these studies have examined mixed-exposure samples, in which the purported effects of frequency might be better explained by broad differences between participants with and without CEA exposure. Therefore, the present study evaluated the individual and interactive contributions of CEA frequency and CEA intensity to adult psychopathology in a CEA-exposed sample. By using this unique measurement approach, we were able to determine whether characteristics of the abuse experience are meaningful above and beyond CEA exposure itself.

4. Childhood emotional abuse and later caregiving behaviors

Relative to the number of investigations examining psychopathology among adults with a history of CEA, far fewer studies have examined caregiving outcomes. Indeed, in a recent review, Hughes and Cossar (2016) identified only twelve such studies, and highlighted the need for increased attention in this area. Caregiving behaviors are critical to study because of the need to elucidate factors associated with patterns of persistence and desistance in caregiving behaviors across generations (McCloskey, 2017), and given the robust influence of caregiving quality on children's well-being (for reviews see Miner & Clarke-Stewart, 2008; Rose, Roman, Mwaba, & Ismail, 2017).

Despite the relative dearth of research on CEA and later caregiving behaviors, several studies have examined caregiving among adults with a history of CPA, CSA, and/or neglect (for a review of a subset of these studies see Vaillancourt, Pawlby, & Fearon, 2017). Overall, this research reveals myriad challenges among caregivers with a history of childhood maltreatment, including increased parenting stress, decreased sensitivity, and increased hostility, as well as significant individual differences in the extent to which maltreatment influences caregiving (Hugill, Berry, & Fletcher, 2017; McCloskey, 2017; Vaillancourt et al., 2017). Indeed, some data suggest that specific subtypes of childhood maltreatment evidence differential associations with caregiving behaviors. For example, multiple studies have shown that a history of CPA is associated with increased parenting hostility, whereas CSA and neglect predict decreased involvement (Lyons-Ruth & Block, 1996; Wilson, Rack, Shi, & Norris, 2008). Critically, these studies have not examined characteristics of these maltreatment experiences, such as the frequency or intensity of abuse, to determine whether and how they may moderate the effects of maltreatment on later caregiving. Further, most studies that examine the influence of childhood maltreatment on later caregiving have not assessed CEA (Vaillancourt et al., 2017), despite the fact that research suggests CEA may be the active ingredient underlying many of the pathological effects of maltreatment broadly (Bailey, DeOliveira, Wolfe, Evans, & Hartwick, 2012; Fuchs, Möhler, Resch, & Kaess, 2015; Schneider, Ross, Graham, & Zielinski, 2005).

Studies that have evaluated CEA and the provision care to the next generation reveal a range of effects. CEA has been associated with greater psychological control (Zalewski, Cyranowski, Cheng, & Swartz, 2013), punitiveness, and psychological abuse of one's own children (Haapasalo & Aaltonen, 1999). In addition to hostile caregiving, some research has found associations between a history of CEA and increased caregiving stress (Bai & Han, 2016; Pereira et al., 2012), and decreased caregiver responsibility (Bert, Guner, Lanzi, & Centers for Prevention of Child Neglect, 2009), caregiver availability (Fuchs et al., 2015), caregiving self-efficacy (Caldwell, Shaver, Li, & Minzenberg, 2011), and positive caregiver-child interactions (Lang, Gartstein, Rodgers, & Lebeck, 2010). Studies that examine childhood emotional maltreatment and verbal hostility more broadly (i.e., including emotional neglect and lack of emotional support) have found intergenerational associations with verbally abusive caregiving (Zuravin & Fontanella, 1999), hostility (Bailey et al., 2012), and harsh physical punishment (Chung et al., 2009). Given evidence that CEA is associated with caregiving difficulties, there is a pressing need to elucidate specific characteristics of the abuse experience that may qualify the nature of this relation.

