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Longitudinal predictors of children's self-blame appraisals among military families reported for family violence[★]

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ABSTRACT

Background: Although children's self-blame appraisals are recognized as important sequelae of child victimization that contribute to subsequent adjustment problems, little is known about the factors that predict their development and longitudinal course.

Objective: The current study examines the stability and longitudinal predictors of children's self-blame appraisals among a sample of children reported for family violence.

Participants and setting: Children (N = 195; 63 % female) aged 7 to 17 years ($M_{age} = 12.17$) were recruited as part of a longitudinal assessment of families referred to the United States Navy's Family Advocacy Program due to allegations of child physical abuse, sexual abuse, or intimate partner violence.

Methods: Children completed assessments on self-blame at 3 time points (baseline, 9–12 months, and 18–24 months) and baseline measures of their victimization experience, caregiver-child conflict, and depression.

Results: In univariate analyses, victimization that involved injury (r = 0.29, p < .001), the number of perpetrators (r = 0.23, p = .001), the number of victimization types (r = 0.32, p < .001), caregiver-child conflict (r = 0.36, p < .001), and depression (r = 0.39, p < .001) were each positively associated with baseline self-blame. When examined in a single longitudinal multilevel model, results indicated only caregiver-child conflict (b = 0.08, p = .007) and baseline depression (b = 0.06, p = .013) predicted increases in self-blame.

Conclusion: Findings suggest clinicians and researchers may consider assessment of victimization characteristics, caregiver-child relationships, and depression symptoms to identify children most at risk for developing self-blame appraisals.

1. Introduction

Nearly 40 % of children and adolescents will experience multiple types of victimization – sexual abuse, physical abuse, assault, witnessing community violence and family violence – in their lifetime (Le et al., 2018). In response to such stressful events, children typically form appraisals to try to understand or explain why the events occurred. Children's self-blame appraisals, beliefs that they are responsible for the victimization, caused it to occur, or failed to stop it from happening, have been identified in several landmark conceptual models, including Finkelhor and Browne's (1985) Traumagenic Dynamics, Spaccarelli's (1994) Transactional Model, and Grych and Fincham's (1993) Cognitive-Contextual Framework, as important sequelae of child victimization that contribute to

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[★] **Disclaimer**: Points of view expressed in this document are those of the authors only and do not necessarily reflect the position or polices of the U.S. Department of the Navy.

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subsequent psychological and behavioral problems (Finkelhor & Browne, 1985; Grych & Fincham, 1993; Spaccarelli, 1994). Specifically, self-blame appraisals can cultivate maladaptive beliefs ("I am a bad kid"), as well as negative emotions of guilt and shame (Aaron, 2012; Janoff-Bulman, 1979; Ullman et al., 2014). This negative internal dialogue and emotions are thought to contribute to adjustment problems (Rhoades, 2008; Spaccarelli, 1995; Valle & Silovsky, 2002). Indeed, self-blame appraisals following child victimization have been robustly associated with higher levels of trauma symptoms and other adjustment difficulties (Evans et al., 2022; Jouriles et al., 2022; Melville et al., 2014; Rancher et al., 2022), as well as delays in disclosure of abuse (Kellogg et al., 2020; Lemaigre et al., 2017). Although extant research documents that self-blame appraisals can be harmful, little is known about the factors that predict their development and longitudinal course. Recent qualitative research suggests that children who experience multiple types of victimization may be particularly vulnerable to developing self-blame appraisals (Klebanov et al., 2023). Improved understanding of victimization characteristics, family environment, mental health symptoms (notably depression) and demographic factors that predict children's self-blame appraisals has important implications for researchers and clinicians. Identifying factors that predict harmful appraisals can inform theory and may help providers triage services for children at most risk for future adverse outcomes. The current study examines the stability and longitudinal predictors of children's self-blame appraisals among a sample of children reported to child protective services for family violence.

1.1. Victimization characteristics

Children's reactions to any victimization experience can vary widely depending on the characteristics of the victimization itself, such as whether the child experienced physical injury, the number of victimization types, and the number of perpetrators. More severe victimization experiences, such as those that involved physical injury, multiple types of violence, or multiple perpetrators, are theorized to be associated with higher levels of self-blame appraisals, as children believe they should have stopped or prevented the victimization from escalating (Beitchman et al., 1992; Celano et al., 2002; Herman, 1992). Multiple types of victimization may foster children's self-blame appraisals that there is something about them or their actions that causes them to experience harmful events. In line with theory, previous research has found that victimization involving physical injury has been associated with higher levels of children's self-blame appraisals (Grych et al., 2003; McDonald & Grych, 2006; Spaccarelli, 1994). This finding has been replicated in retrospective research with adult survivors of child abuse, namely that victimization involving injury was associated with higher levels of self-blame (Ironson et al., 2019). However, most prior studies rely on cross-sectional data from a single victimization event, with a paucity of longitudinal research among children who have experienced multiple types of victimization.

1.2. Family environment

Children's family environment can also play a salient role in the development of appraisal content. Children are believed to rely on their relationship with a supportive caregiver to understand and make sense of their victimization experiences (Finkelhor & Browne, 1985; Spaccarelli, 1994). Support from a non-offending caregiver following victimization, such as providing emotional support, helping the child access mental health services, and even participating in their child's trauma-focused therapy, have been associated with more positive child outcomes (Brown et al., 2020; Smith et al., 2017; Theimer et al., 2020). Alternatively, stressors such as being blamed, criticized, rejected, or ignored by caregivers in response to victimization can reinforce beliefs that "I did something wrong" or "it was my fault," which are hypothesized to increase children's self-blame appraisals (Finkelhor & Browne, 1985; Grych & Fincham, 1993; Spaccarelli, 1994). Children's relationships with their non-offending parent are often complex and can include significant levels of caregiver-child conflict following a disclosure of victimization (Cabbigat & Kangas, 2018). Previous cross-sectional research has further found that higher levels of caregiver-child conflict is associated with higher levels of self-blame for sexual abuse (Jouriles et al., 2020). This research demonstrates the potential importance of considering caregiver-child conflict in the development and longitudinal course of self-blame appraisals.

