

RESEARCH ARTICLE

Prevalence and Impact of Trauma in a Diverse Head Start Sample

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This study investigated the prevalence and nature of traumatic events experienced by an ethnically diverse sample of Head Start preschoolers (ages 3-5), as rated by their caregivers (N=66), and how experiencing trauma varies by ethnicity. Traumatic impact as influenced by age at the event, number of events experienced (*polyvictimization*), and frequency of experiencing events is discussed. Eighty-five percent of children had experienced trauma. There were no ethnic differences in trauma prevalence. Caregivers rated traumatic impact as more severe for children who had experienced multiple types of events and for those who experienced traumatic events more frequently. Intervention implications are discussed.

Keywords: Head Start trauma, preschool trauma, trauma impact, trauma prevalence, young children

Research indicates that young children are the least able to defend themselves from the effects of trauma, yet they experience traumatic events at a much higher rate than the general population. One third of child victims of maltreatment are under the age of four (United States Department of Health and Human Services [HHS], 2009). Sadly, however, symptoms associated with or suggesting Posttraumatic Stress Disorder (PTSD) often go unnoticed or misdiagnosed in young children (Levine and Kline, 2006). The present study investigated the prevalence, nature, and degree of impact of traumatic events in Head Start preschoolers' lives.

Trauma in the Head Start Population

Head Start and Early Head Start preschool programs are often the first chances a child will have to receive trauma treatment. Two studies have measured the prevalence of exposure to trauma in Head Start. Graham-Bermann and Seng (2005) found that 65% (N=160) of children had been exposed to at least one incident of community violence, and 47% had been exposed to at least one incident of family violence. In another study of 500 ethnically diverse Head Start families in Miami Dade County, parents reported that 30% of children had witnessed community violence,

and over 60% of children had experienced at least one traumatic event during their lives (Beeber et al., 2007).

The rate of exposure to trauma among children living in poverty and belonging to an ethnic minority is elevated compared with the general population. A study by Briggs-Gowan and colleagues (2010) concluded that among young children (ages 1-3), 49% of children living in poverty had experienced trauma compared with 26% of the full sample. In 2009, 60% of Head Start's preschoolers were from ethnic minority families, almost all of which were living below the poverty line or were on public assistance (HHS, 2009). National survey data show that children belonging to minority ethnic groups, specifically African Americans, experience trauma at higher rates than the population as a whole (HHS, 2009; Turner, Finkelhor, Ormrod & Turner, 2006).

Defining Trauma

Trauma is not an event, but rather the nervous system's response to an event (Levine, 1997). This signifies that an event may be perceived as traumatic by one child but not by another child. The effects of an event on a child may differ according to the frequency and nature of the event.

Frequency: Single Episode versus Cumulative Traumatic Events.

Acute single traumatic episodes such as exposure to natural disasters, severe car accidents or violent assaults, have traditionally been the focal point of trauma research and school-based intervention (Salloum & Overstreet, 2008; Goenjian et al., 2001). However, research shows that a traumatic event that happens repeatedly, such as neglect or witnessing domestic violence, has the potential to have a cumulative negative effect. Therefore, the more exposure to trauma a person has, the more severe the reaction tends to be (DeBellis & Kuchibhatla, 2006), even if the child is not the direct victim of the event (Margolin & Vickerman, 2007).

Whereas single and cumulative traumas can both cause severe symptoms, research shows that the worst symptoms occur when children repeatedly experience multiple forms of a variety of distinct traumatic experiences (known as *polyvictimization*). In a large sample of children ages 2-18, Finkelhor, Ormrod and Turner (2007) found that of the 70% of children who had been victimized during the present year, 64% had experienced at least one additional, different kind of victimization during the same year. Polyvictimization was correlated to a heightened prevalence of trauma symptoms measured up to a year after the incidents. This effect has been shown in children of all ages. Chemtob and colleagues (2008) found that preschool children who witnessed the events of September, 11, 2001 were significantly at risk for anxiety, depression, and attention problems in preschool *only* if they had a previous history of other trauma.