5. Childhood emotional abuse and caregiving representations

Caregiving representations refer to the beliefs and expectations a caregiver has about the child, caregiving, and the caregiver-

child relationship (Sher-Censor & Yates, 2015; Slade, Belsky, Aber, & Phelps, 1999). Caregiving representations not only predict caregiving behaviors (Crawford & Benoit, 2009; Dayton, Levendosky, Davidson, & Bogat, 2010), but also directly predict later child emotional and behavioral problems (Khafi, Yates, & Sher-Censor, 2015; Sher-Censor & Yates, 2015; Walters, 2015; Yurduşen, Erol, & Gençöz, 2013). Thus, directly examining caregiving representations may provide insight into an important mechanism underlying CEA effects on caregiving, as well as a promising intervention target (Marvin, Cooper, Hoffman, & Powell, 2002). Moreover, caregiving representations can be assessed via narratives (Hesse, 2008; Sher-Censor & Yates, 2015; Slade et al., 1999), which may be more accessible than observed interactions, particularly in the context of the child welfare system.

A broad base of literature highlights the influence of childhood maltreatment on attachment security and internal working models of relationships generally (Morton & Browne, 1998), and on caregiving representations specifically (George, 1996). For example, caregivers' history of physical neglect is associated with inconsistent and unrealistic prenatal representations of the child (Malone, Levendosky, Dayton, & Bogat, 2010), and caregivers' CSA history is associated with reports of increased role reversal, fewer caregiver-child boundaries, and greater reliance on the child for emotional support (Alexander, Teti, & Anderson, 2000; DiLillo & Damashek, 2003). Although few studies have explicitly examined the effects of CEA on caregiving representations, as noted earlier, some studies have documented higher levels of dysfunctional beliefs about caregiving competence and the perceived quality of caregiver-child interactions in the wake of CEA (Caldwell et al., 2011; Lang et al., 2010).

Despite the paucity of studies examining CEA and subsequent representations of the caregiver-child relationship, there is no shortage of evidence that CEA influences the attachment system and internal working models about caregiving well into adulthood. Studies have shown that experiences of PM (Messman-Moore & Coates, 2007) and CEA (Riggs, 2010) are associated with maladaptive caregiving representations in adult romantic relationships, including beliefs about the need for self-sacrifice (i.e., that the caregiver's needs and desires should be consistently subjugated to those of the partner), abandonment (i.e., that the partner will leave the caregiver), and enmeshment (i.e., that there should be little separation between partners). Although extant evidence refers to rigid and problematic caregiving representations in the context of adult romantic relationships, these relationship schemas are also relevant for understanding the caregiver-child relationship. Indeed, the multifaceted nature of CEA suggests it may eventuate in several types of maladaptive caregiving representations (e.g., hostile, enmeshed). Thus, this study sought to advance our understanding of how specific features of CEA may predict specific facets of caregivers' representations about their own child.

6. Study overview

The current investigation evaluated the individual and interactive contributions of CEA frequency and intensity to adult psychopathology and caregiving outcomes in a sample of CEA-exposed caregivers of preschool-aged children. This investigation sits at the intersection of multiple gaps in the literature, including the need to better understand the specific characteristics of childhood maltreatment, CEA specifically, and associations between CEA, adult psychopathology, and caregiving. Thus, this work has implications for research and practice in clarifying the importance of nuanced maltreatment measurements generally, as well as for understanding the substantive mechanisms of CEA effects specifically.

First, we hypothesized that, regardless of the intensity, higher CEA frequency would be associated with increased psychopathology and increased negative caregiving behaviors and representations. Along with evidence described earlier, which connects CEA exposure to psychopathology and caregiving, mounting evidence suggests that experiencing a high frequency of even low intensity adverse experiences can result in serious detriments to physical and mental health (see, for example, the robust literature on racial microaggressions; Wong, Derthick, David, Saw, & Okazaki, 2014). In addition, based on prior studies of CSA and CPA, and informed by the tenets of attachment theory, we hypothesized that high intensity CEA, regardless of its frequency, would be more detrimental than low intensity CEA for later caregiver psychopathology, caregiving behaviors, and representations of the caregiver-child relationship. Finally, we evaluated the interaction between CEA frequency and intensity, to test our hypothesis that high frequency experiences of high intensity CEA would have the most severe consequences, because intense emotional threats may more strongly influence adjustment if they are also frequent and persistent.