1.3. Depression

While self-blame appraisals are often considered as risk factors for the development of psychological problems, it may be that certain psychological problems, such as depression symptoms, contribute to the development of self-blame appraisals. Self-blame appraisals are considered distinct from broad depressogenic thinking patterns (Finkelhor & Browne, 1985; Grych & Fincham, 1990; Weiner, 1985). However, depression can foster a broad, negative, internal attributional style, which in turn, may reinforce children's beliefs that they are also bad and responsible for the victimization. Depression is believed to be relatively stable across adolescence and can play an important role in predicting adjustment over time (Prenoveau et al., 2011). Nevertheless, to date, the effects of depression on predicting the longitudinal course of self-blame appraisals following victimization has yet to be examined.

1.4. Child demographic characteristics

The influence of demographic characteristics, such as age, sex, and race, on the development of self-blame appraisals is complex. Although adolescence is considered a critical period for the development of self-conscious emotions and beliefs (Hankin et al., 2008; Kessler et al., 2001), even preschool age-children form causal attributions about their own and other's behaviors (Lewis et al., 1992; Mills, 2005; Shaver, 2012). Across age groups, past research has produced conflicting findings in levels of self-blame across child sex, with some studies finding no differences (Hunter et al., 1993; Mcgee et al., 2001; Mezulis et al., 2006), some higher levels among girls

(Kerig, 1999; Miller et al., 2012, 2014), and some higher levels among boys (Dadds et al., 1999; Richmond & Stocker, 2007). Similarly, past research indicates inconsistent findings across race and ethnicity in levels of self-blame, with some evidence that White children report higher levels (Feiring et al., 2001) and some evidence that racial/ethnic minority children report higher levels (Sawrikar & Katz, 2017). Cultural beliefs such as patriarchal hierarchical structures, shame-based ideals, and beliefs around masculinity and power have been implicated as possible reasons for the variability in self-blame across gender and race/ethnicity (Witherspoon, 2024), although these have yet to be empirically examined among children reported for family violence. Altogether, this suggests additional research is needed to understand the role of children's demographic characteristics in the development and maintenance of children's self-blame appraisals.

1.5. Current study

The current study examined the longitudinal predictors of children's self-blame appraisals among a sample of children reported for family violence. Specifically, we examined the influence of characteristics of the victimization (physical injury, number of perpetrators, and number of victimization types), caregiver-child conflict, depression, and demographic characteristics (age, sex, and race/ethnicity), on the development and course of self-blame appraisals in the 2 years following a report for family violence. The present study contributes to the literature in two main ways: (1) it examines the associations between self-blame appraisals and multiple victimization experiences, as opposed to a single victimization type, and (2) it examines these associations over 2 years across three assessment time points among families referred to the United States (US) Navy's Family Advocacy Program due to allegations of child physical abuse, child sexual abuse, or intimate partner violence.

For our first aim we examined the univariate associations between characteristics of the victimization, caregiver-child conflict, depression, and child age, sex, and race, with baseline levels of self-blame appraisals. We hypothesized that victimization that involved physical injury, a greater number of perpetrators, multiple victimization types, caregiver-child conflict, and depression symptoms would be positively correlated with children's self-blame appraisals. For our second aim we examined whether these same associations persisted when each variable was examined simultaneously in a multilevel model predicting linear increases in children's self-blame appraisals over time. Given the conflicting theory and literature on child demographic characteristics, we did not make directional hypotheses regarding their effects, but explored their influence on children's self-blame appraisals. We also explored whether the demographic characteristics moderated the change in self-blame appraisals over time.

2. Methods

2.1. Participants and procedures

Data for the present study were collected as part of the Navy Family Study (NFS) – an assessment study of family violence and functioning conducted with 530 families from 12 naval bases who had been reported to the US Navy's Family Advocacy Program due to allegations of child sexual abuse (19 %), child physical abuse (39 %), or intimate partner violence (43 %) (Banyard et al., 2008; Grasso et al., 2013; Nugent et al., 2009; Saunders, 2003). At the time of the study, the Family Advocacy Program provided and coordinated support for families and dependents of military personnel, similarly to civilian Child Protective Services. Referrals could be made by family members, superior officers, teachers, or other members of the community any time there was suspected child abuse (sexual or physical) or domestic violence. Due to the volume of referrals, potentially eligible participants referred for physical abuse and intimate partner violence were randomly sampled, while all families referred for incidents of child sexual abuse were contacted for study participation. Allegations did not have to be substantiated for participants to be included in the study. Fewer than 25 % of families contacted by research staff refused participation in the study.

All families included two parents who had been romantically involved with each other for at least 6 months, and both were acting in a parental capacity to a child for at least six months prior to the report to the Family Advocacy Program. In all cases, the alleged offending parent was an active Navy service member at the time of the referral to the Family Advocacy Program. Children aged 7 years and older completed self-report assessments. Of the 530 families included in the original NFS, 245 (46 %) had children who were too young to complete the child self-report assessment (i.e., <7 years old). Among the eligible children (N = 285), nearly 70 % completed the baseline assessment resulting in the current sample of n = 195. Based on reports from the non-offending parent, there were no differences across child age, sex, or race in those who completed the baseline assessment (n = 195) compared to those children who did not participate (n = 90), ps > .05. Children who completed the baseline assessment were less likely to be referred for intimate partner violence (33 %) compared to those children who did not participate in the assessment (45 %), χ^2 (2) = 8.66, p = .013.

Families provided consent and all children provided assent to participate in the study. All assessments were conducted by trained interviewers in a safe and private location. All procedures were approved by institutional review boards at the University of New Hampshire, Wellesley College, and the Medical University of South Carolina. Baseline assessments took place within 2 to 6 weeks of the Family Advocacy Program referral. Participants completed follow-up assessments at 9–12 months (T2) and 18–24 months (T3). Of the 195 families who completed the baseline assessment, 136 (70 %) completed the T2 assessment and 81 (42 %) completed the T3 assessment.