7. Method

7.1. Participants

Participants were 62 female caregivers (91.9% biological mothers, 3.2% adoptive mothers, 1.6% grandmothers, 1.6% foster mothers, and 1.6% stepmothers) who were participating in a longitudinal study of children's development. The participants were 56.5% Hispanic, 19.4% Black, 16.1% White, 4.8% Asian, and 3.2% mixed ethnic background. The data used in this report were collected at families' initial visit, when children were four years old ($M_{\text{age}} = 48.41$ months, 56.5% female), and represent a subsample of caregivers (out of 250 in the larger study) who reported a history of CEA, including the frequency with which the abuse occurred. An additional 23 participants who reported CEA were omitted from these analyses because they could not describe the frequency with which they experienced CEA. For example, these participants would describe the abuse as 'always', or 'a lot', or 'my parent used to say,' but they were unable to specify whether these incidents happened with daily, weekly, or some other frequency. Given that frequency was one of the key predictors in our analyses, and it represents a specific feature of one's maltreatment experience, we did not feel it was appropriate to impute values for this variable. However, a missing values analysis determined that there were no significant differences between participants missing frequency data and the rest of the sample on any of the study variables (i.e., intensity of CEA, severity of CPA, severity of CSA, all psychopathology and caregiving outcomes; Little's MCAR test $\chi^2 = 28.10$, $p = .459$).

7.2. Procedures

Participants were recruited from local community centers and preschools for a study of children's learning and development. Caregivers and children completed a 3-hr laboratory assessment, of which a portion was an interview completed with caregivers while children were separately assessed in another room. Caregiving representations were assessed first (after the informed consent process), before any other interviews, questionnaires, or tasks were initiated to avoid influencing the caregivers' representations with anything done as part of the study. Caregivers were compensated with \$75 for completing the assessment, and children received small age-appropriate gifts. All procedures were approved by the human research review board of the university.

7.3. Measures

7.3.1. Childhood abuse history

Caregivers described their experiences of childhood physical, sexual, and emotional abuse prior to the age of 18 on the Child Maltreatment Interview (Briere, 1992). This interview asks dichotomous questions about the presence/absence of abusive experiences and then follows up with semi-structured interview prompts in which the participant is asked to describe the abuse and report on its frequency, perpetrators, and timing. Maltreatment characteristics were coded from these descriptions by two independent coders, who then came to consensus agreement on scores, following a widely-used published coding scheme (McGee & Wolfe, 1991; McGee et al., 1995). Frequency of CEA (ICC = .91) was scored from one time (1) to daily (8), and intensity of CEA (ICC = .83) was scored on a 3-point scale from mild (1; e.g., belittling the child's feelings, comparing the child to disliked others, cursing at the child), to moderate (2; e.g., ridiculing the child, threatening other family members or self), to severe (3; e.g., telling the child they are unwanted, denigrating the child, threatening to kill or abandon child). Severity of CPA (ICC = .90) and CSA (ICC = .97), which were coded as a combination of frequency and intensity for each, were included as covariates.

7.3.2. Psychopathology

Caregiver psychopathology was measured using the Brief Symptom Inventory (BSI; Derogatis, 1993). This 53-item measure assesses psychopathological symptomatology (e.g., depression, anxiety, hostility, paranoid ideation) that bothered participants in the past week on a 4-point scale from not at all (0) to extremely (4). In this study, a longer version of the measure was administered initially (i.e., the Symptom Checklist 90-R, SCL 90-R; Derogatis, 1983), but only the items that make up the BSI were used for analysis. As a result, six items were missing from the BSI because they are not found on the SCL 90-R. The global symptom severity index (i.e., total raw score) was used in this study, and the reliability was excellent ($\alpha = .94$).