Children ranged in age from 7 to 17 years old at the baseline assessment (M = 12.17, SD = 3.11), and the majority identified as female (63 %). Approximately 52 % of the children identified as White, 30 % as Black/African American, 4 % Filipino, 2 % Asian American, 3 % Hispanic/Latino, and 9 % as Biracial.

2.2. Measures

2.2.1. Self-blame (Baseline, T2, T3)

Children completed the Children's Attributions and Perceptions Scale (CAPS) (Mannarino et al., 1994) at each time point. Self-blame appraisals were assessed on the 4-item Personal Attributions for Negative Events subscale. Children reported how often they blamed themselves for negative events (e.g., "If something bad happens, are you usually responsible (is it your fault)?") on a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always). Items were summed to create a total score. CAPS scores have been found to be positively correlated with adjustment problems among girls who have been sexually abused (Mannarino & Cohen, 1996). In the current sample coefficient alpha was 0.78 at baseline, 0.77 at T2, and 0.71 at T3.

2.2.2. Victimization characteristics (Baseline)

Children completed a semi-structured interview (Kilpatrick et al., 2003) about their experience of victimization, including sexual abuse, physical assault, witnessing community violence, and exposure to domestic violence. Children reported whether they experienced physical injury, the number of perpetrators, and the number of victimization types. Victimization characteristics were aggregated across all victimization experiences. Physical injury was coded dichotomously such that 0 = no injury, 1 = injury. The number of perpetrators was coded continuously, with higher numbers indicating a higher number of alleged perpetrators. Each type of victimization (i.e., sexual abuse, physical abuse, physical assault, witnessing community violence, and exposure to domestic violence) reported at baseline was coded dichotomously (e.g., 0 = no history of sexual abuse, 1 = experienced sexual abuse) and summed to create the total number of lifetime victimization event types.

2.2.3. Caregiver-child conflict (Baseline)

Children completed the 9-item Negative Parental Behavior subscale of the Parent Perception Inventory (PPI) (Hazzard et al., 1983) assessing the frequency of caregiver-child conflict (e.g., "How often does your parent get mad at you, yell at you, holler at you, scream at you, shout at you?"). Scores are made on a 5-point scale (0 = never, 1 = a little, 2 = sometimes, 3 = pretty much, 4 = a lot) and are summed to create a total score. Scores on the PPI have been positively correlated with child adjustment problems (Glaser et al., 1995). In the current sample coefficient alpha was 0.81.

2.2.4. Depression (Baseline)

Children completed the 27-item Children's Depression Inventory (CDI) (Kovacs, 1985) reporting on their current depression symptoms (e.g., "I am sad once in a while/I am sad many times/I am sad all the time"). Items are scored on a scale of 0 to 2 and are summed to create a total score. Scores on the CDI of 17 or higher indicate clinical levels of depression symptoms (Reynolds, 1998). CDI scores have demonstrated measurement invariance across child age (Stumper et al., 2019). In the current sample coefficient alpha was 0.87.

2.3. Data analysis

We first conducted a missing values analysis across the follow-up assessment variables at T2 and T3, which indicated that Little's test of Missing Completely at Random (MCAR) (Little, 1988) was not significant, $X^2 = 6.36$, DF = 19, p = .99. Therefore, we did not find evidence to suggest the data collected at the follow-up assessment were not MCAR. We also conducted t-tests and chi-square analyses and found no differences at baseline across the study variables between participants who completed the follow-up assessments compared to those who did not (ps > .05).

To evaluate our first aim, we examined the univariate correlations between each of our independent variables (physical injury, number of perpetrators, number of victimization types, caregiver-child conflict, depression, child age, sex, and race) and baseline levels of children's self-blame appraisals. To evaluate our second aim, we used repeated measures multilevel modeling (MLM) as it includes all subjects, regardless of missing data, thereby increasing power and generalizability of results. Repeated measures assessed at each of the 3 time points (baseline, 9–12 months, and 18–24 months) were nested within individuals. We used restricted maximum likelihood estimation. As recommended by Heck and colleagues (Heck et al., 2013), we explored various growth curve models for each variable in the analyses including liner, quadratic, logarithmic, and hyperbolic models. Comparison of Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) scores indicated that the linear growth curve best fit the data and was therefore used in the analyses.

To evaluate the predictors of self-blame over time we conducted a single MLM analysis. The fixed effect of time, physical injury, number of perpetrators, number of victimization types, caregiver-child conflict, depression, child age, sex, and race were entered simultaneously into the model to predict self-blame appraisals. These analyses allowed us to examine the effects of each of the predictors on the within-person changes in the slope of self-blame over time, above and beyond the other variables in the model. To explore whether the demographic characteristics of child age, sex, or race moderated the effect of time on self-blame appraisals we added the interaction terms between $Age \times Time$, $Sex \times Time$, and $Race \times Time$ to the MLM model.

Table 1 Frequencies of victimization experiences.

	Total		
	M (SD)	Range	
Number of lifetime victimization types	2.26 (1.42)	0–5	
Number of perpetrators	2.64 (1.64)	0–7	
	N	%	
Victimization type			
Sexual abuse	57	29 %	
Physical abuse	67	34 %	
Physical assault	94	48 %	
Witnessing community violence	137	70 %	
Exposure to domestic violence	85	44 %	
Number of perpetrators			
0	23	12 %	
1	31	16 %	
2	36	19 %	
3	41	21 %	
4	40	21 %	
5	17	9 %	
6	6	3 %	
7	1	1 %	
Physical injury			
No injury	142	73 %	
Injury	53	27 %	

Note. N = 195

3. Results

3.1. Descriptive results

The frequency of victimization experiences is reported in Table 1. Nearly a third (27 %) reported their victimization experiences had resulted in a physical injury. Children reported they had experienced victimization from a range of 0 to 7 perpetrators (M = 2.64, SD = 1.64; skewness = 0.09). At baseline, children reported a range of 0 to 5 lifetime victimization types (M = 2.26, SD = 1.42; skewness = 0.29). Nearly 70 % of children reported experiencing more than one type of victimization. Specifically, 29 % reported experiencing sexual abuse, 34 % physical assault, 48 % physical abuse, 70 % witnessed community violence, and 44 % intimate partner violence. Over a third (32 %) reported clinically significant levels of depression symptoms at the baseline assessment.

3.2. Univariate associations with baseline self-blame

Means, standard deviations, and correlations among the study variables are presented in Table 2. Victimization that involved physical injury, r(189) = 0.29, p < .001, a higher number of perpetrators, r(189) = 0.23, p = .001, a higher number of victimization types, r(189) = 0.32, p < .001, higher levels of caregiver-child conflict, r(189) = 0.36, p < .001, and higher levels of depression, r(189) = 0.39, p < .001, were each correlated with higher levels of baseline self-blame appraisals. Neither child age, sex, nor race was correlated with baseline self-blame, ps > .05.

3.3. Predictors of self-blame appraisals over time

Results of the MLM analyses predicting self-blame appraisals are presented in Table 3. Results indicated that, on average, self-blame appraisals did not change over time, b = -0.26, t(133.17) = -0.96, p = .34. When all variables were included simultaneously in the same model, only higher levels of caregiver-child conflict, b = 0.08, t(103.02) = 2.74, p = .007, higher levels of depression, b = 0.06, t(91.54) = 2.54, p = .013, and being male, b = -0.85, t(88.44) = -2.02, p = .047, predicted higher levels of self-blame appraisals over time. The estimated marginal means for the change in self-blame over time by sex is displayed in Fig. 1.

3.4. Exploratory analyses

To explore whether the slope of change in self-blame appraisals differed by child demographic characteristics we added the interaction terms between Age \times Time, Sex \times Time, and Race \times Time to the MLM model predicting self-blame appraisals. Neither age, b = -0.05, t(125.03) = -0.62, p = .54, sex, b = 0.13, t(84.24) = 0.31, p = .76, nor race, b = -0.25, t(80.57) = -0.67, p = .50, moderated the effect of time on self-blame appraisals.

Table 2Means, standard deviations and baseline correlations among study variables.

Variable	1	2	3	4	5	6	7		Mean (SD)
1. Self-blame	-								7.22 (3.20)
2. Physical injury (0 = no, 1 = yes)	0.29***	_							_
3. Number of perpetrators	0.23**	0.35***	_						2.64 (1.64)
4. Number of victimization types	0.32***	0.57***	0.84***	_					2.26 (1.42)
5. Caregiver-child conflict	0.36***	0.08	0.22**	0.24***	_				20.27 (6.50)
6. Depression	0.39***	0.20**	0.16*	0.23**	0.28**	_			12.46 (9.08)
7. Age	0.06	0.15*	0.32***	0.36***	0.01	0.03	_		12.17 (2.11)
8. Sex $(1 = male, 2 = female)$	0.04	0.09	0.20**	0.27***	0.10	0.21**	0.22**	_	_
9. Race (0 = non-White, $1 = White$)	-0.05	0.06	-0.05	0.01	-0.03	-0.09	0.01	-0.02	_

Note. N = 195

The current study examined the longitudinal predictors of children's self-blame appraisals among a sample of children referred to the US Navy's Family Advocacy Program following family violence. Our first hypothesis was supported in that, at the univariate level, more severe victimization involving physical injury, a higher number of perpetrators, a higher number of victimization types, higher levels of caregiver-child conflict, and higher levels of depression, were each associated with higher levels of baseline self-blame appraisals. However, after entering each predictor into a single longitudinal model, our second hypothesis was only partially supported. Only baseline caregiver-child conflict and depression predicted increases in self-blame appraisals over time. Among our exploratory

Table 3Multilevel model predicting self-blame appraisals.

Variables	Self-blame					
	b (SE)	t	95 % CI			
Time	-0.26 (0.27)	-0.96	-0.79, 0.28			
Physical injury (0 = no, $1 = yes$)	0.80 (0.44)	1.82	-0.07, 1.67			
Number of perpetrators	0.12 (0.16)	0.77	-0.19, 0.44			
Number of victimization types	0.23 (0.18)	1.26	-0.13, 0.59			
Caregiver-child conflict	0.08 (0.03)	2.74**	0.02, 0.14			
Depression	0.06 (0.02)	2.54*	0.01, 0.10			
Age	-0.00 (0.07)	-0.05	-0.15, 0.14			
Sex $(1 = male, 2 = female)$	-0.85 (0.42)	-2.02*	-1.68, -0.01			
Race ($0 = \text{non-White}$, $1 = \text{White}$)	-0.23 (0.37)	-0.63	-0.98, 0.51			

Note.

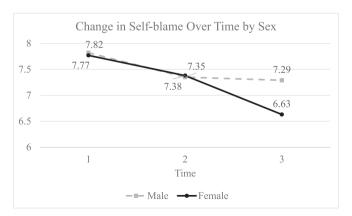


Fig. 1. Change in self-blame over time by sex.

Note. Figure displays estimated marginal means for the change in self-blame across baseline, and the follow-up assessments at 9–12 months (T2) and 18–24 months (T3) by Sex. Being male was associated with higher levels of self-blame appraisals over time, b = -0.85, t(88.44) = -2.02, p = .047.

p < 05.

p < .01. p < .001.

^{4.} Discussion

p < .05.** p < .01.

analyses we found that male youth reported higher levels of self-blame compared to their female counterparts. The present findings extend cross-sectional literature examining the effects of victimization severity, caregiver-child conflict, and depression symptoms on self-blame appraisals following a single type of victimization (e.g., Finkelhor & Browne, 1985; Grych et al., 2003; McDonald & Grych, 2006; Spaccarelli, 1994). Our results suggest efforts to understand and reduce self-blame among children who have experienced family violence should consider assessing for characteristics of the victimization experience, the child's relationship with a nonoffending caregiver, and depressions symptoms to identify children most at risk for adverse outcomes.