7.3.3. Caregiving behaviors

Caregiving behaviors were observed from video recordings of caregivers completing four semi-structured teaching tasks consisting of sorting shapes, building with blocks, listing things with wheels, and collaborative play which were adapted from Block and Block (1980). Independent coders blind to other information about the family evaluated caregiving quality during each task using 7-point scales in accordance with prior coding procedures (Carlson, Jacobvitz, & Sroufe, 1995; Egeland, 1982). Consensus scores were averaged across tasks to index caregivers' supportive presence (i.e., sensitivity and responsivity in caregiving, along with appropriate use of encouragement and positive regard for the child; ICC = .81), hostility (i.e., overt expressions of anger and resentment toward the child; ICC = .80), and boundary dissolution (i.e., failure to maintain typical caregiver-child roles such that the child takes on peer, parent, and/or partner roles in the interaction; ICC = .76).

7.3.4. Caregiving representations

Caregiving representations were measured using the Five Minute Speech Sample (FMSS; Magaña-Amato, 1993). In this task, caregivers were audio-recorded for five minutes as they described what kind of person their child is and how they get along with their child. Transcribed FMSS narratives were coded by three to six coders who were blind to all other information about the family. Coders were trained to 85% agreement via remote conferencing with Wamboldt and colleagues (Wamboldt, O'Connor, Wamboldt, Gavin, & Klinnert, 2000). Consensus scores indicated negativity, a composite of the number of critical (e.g., "John is a lazy child") and dissatisfied (e.g., "I'd rather he was not like that") statements (ICC = .81), and positivity (e.g., "My son and I have a very good relationship;" ICC = .97). Boundary dissolution was scored by a separate set of independent coders using the FMSS-Coherence Scales (Sher-Censor & Yates, 2012), which were adapted from Koren-Karie and Oppenheim (2004). Boundary dissolution referred to statements of role reversal, seeing the child as a peer, and/or seeing the child as a partner, and was coded on a scale 3-point scale from not present (0) to definitely present (2; ICC across 25% of the cases = .70).

8. Results

8.1. Data preparation

Two participants were missing psychopathology data, and one was missing caregiving representations data. These data were missing completely at random (Little's MCAR test $\chi^2 = 22.95, p = .192$), so these values were imputed using the expectation maximization algorithm in SPSS version 24. All predictors were normally distributed, as was caregiver positivity and observed caregiving. Caregiver negativity (skew = 3.31, kurtosis = 11.82), and boundary dissolved representations (skew = 3.45,

Table 1
Correlations between Maltreatment and Adult Outcomes among CEA-Exposed Caregivers.

	1	2	3	4	5	6	7	8	9	10
1. CEA Frequency	–									
2. CEA Intensity	.02	–								
3. CPA Severity	.48***	.15	–							
4. CSA Severity	.22	.09	.17	–						
5. Adult Psychopathology	.35**	.03	.03	.22	–					
6. Caregiving Support	.10	–.01	.06	–.08	–.01	–				
7. Caregiving Hostility	–.15	–.08	–.12	.21	.01	–.53***	–			
8. Caregiving Boundary Dissolution	.19	.14	.13	.09	.01	–.44***	.31*	–		
9. Representation Positivity	.17	.17	.06	.18	.10	–.06	.07	.10	–	
10. Representation Negativity	–.05	–.15	–.04	.21	–.05	.09	.07	–.01	.01	–
11. Representation Boundary Dissolution	.09	.34**	.39**	.02	–.06	–.09	.15	.00	.14	–.13

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

kurtosis = 12.46) were non-normally distributed. Caregiver negativity was successfully transformed using the natural log function (skew = 1.49, kurtosis = 0.27). Natural log (skew = 2.53, kurtosis = 4.59) and square root transformations (skew = 2.80, kurtosis = 6.57) improved the distribution of boundary dissolution, but it remained non-normal. The results below are described using the most successful (natural log) transformation, however the analysis was also conducted using logistic regression with boundary dissolution as a dichotomous outcome, and the results were consistent with those presented here.

8.2. Descriptive analyses

The median frequency of CEA was 2–3 times per week, and the mode was daily (46.8% of the sample). In terms of the highest intensity of CEA experienced, 14.5% of the sample experienced mild abuse, 62.9% experienced moderate abuse, and 22.6% experienced severe abuse. In this sample of participants, all of whom had experienced CEA, 48.4% had experienced co-occurring CPA (37.1% moderate, 11.3% severe), and 53.2% had experienced co-occurring CSA (16.1% mild, 22.6% moderate, 14.5% severe). There were no differences in study variables by caregiver race/ethnicity (Wilks' $\lambda = 0.44$, $p = .152$). Frequency and intensity of CEA were not correlated ($r = .02$, $p = .865$), lending strong support to the idea that these represent independent characteristics of the abuse experience. Table 1 presents the bivariate correlations.

8.3. Regression analyses

Linear regression analyses predicted each outcome variable from CEA frequency, CEA intensity, and their interaction, controlling for CPA and CSA severity. In predicting adult psychopathology, there was a significant positive main effect of CEA frequency ($\beta = .40$, $p = .006$), but there were no significant effects of any other predictors, nor of the interaction between CEA frequency and intensity.

In the regressions predicting caregiving behaviors (i.e., supportive presence, hostility, boundary dissolution; see Table 2), there were no significant effects.

In the regressions predicting caregiving representations (i.e., negativity, positivity, and boundary dissolution; see Table 3), there were varied results. In predicting negativity, there were no significant main effects. However, there was a significant interaction between CEA frequency and intensity ($\beta = -.35$, $p = .008$), such that a higher frequency of high intensity CEA predicted significantly fewer negative caregiving representations, whereas a higher frequency of low intensity CEA predicted more negative caregiving representations, though not significantly so (see Fig. 1). In predicting positivity, there were no significant effects of any predictors. Finally, in predicting boundary dissolution, there was a positive effect of CPA severity ($\beta = .37$, $p = .008$), and a positive effect of CEA intensity ($\beta = .35$, $p = .005$), but neither CEA frequency, nor its interaction with CEA intensity, were significant.

Table 2
Linear Regressions Predicting Caregiving Behaviors.

	Supportive Presence				Hostility				Boundary Dissolution			
	b	SE	β	p	b	SE	β	p	b	SE	β	p
CPA	0.04	0.13	.04	.793	–0.04	0.07	–.09	.545	0.02	0.10	.04	.808
CSA	–0.08	0.12	–.09	.504	0.13	0.06	.26	.051	0.02	0.09	.04	.778
CEA Frequency	0.05	0.07	.11	.457	–0.04	0.04	–.17	.254	0.06	0.05	.16	.286
CEA Intensity	–0.06	0.22	–.03	.804	–0.06	0.12	–.07	.626	0.14	0.16	.12	.387
CEA Frequency x Intensity	–0.08	0.09	–.12	.393	0.03	0.05	.08	.548	–0.02	0.07	–.05	.745
	$F(556) = 0.39$, $p = .857$, $r^2 = 0.03$				$F(556) = 1.30$, $p = .278$, $r^2 = 0.10$				$F(556) = 0.67$, $p = .647$, $r^2 = 0.06$			

Table 3
Linear Regressions Predicting Caregiving Representations.

	Negativity				Positivity				Boundary Dissolution			
	<i>b</i>	<i>SE</i>	β	<i>p</i>	<i>b</i>	<i>SE</i>	β	<i>p</i>	<i>b</i>	<i>SE</i>	β	<i>p</i>
CPA	0.28	0.49	.08	.567	-0.34	0.75	-.07	.649	0.95	0.34	.37	.008
CSA	0.66	0.43	.19	.132	0.68	0.66	.14	.307	-0.08	0.30	-.03	.796
CEA Frequency	-0.32	0.26	-.18	.218	0.46	0.40	.17	.254	-0.29	0.18	-.21	.114
CEA Intensity	-1.58	0.81	-.25	.056	1.55	1.25	.17	.221	1.69	0.57	.35	.005
CEA Frequency x Intensity	-0.95	0.34	-.35	.008	0.02	0.53	.00	.975	0.28	0.24	.14	.261
	$F(556) = 2.39, p = .049, r^2 = .18$				$F(556) = 0.95, p = .456, r^2 = .08$				$F(556) = 4.15, p = .003, r^2 = 0.27$			

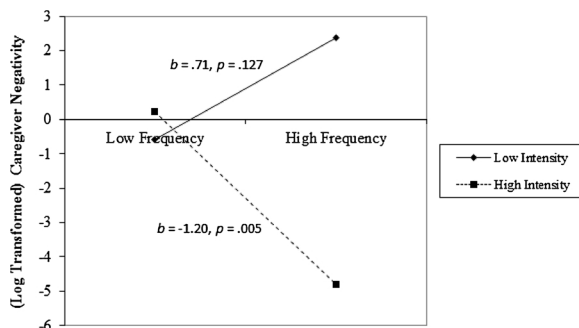


Fig. 1. Childhood Emotional Abuse Frequency x Intensity Interaction Predicts Caregiver Negativity.