The present results may have important implications for agencies, clinicians, and researchers working with children referred for concerns of family violence. Consistent with previous research (Le et al., 2018), children referred for experiencing one type of victimization – family violence – reported experiencing multiple types of victimization. Specifically, nearly 70 % reported experiencing more than one type of victimization. The rates of experiencing the different types of victimization events (e.g., 29 % reporting child sexual abuse) were consistent with prior reports of victimization experienced by nationally representative samples of children (24–32 % reporting child sexual abuse) – particularly when multiple victimization experiences are assessed for in a single sample (Finkelhor et al., 2005). These findings emphasize the need to conduct a detailed assessment of trauma and victimization experiences, and not solely focus on the presenting or index event. This narrowed focus can overlook important information about a child's victimization experience. This finding also holds important implications for legal contexts, which often emphasize a specific event in sentencing, while often excluding other types of victimization experiences.

Findings from the univariate analyses indicated that child age was positively correlated with experiencing victimization that involved physical injury, a higher number of perpetrators, and a higher number of victimization types (see Table 2). This pattern is consistent with previous literature: older children often report more victimization experiences than younger children because they have lived longer (Finkelhor, 2011). Nevertheless, child age was not associated with self-blame appraisals, nor did it moderate the slope of self-blame change over time, suggesting that self-blame does not develop solely as a course of accumulated victimization and life experience. Even young children can develop beliefs that they are responsible or at fault for experiencing violence. Clinicians and researchers should consider assessment of self-blame appraisals among young children.

The univariate findings examining the characteristics of the victimization, particularly the presence of physical injury, also warrant some discussion. Victimization involving physical injury was positively correlated with self-blame appraisals. Although physical injury did not emerge as a significant predictor in the multilevel model, the association between physical injury and self-blame may have some important implications for identification and triaging services across multidisciplinary settings. For example, physicians and technicians in pediatric emergency settings can identify children presenting with physical injuries following family violence and refer for further evaluation, given their heightened risk for developing self-blame appraisals.

The results of the multilevel modeling analyses indicated that baseline caregiver-child conflict and depression symptoms predicted increases in self-blame over time. Following family violence, a child's relationship with a non-offending caregiver can be complex. Developmentally normal caregiver-child conflict, such as disagreeing, arguing, or shouting, may be construed as the caregiver blaming, rejecting, or disbelieving the child, which contributes to the development of children's self-blame appraisals (Spaccarelli, 1994). The present findings suggest that following family violence, children may benefit from parenting interventions aimed at reducing caregiver-child conflict and increasing emotional support. Specifically, programs designed to enhance caregivers' abilities to attentively listen to and comfort their child may help children feel heard, understood, and cared for (Borelli et al., 2016), which in turn can challenge the maladaptive internal dialogue ("I am bad") that sustains self-blame appraisals. Additionally, recent reviews suggest that involving the caregiver in joint sessions of their child's trauma-focused treatment can enhance the effectiveness of the intervention (St-Amand et al., 2022). Enhancing the caregiver-child relationship in these existing interventions may be another way to target selfblame appraisals. However, further research is needed to understand how reducing caregiver-child conflict or enhancing emotional support may affect children's self-blame. Additionally, consistent with theory on depressogenic thinking patterns (Finkelhor & Browne, 1985; Weiner, 1985), present findings suggest depression symptoms may be a risk factor for the development of self-blame appraisals. Importantly, depression and self-blame were only moderately correlated (r = 0.39), suggesting they are measuring unique constructs. Identifying children with high levels of depression symptoms following a referral for family violence may help providers triage clinical services to those most at risk for developing future adjustment problems.

Finally, it is worth noting that that this study focused on global self-blame appraisals, where children reported how often they generally blame themselves for negative events. This broad type of self-blame is considered to be harmful as it reflects the child's characterological beliefs that they are responsible or flawed as a person – and that this may cause them to go on to experience more negative events in the future (Weiner, 1990). However, this global self-blame may be distinct from self-blame specific to a single abuse or victimization experience (i.e., I am responsible for only this one negative event) (Rancher et al., 2022). Some have even argued that abuse-specific self-blame can bolster a sense of autonomy or hopefulness about the future as it allows children to believe they have the power to control events by changing their behavior (Herman, 1992). Future research is still needed to understand whether the associations between global self-blame and the victimization characteristics, family environment, and depression symptoms observed in the present study would also apply to the development and maintenance of abuse-specific self-blame.

This study had several strengths, including a longitudinal assessment of children reported for family violence. Still there are several limitations to consider. First, our findings are based solely on child-report. Although children may be the best reporter of their own beliefs and appraisals, it is possible that common method variance is driving some of the observed associations. We also did not assess for temperament or personality. Given previous research suggesting individuals higher in neuroticism often show more negative appraisals styles (Tong, 2010), it may be important to consider personality traits in future research on self-blame. Further, despite efforts from the research team, there were high levels of attrition across the three assessments. Although we did not observe any differences between those who completed all three assessments compared to those who did not, we cannot rule out the possibility that

our data were biased by unmeasured variables that could differentiate between those who completed every assessment. Specifically, we did not have data on factors such as personnel deployment, promotion cycles, or transfer assignments that may have influenced participants' abilities to complete follow-up assessments. There were also limitations to our assessment of victimization. Notably, we assessed for lifetime prevalence of each different victimization experience, so we were unable to consider the effects of the recency of victimization. It is also possible that the covariance between the number of perpetrators and the number of victimization types affected the MLM analyses. As one might expect, these variables were highly correlated (r = 0.84); however, their variance inflation factors (VIF) were in the moderate range (2.01–2.62) suggesting the overlap in variance was not severe enough to bias the results. Still, future research may consider more robust assessment of victimization experiences, beyond an aggregated count of victimization types.

Finally, there are some limitations to the generalizability and representativeness of the present sample. Foremost, this was a sample of military families referred to the Family Advocacy Program, and it is unclear whether these results would generalize across samples – particularly those where victimization is not reported. Specifically, we cannot rule out the influence that participating in the Family Advocacy Program, or receiving other unmeasured services, may have had on the course of self-blame. It is also important to consider the military context of the present sample. Being in the Navy means at least one parent was employed and had a high school education and the family likely had access to adequate income, housing, and medical care – meaning these families did not have some of the adversities that other civilian populations might experience. Additionally, the small sample size required us to collapse heterogeneous race/ethnicity categories as we compared White children to non-White children. The present sample was also limited to binary comparisons across child sex as the original data collection did not include a thorough assessment of child gender identity. We also did not have an assessment of sexual orientation or differing ability levels. Given findings that transgender, gender nonconforming, LGBTQ+ children, and those with developmental disabilities are at increased risk for child abuse and its negative sequelae (McDonnell et al., 2019; Tobin & Delaney, 2019), it is important for future research to include more representative samples.