9. Discussion

This study examined characteristics of CEA among a CEA-exposed sample of female caregivers of preschool-aged children. CEA frequency and intensity evidenced differential and interactive associations with psychopathology and caregiving outcomes in adulthood, suggesting that it is crucial to examine intensity alongside frequency in future investigations. Importantly, frequency and intensity were uncorrelated in this study, supporting the expectation that these would be orthogonal characteristics of the CEA experience.

In support of the first hypothesis, higher frequency CEA predicted increased levels of psychopathology, regardless of intensity. This is consistent with the broad corpus of work examining CEA frequency and mental health (e.g., Dias et al., 2015; Taillieu et al., 2016). However, finding this effect in a sample in which all participants had experienced CEA represents an important step forward. These results signify that, among individuals with a history of CEA exposure, the frequency of CEA significantly predicts increased psychopathology. Importantly, these data indicate that the frequency effect found in mixed-exposure samples is not simply a proxy for comparing participants with and without any history of CEA. Further, this study clarified that these effects were not qualified by the intensity of the abuse. Thus, in terms of implications for the caregiver’s own mental health, persistent attacks on their sense of self and/or safety in childhood were detrimental, regardless of the intensity of those attacks.

In examining the second hypothesis, higher CEA frequency was not significantly associated with problematic caregiving behaviors or caregivers’ representations. Given the sparse and inconsistent literature on CEA and caregiving outcomes (Hughes & Cossar, 2016), this finding is not necessarily surprising. However, it is important to keep in mind that this study examined the influence of CEA frequency and intensity among caregivers with a history of CEA exposure. Therefore, the null findings obtained here do not suggest that CEA does not affect these outcomes, but simply that there is no additional predictive power to be gained by examining the frequency of the abuse. That is, among those with a history of CEA, the frequency of that abuse does not relate to increased problematic caregiving. It may well be that the experience of CEA alone is enough to disrupt caregiving, regardless of the frequency or intensity at which it is experienced. It may also be that associations would be found with aspects of caregiving beyond those examined here, or that they would emerge at a later point in children’s development.

Although there was no effect of CEA intensity on caregivers’ psychopathology, the effect of intensity on caregiving was partially supported by the data, in that higher intensity had a main effect on boundary dissolved caregiving representations. This is consistent with studies across varied maltreatment subtypes which suggest that greater intensity of abuse predicts generally poorer outcomes (e.g., Allen, 2008; Naar-King et al., 2002; Senn et al., 2007), as well as with theoretical arguments that intense experiences of CEA may alter internal working models of one’s caregiver as a source of safety and support (Riggs, 2010). CEA intensity may be a particularly salient influence on future caregiving because intense CEA experiences are typically characterized by terrorizing, threatening, and other attacks on a child’s sense of safety, as compared to attacks on sense of self (McGee & Wolfe, 1991; McGee et al., 1995). The relation between this specific experience of abuse and boundary dissolved caregiving representations suggests that viewing caregivers as less safe and protective may result in a later caregiver-child relationship in which the caregiver and child roles