5. Conclusions

In a highly victimized sample of youth from military families in the United States, victimization characteristics, caregiver-child conflict, and depression symptoms were associated with baseline self-blame appraisals. Longitudinal analyses over the course of 2 years suggested that higher levels of baseline caregiver-child conflict and child depression may be particularly important factors for identifying children who will develop self-blame appraisals. Longitudinal research on self-blame appraisals is lacking in the child victimization literature. The current findings suggest clinical interventions and research efforts should consider assessment of the victimization experience and family relationships to identify children who will go on to develop high levels of self-blame. Understanding predictors of self-blame is a critical step to mitigating adverse mental health consequences associated with child victimization.

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Data availability

Neither the data nor the materials have been made available on a permanent third-party archive; requests for the data or materials can be sent via email to the lead author.

References

- Aaron, M. (2012). The pathways of problematic sexual behavior: A literature review of factors affecting adult sexual behavior in survivors of childhood sexual abuse. Addiction & Compulsivity, 19(3), 199–218. https://doi.org/10.1080/10720162.2012.690678
- Banyard, V. L., Williams, L. M., Saunders, B. E., & Fitzgerald, M. M. (2008). The complexity of trauma types in the lives of women in families referred for family violence: Multiple mediators of mental health. *The American Journal of Orthopsychiatry*, 78, 394–404. https://doi.org/10.1037/a0014314
- Beitchman, J. H., Zucker, K. J., Hood, J. E., DaCosta, G. A., Akman, D., & Cassavia, E. (1992). A review of the long-term effects of child sexual abuse. Child Abuse & Neglect, 16(1), 101–118. https://doi.org/10.1016/0145-2134(92)90011-F
- Borelli, J. L., St. John, H. K., Cho, E., & Suchman, N. E. (2016). Reflective functioning in parents of school-aged children. *The American Journal of Orthopsychiatry*, 86, 24–36. https://doi.org/10.1037/ort0000141
- Brown, E. J., Cohen, J. A., & Mannarino, A. P. (2020). Trauma-focused cognitive-behavioral therapy: The role of caregivers. *Journal of Affective Disorders*, 277, 39–45. https://doi.org/10.1016/j.jad.2020.07.123
- Cabbigat, F. K., & Kangas, M. (2018). Parental relations and family functioning in non-offending caregivers of abused children. *Journal of Child and Family Studies*, 27 (4), 1287–1298. https://doi.org/10.1007/s10826-017-0972-5
- Celano, M., Hazzard, A., Campbell, S. K., & Lang, C. B. (2002). Attribution retraining with sexually abused children: Review of techniques. *Child Maltreatment*, 7(1), 64–75. https://doi.org/10.1177/1077559502007001006
- Dadds, M. R., Atkinson, E., Turner, C., Blums, G. J., & Lendich, B. (1999). Family conflict and child adjustment: Evidence for a cognitive-contextual model of intergenerational transmission. *Journal of Family Psychology, 13*, 194–208. https://doi.org/10.1037/0893-3200.13.2.194
- Evans, K. E., Schmidt-Sane, M. M., Bender, A. E., Berg, K. A., & Holmes, M. R. (2022). Children's exposure to intimate partner violence and acceptance or appraisals of IPV: A systematic review. *Journal of Family Violence*, 37(8), 1301–1319. https://doi.org/10.1007/s10896-021-00318-w
- Feiring, C., Coates, D. L., & Taska, L. S. (2001). Ethnic status, stigmatization, support, and symptom development following sexual abuse. *Journal of Interpersonal Violence*, 16(12), 1307–1329. https://doi.org/10.1177/088626001016012005