are not clearly defined and distinguished. This effect is consistent with work showing that PM contributes to increased enmeshment in later intimate partner relationships (Messman-Moore & Coates, 2007), as well as with work showing increased levels of boundary dissolution between children and caregivers who have experienced CSA versus those who have not (Alexander et al., 2000; DiLillo & Damashek, 2003). In the wake of intense CEA, these caregivers may have difficulty perceiving themselves as a source of protection and authority for their child, and may also seek support and care in their own later relationships, including in their relationship with their child. Alternatively, in response to intense, threatening CEA, these caregivers may have developed a self-protective strategy of engaging in solicitous caregiving behaviors toward their own parent(s) in childhood, and this solicitous pattern may be modeled and transmitted to their own children. Indeed, intense disruptions to the security and safety of the parent-child relationship may result in a disorganized attachment pattern (Lyons-Ruth & Jacobvitz, 2008), which, in turn, may be expressed via compulsively caregiving or controlling behaviors from child to parent. Here, again, the specific effect of intensity, rather than frequency, on caregiving representations points to the likelihood that distinct mechanisms account for the influence of qualitatively different experiences of CEA on adult outcomes.

In examining the interactive hypotheses, we found that the effect of higher frequency CEA on negativity in caregiving representations was moderated by intensity. Specifically, high frequency CEA that was characterized by high intensity was associated with less negativity in caregiving representations, whereas high frequency CEA that was characterized by low intensity was not. Although the literature on intergenerational transmission of CEA is sparse (Berzenski, Yates, & Egeland, 2014), some evidence suggests that the experience of CEA makes negativity toward children, and even perpetration of emotional abuse itself, more likely (Ney, 1988; Whitbeck et al., 1992). Thus, it may be that exposure to low intensity abuse leads to increased negativity in caregiving representations, compared to non-exposure, but the present findings do not speak to this issue. Rather, what one can conclude from this study is that the association between high frequency CEA and negativity depends on the intensity of the abuse. Interestingly, high intensity CEA may buffer the relation between CEA frequency and negativity, such that these caregivers may be less likely to perpetuate the cycle of hostile criticism on their children. This expression of lower negativity in the wake of high intensity CEA also coheres with the finding that high intensity experiences predicted increased boundary dissolution. Fewer negative representations are consistent with a caregiver who views the child as a partner, peer, or parent. Caregivers who have experienced high intensity abuse may be more likely to try and protect their children from this experience, refraining from negativity, but increasing levels of enmeshment and role reversal. In contrast, caregivers who experienced persistent belittling and emotional invalidation in childhood may be more likely to continue this cycle of hostility when parenting the next generation. It is critical to remember that, although children of caregivers who experienced high intensity abuse appear to be protected from overt hostility, increased boundary dissolution has its own negative implications for children's adaptive development, such as increased inattention, impulsivity, and behavior problems (Shaffer & Sroufe, 2005). Finally, it is notable that the distinction between high and low intensity CEA only emerged at a high frequency, such that it is the consistent repetition of these attacks that appears to influence patterns of negativity in one direction or another.

Taken together, these findings suggest that there are qualitatively different experiences of CEA that have differential effects on adult outcomes. Specifically, whereas high frequency of any type of CEA predicts increased psychopathology, caregiving outcomes are more variable and potentially more vulnerable to specific disruptions in internal working models of the caregiver-child relationship. These distinct caregiving patterns may also be associated with particular insecure adult attachment styles, as research on adult romantic relationships suggests anxious attachment among adults with a history of CEA may be more associated with enmeshment whereas avoidant attachment may be more associated with distancing and negativity (Riggs, 2010). As noted earlier, the finding that intense CEA is associated with boundary dissolved representations is consistent with prior evidence that high intensity abuse is associated with disorganized attachment and disorganized caregiving patterns (Solomon & George, 2011). Differential attachment patterns may be one mechanism whereby different experiences of CEA exert distinct effects on caregivers' representations, but these mechanisms warrant direct examination in future studies.

It is noteworthy that the effects observed in this study were on caregivers' representations, and not on caregiving behaviors. Given that many studies examine only caregiving behaviors and not representations, the literature may be missing evidence of key effects. Although these representations did not translate to the caregiving behaviors observed in the present study, they may be associated with caregiving behaviors in different contexts and/or at future timepoints. In addition, caregivers' representations may influence child well-being via pathways beyond parenting that have yet to be determined fully (Dayton et al., 2010; Sher-Censor & Yates, 2015; Walters, 2015; Yurduşen et al., 2013), such as partner selection or stability. These data may also point to a unique disconnect between representation and behavior in a CEA-exposed sample. Interestingly, follow-up exploratory analyses in the full mixed-exposure sample from which the CEA-exposed sample was drawn revealed significant expected associations between each of the three domains of caregiving representation and the corresponding caregiving observation (e.g., negative representations with observed hostility). This result lends preliminary support to the idea that there may be a disconnect between representation and behavior among CEA-exposed caregivers. At the same time, finding these expected associations in the full sample supports the validity of caregiving representations as a measurement tool, and further reinforces the necessity of examining both representations and observed caregiving behavior separately in future studies of CEA, and of maltreatment effects generally.

9.1. Limitations

The important contributions of this work should be interpreted in light of several limitations. First, the study was conducted with a relatively small sample. This sample represented a subsample of CEA-exposed caregivers drawn from a larger sample that was recruited for a broader study. Future work should seek to replicate these findings in a larger CEA-exposed sample designed

specifically to answer these types of questions. Additionally, the sample size was further diminished because several participants could not recall information about the frequency of their CEA. This limitation represents a necessary consequence of using retrospective reports of maltreatment, particularly of CEA, which is often an enduring pattern of caregiver-child relations rather than a series of discrete incidents. Thus, studies that seek to examine characteristics of CEA would benefit greatly from prospective longitudinal designs beginning in childhood.

Second, it is possible that CEA effects would have emerged had we examined other types of caregiving behaviors, both positive and negative, or other types of non-laboratory settings. Further, extending this work across time would be informative regarding whether the caregiving representations expressed in this study may translate into later caregiving behaviors.

Third, the present study examined a diverse sample of caregivers from a community sample. It is important both to extend this work to other types of samples and to recognize that the interpretations presented here are specific to the uniquely diverse sample examined here. Although the diversity of the sample is a strength of this work, it does represent a departure from some of the other work on this topic. The fact that more than half the participants in the sample were Hispanic may have influenced the distinct patterns of caregiving and caregiving representations as a function of early experience that were observed in this study.

Finally, it is important to extend this work to look at other characteristics of the abuse experience, such as chronicity, perpetrator identity, and age of onset. Previous research in other domains of maltreatment suggest there may be sensitive periods whereby experiences differentially relate to adult outcomes (Kaplow & Widom, 2007). Although it is important to extend this examination to CEA, it represents a conceptually different approach that explores the developmental processes by which CEA exerts its effects, and thus fell outside the scope of the present study.

10. Summary and future directions

The present study advances our understanding of CEA experiences by demonstrating that CEA frequency and CEA intensity are distinct characteristics of the CEA experience, with unique influences on adult outcomes. This represents an advance over prior studies that have largely used questionnaire measures to compare individuals who have not experienced abuse to those who have experienced it at varying frequencies. The analytic power gained from examining a subsample who have all experienced abuse, along with the semi-structured interview approach to measurement, enabled the present study to draw new conclusions about specific characteristics of the CEA experience. Further, this investigation went beyond psychopathology and caregiving behaviors to also examine caregivers' representations, which introduces a nuanced way to capture both the consequences and potential mechanisms of effects of childhood maltreatment.

These data demonstrate the incremental value of probing CEA experiences in depth in future research and practice to elucidate mechanisms underlying CEA effects with regard to varied developmental outcomes. Relatedly, care should be paid to the distinct features of maltreatment experiences when developing treatment plans. For example, if unique experiences of abuse precipitate distinct effects on internal working models of relationships, then therapists may select specific beliefs and cognitions as optimal targets for relationship-based and/or cognitive reframing interventions. Further, evidence that increased CEA frequency, regardless of intensity, predicts later psychopathology may inform therapeutic efforts to help patients identify the underlying mechanism by which CEA may eventuate in psychopathology – namely the frequency and persistence of emotional attacks, regardless of content. Finally, perhaps the most important take home point from the present study remains that frequency and intensity of abuse represent orthogonal characteristics of the abuse experience, and that measurement approaches that ignore or conflate these characteristics lack clarity and obscure potentially important mechanisms of individual differences in outcomes of CEA that are central for accurate and impactful empirical and clinical work.

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