- Finkelhor, D. (2011). Prevalence of child victimization, abuse, crime, and violence exposure. In Violence against women and children, Vol 1: Mapping the terrain (pp. 9–29). American Psychological Association. https://doi.org/10.1037/12307-001.
- Finkelhor, D., & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. *The American Journal of Orthopsychiatry*, 55, 530–541. https://doi.org/10.1111/j.1939-0025.1985.tb02703.x
- Finkelhor, D., Ormrod, R. K., Turner, H. A., & Hamby, S. L. (2005). Measuring poly-victimization using the Juvenile Victimization Questionnaire. Child Abuse & Neglect, 29(11), 1297–1312. https://doi.org/10.1016/j.chiabu.2005.06.005
- Glaser, B. A., Horne, A. M., & Myers, L. L. (1995). A cross-validation of the parent perception inventory. *Child and Family Behavior Therapy*, 17(1), 21–34. https://doi.org/10.1300/J019v17n01.02
- Grasso, D. J., Saunders, B. E., Williams, L. M., Hanson, R., Smith, D. W., & Fitzgerald, M. M. (2013). Patterns of multiple victimization among maltreated children in Navv families. *Journal of Traumatic Stress*, 26(5), 597–604. https://doi.org/10.1002/jts.21853
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108, 267–290. https://doi.org/10.1037/0033-2909.108.2.267
- Grych, J. H., & Fincham, F. D. (1993). Children's appraisals of marital conflict: Initial investigations of the Cognitive-Contextual Framework. Child Development, 64(1), 215–230. https://doi.org/10.2307/1131447
- Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. Child Development, 74(4), 1176–1193. https://doi.org/10.1111/1467-8624.00600
- Hankin, B. L., Wetter, E., & Cheely, C. (2008). Sex differences in child and adolescent depression: A developmental psychopathological approach. In *Handbook of depression in children and adolescents* (pp. 377–414). The Guilford Press. https://doi.org/10.1007/978-1-4899-1510-8.
- Hazzard, A., Christensen, A., & Margolin, G. (1983). Children's perceptions of parental behaviors. *Journal of Abnormal Child Psychology*, 11(1), 49–59. https://doi.org/10.1007/BF00912177
- Heck, R. H., Thomas, S. L., & Tabata, L. N. (2013). Multilevel and longitudinal modeling with IBM SPSS (2nd ed.). Routledge. https://doi.org/10.4324/9780203701249 Herman, J. L. (1992). Trauma and recovery: From domestic abuse to political terror (Repr). Pandora.
- Hunter, J., John, A., Goodwin, D. W., & Wilson, R. J. (1993). Attributions of blame in child sexual abuse victims: An analysis of age and gender influences. *Journal of Child Sexual Abuse*. 1(3), 75–89. https://doi.org/10.1300/J070v01n03_06
- Ironson, G., Fitch, C., Banerjee, N., Hylton, E., Ivardic, I., Safren, S. A., & O'Cleirigh, C. (2019). Posttraumatic cognitions, childhood sexual abuse characteristics, and posttraumatic stress disorder in men who have sex with men. Child Abuse & Neglect, 98, Article 104187. https://doi.org/10.1016/j.chiabu.2019.104187
- Janoff-Bulman, R. (1979). Characterological versus behavioral self-blame: Inquiries into depression and rape. *Journal of Personality and Social Psychology*, 37, 1798–1809. https://doi.org/10.1037/0022-3514.37.10.1798
- Jouriles, E. N., Rancher, C., Mahoney, A., Kurth, C., Cook, K., & McDonald, R. (2020). Divine spiritual struggles and psychological adjustment among adolescents who have been sexually abused. *Psychology of Violence*, 10, 334–343. https://doi.org/10.1037/vio0000274
- Jouriles, E. N., Sitton, M. J., Adams, A., Jackson, M., & McDonald, R. (2022). Non-supportive responses to adolescents who have experienced sexual abuse: Relations with self-blame and trauma symptoms. Child Abuse & Neglect, 134, Article 105885. https://doi.org/10.1016/j.chiabu.2022.105885
- Kellogg, N. D., Koek, W., & Nienow, S. M. (2020). Factors that prevent, prompt, and delay disclosures in female victims of child sexual abuse. Child Abuse & Neglect, 101, Article 104360. https://doi.org/10.1016/j.chiabu.2020.104360
- Kerig, P. K. (1999). Gender issues in the effects of exposure to violence on children. *Journal of Emotional Abuse*, 1(3), 87–105. https://doi.org/10.1300/J135v01n03_05
- Kessler, R. C., Avenevoli, S., & Ries Merikangas, K. (2001). Mood disorders in children and adolescents: An epidemiologic perspective. *Biological Psychiatry*, 49(12), 1002–1014. https://doi.org/10.1016/S0006-3223(01)01129-5
- Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology*, 71, 692–700. https://doi.org/10.1037/0022-006X.71.4.692
- Klebanov, B., Tsur, N., & Katz, C. (2023). "Many bad things had been happening to me": Children's perceptions and experiences of polyvictimization in the context of child physical abuse. Child Abuse & Neglect, 145, Article 106429. https://doi.org/10.1016/j.chiabu.2023.106429
- Kovacs, M. (1985). The Children's Depression, Inventory (CDI). Psychopharmacology Bulletin, 21(4), 995-998. https://pubmed.ncbi.nlm.nih.gov/4089116/.
- Le, M. T. H., Holton, S., Romero, L., & Fisher, J. (2018). Polyvictimization among children and adolescents in low- and lower-middle-income countries: A systematic review and meta-analysis. *Trauma, Violence & Abuse, 19*(3), 323–342. https://doi.org/10.1177/1524838016659489
- Lemaigre, C., Taylor, E. P., & Gittoes, C. (2017). Barriers and facilitators to disclosing sexual abuse in childhood and adolescence: A systematic review. Child Abuse & Neglect, 70, 39–52. https://doi.org/10.1016/j.chiabu.2017.05.009
- Lewis, M., Alessandri, S. M., & Sullivan, M. W. (1992). Differences in shame and pride as a function of children's gender and task difficulty. *Child Development*, 63(3), 630–638. https://doi.org/10.1111/j.1467-8624.1992.tb01651.x
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198–1202. https://doi.org/10.1080/01621459.1988.10478722
- Mannarino, A. P., & Cohen, J. A. (1996). Abuse-related attributions and perceptions, general attributions, and locus of control in sexually abused girls. *Journal of Interpersonal Violence*, 11(2), 162–180. https://doi.org/10.1177/088626096011002002
- Mannarino, A. P., Cohen, J. A., & Berman, S. R. (1994). The children's attributions and perceptions scale: A new measure of sexual abuse-related factors. *Journal of Clinical Child Psychology*, 23(2), 204–211. https://doi.org/10.1207/s15374424jccp2302_9
- McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology*, 20, 88–99. https://doi.org/10.1037/0893-3200.20.1.88
- McDonnell, C. G., Boan, A. D., Bradley, C. C., Seay, K. D., Charles, J. M., & Carpenter, L. A. (2019). Child maltreatment in autism spectrum disorder and intellectual disability: Results from a population-based sample. *Journal of Child Psychology and Psychiatry*, 60(5), 576–584. https://doi.org/10.1111/jcpp.12993
- Mcgee, R., Wolfe, D., & Olson, J. (2001). Multiple maltreatment, attribution of blame, and adjustment among adolescents. *Development and Psychopathology*, 13(4), 827–846. https://doi.org/10.1017/S0954579401004059
- Melville, J. D., Kellogg, N. D., Perez, N., & Lukefahr, J. L. (2014). Assessment for self-blame and trauma symptoms during the medical evaluation of suspected sexual abuse. Child Abuse & Neglect, 38(5), 851–857. https://doi.org/10.1016/j.chiabu.2014.01.020
- Mezulis, A. H., Hyde, J. S., & Abramson, L. Y. (2006). The developmental origins of cognitive vulnerability to depression: Temperament, parenting, and negative life events in childhood as contributors to negative cognitive style. *Developmental Psychology*, 42, 1012–1025. https://doi.org/10.1037/0012-1649.42.6.1012
- Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2012). Predictors of preschoolers' appraisals of conflict in families experiencing intimate partner violence. Journal of Interpersonal Violence, 27(3), 568–586. https://doi.org/10.1177/0886260511421675
- Miller, L. E., Howell, K. H., & Graham-Bermann, S. A. (2014). Developmental changes in threat and self-blame for preschoolers exposed to intimate partner violence. Journal of Interpersonal Violence, 29(9), 1535–1553. https://doi.org/10.1177/0886260513511533
- Mills, R. S. L. (2005). Taking stock of the developmental literature on shame. Developmental Review, 25(1), 26-63. https://doi.org/10.1016/j.dr.2004.08.001
- Nugent, N. R., Saunders, B. E., Williams, L. M., Hanson, R., Smith, D. W., & Fitzgerald, M. M. (2009). Posttraumatic stress symptom trajectories in children living in families reported for family violence. *Journal of Traumatic Stress*, 22(5), 460–466. https://doi.org/10.1002/jts.20440
- Prenoveau, J. M., Craske, M. G., Zinbarg, R. E., Mineka, S., Rose, R. D., & Griffith, J. W. (2011). Are anxiety and depression just as stable as personality during late adolescence? Results from a three-year longitudinal latent variable study. *Journal of Abnormal Psychology*, 120, 832–843. https://doi.org/10.1037/a0023939
- Rancher, C., McDonald, R., Kamata, A., Jackson, M., & Jouriles, E. N. (2022). Self-blame in adolescents who have been sexually abused: Factor structure and differential correlates of abuse-specific and global measures. Assessment, 29(8), 1676–1685. https://doi.org/10.1177/10731911211027632
- Reynolds, W. M. (1998). Depression. In A. S. Bellack, & M. Hersen (Eds.), Comprehensive clinical psychology (pp. 419–461). Pergamon. https://doi.org/10.1016/B0080-4270(73)00135-8.

- Rhoades, K. A. (2008). Children's responses to interparental conflict: A meta-analysis of their associations with child adjustment. *Child Development*, 79(6), 1942–1956. https://doi.org/10.1111/j.1467-8624.2008.01235.x
- Richmond, M. K., & Stocker, C. M. (2007). Changes in children's appraisals of marital discord from childhood through adolescence. *Journal of Family Psychology*, 21, 416–425. https://doi.org/10.1037/0893-3200.21.3.416
- Saunders, B. E. (2003). Understanding children exposed to violence: Toward an integration of overlapping fields. *Journal of Interpersonal Violence*, 18(4), 356–376. https://doi.org/10.1177/0886260502250840
- Sawrikar, P., & Katz, I. (2017). The treatment needs of victims/survivors of child sexual abuse (CSA) from ethnic minority communities: A literature review and suggestions for practice. Children and Youth Services Review, 79, 166–179. https://doi.org/10.1016/j.childyouth.2017.06.021
- Shaver, K. G. (2012). The attribution of blame: Causality, responsibility, and blameworthiness. Springer Science & Business Media.
- Smith, D. W., Sawyer, G. K., Heck, N. C., Zajac, K., Solomon, D., Self-Brown, S., ... Ralston, M. E. (2017). Psychometrics of a child report measure of maternal support following disclosure of sexual abuse. *Journal of Child Sexual Abuse*, 26(3), 270–287. https://doi.org/10.1080/10538712.2017.1296915
- Spaccarelli, S. (1994). Stress, appraisal, and coping in child sexual abuse: A theoretical and empirical review. *Psychological Bulletin, 116*, 340–362. https://doi.org/10.1037/0033-2909.116.2.340
- Spaccarelli, S. (1995). Measuring abuse stress and negative cognitive appraisals in child sexual abuse: Validity data on two new scales. *Journal of Abnormal Child Psychology*, 23(6), 703–727. https://doi.org/10.1007/BF01447473
- St-Amand, A., Servot, S., Pearson, J., & Bussières, È.-L. (2022). Effectiveness of interventions offered to non-offending caregivers of sexually abused children: A meta-analysis. Canadian Psychology/Psychologie Canadienne, 63, 339–356. https://doi.org/10.1037/cap0000296
- Stumper, A., Olino, T. M., Abramson, L. Y., & Alloy, L. B. (2019). A factor analysis and test of longitudinal measurement invariance of the Children's Depression Inventory (CDI) across adolescence. *Journal of Psychopathology and Behavioral Assessment*, 41(4), 692–698. https://doi.org/10.1007/s10862-019-09746-x
- Theimer, K., Mii, A. E., Sonnen, E., McCoy, K., Meidlinger, K., Biles, B., ... Hansen, D. J. (2020). Identifying and addressing barriers to treatment for child sexual abuse survivors and their non-offending caregivers. Aggression and Violent Behavior, 52, Article 101418. https://doi.org/10.1016/j.avb.2020.101418
- Tobin, V., & Delaney, K. R. (2019). Child abuse victimization among transgender and gender nonconforming people: A systematic review. *Perspectives in Psychiatric Care*, 55(4), 576–583. https://doi.org/10.1111/ppc.12398
- Tong, E. M. W. (2010). Personality influences in appraisal–emotion relationships: The role of neuroticism. *Journal of Personality*, 78(2), 393–417. https://doi.org/10.1111/j.1467-6494.2010.00620.x
- Ullman, S. E., Peter-Hagene, L. C., & Relyea, M. (2014). Coping, emotion regulation, and self-blame as mediators of sexual abuse and psychological symptoms in adult sexual assault. *Journal of Child Sexual Abuse*, 23(1), 74–93. https://doi.org/10.1080/10538712.2014.864747
- Valle, L. A., & Silovsky, J. F. (2002). Attributions and adjustment following child sexual and physical abuse. Child Maltreatment, 7(1), 9–24. https://doi.org/10.1177/1077559502007001002
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92, 548–573. https://doi.org/10.1037/0033-295X.92.4.548 Weiner, B. (1990). Attribution in personality psychology. In *Handbook of personality: Theory and research* (pp. 465–485).
- Witherspoon, N. (2024). Predictors of trauma-related self-blame in male survivors of nonconsensual sexual event(s). 30250324. Alliant International University ProQuest Dissertations Publishing.