Nature of Event: Interpersonal versus Non-interpersonal Trauma

The effects of trauma on a child also depend on the nature of the event. Noninterpersonal events do not involve another person purposefully harming the victim (i.e., include being in a car accident, experiencing a natural disaster, or an invasive medical procedure). Interpersonal

trauma occurs between individuals and includes a malicious perpetrator that almost always intends to inflict harm on the victim (Janoff-Bulman, 1992 as cited in Lily, Valdez & Graham-Bermann, 2011). Interpersonal trauma includes sexual or physical abuse, being victimized by violence, traumatic losses, or disruption of a positive relationship with the primary caregiver. While noninterpersonal trauma is the most prevalent in the United States (Kessler, Sonnega, Bromet and Hughes, 1995), interpersonal trauma is more likely than non-interpersonal trauma to lead to the development of PTSD symptoms in adults (Janoff-Bulman, 1992 as cited in Lily, Valdez & Graham-Bermann, 2011; Kessler, Sonnega, Bromet & Hughes, 1995).

Effects of Early Traumatic Stress

Although scientists traditionally believed that young children were too unaware to be affected by trauma, current research shows that this is not true. Terr (1988) found that children as young as 28 months can verbally recount a traumatic experience, even if it occurred before they were able to speak. A child who has experienced a traumatic event may experience recurrent and intrusive distressing memories or dreams of the event, dissociative reactions (e.g. flashbacks), avoidance of traumatic stimuli, and/or negative alterations in cognitions (American Psychiatric Association, 2013). Scheeringa and colleagues (2003) noted that children in Head Start preschool programs who were between the ages of one and three-years old and had been affected by trauma experienced more internalizing and externalizing behaviors as measured on the Child Behavior Checklist (CBCL) internalizing, externalizing and total scales as compared with older children who had experienced similar events. Additionally, children who have experienced trauma may experience developmental delays, such as exhibiting immature play, and the adoption of new fears that are not necessarily directly related to the traumatic events (Wieder, 1994).

Traumatic experiences may also prevent young children from forming secure attachments with the parent or caregiver. This can inhibit the child's ability to trust caregivers and develop normal coping skills, and can lead to overly self-protective behaviors such as avoidance, withdrawal, and anger (Lieberman & Knorr, 2007). Child victims of trauma have a greater chance of being revictimized as adults (Classen, Palesh & Aggarwal, 2005). As Denham, Bassett, Sirotkin, and Zinsser (2013) have demonstrated, emotional regulation and emotional positivity are related to academic achievement and school achievement in young children. Unfortunately, children with PTSD often lack those qualities and in extreme cases may be misdiagnosed as having Attention Deficit Hyperactivity Disorder (ADHD), behavior disorders or even autism, leading to improper treatment (Levine, 1997).

Childhood trauma also physically affects brain development and neurotransmission (Cook, Ciorciari, Varker & Devilly, 2009). Studies show that the amygdala, medial prefrontal cortex, dopamine system, norepinephrin/epinephrine (adrenergic) system, HPA axis, hippocampus and corpus collosum, serotonin system, and endogenous opiate system are affected by trauma (Chu & Lieberman, 2010). Lower baseline cortisol levels have been found in the offspring of Holocaust survivors (Yehuda et al., 2007), and in the infants of mothers who had been abused as children (Brand et al., 2010), while higher cortisol levels were found in children currently experiencing PTSD symptoms (Carrion et al., 2002).

In addition to affecting the systems that are directly related to the stress response system, trauma seems to have a more global effect on brain development (Cook, Ciorciari, Varker & Devilly, 2009). Children with histories of trauma, specifically abuse and neglect, have smaller

brains overall when compared with peers who have not experienced trauma (DeBellis et al., 1999). Although many brain regions have been found to be potentially affected by exposure to trauma (Chu & Lieberman, 2010), regions most salient for performance in school include the cerebellum (implicated in the processes of attention and language), the orbitofrontal cortex (implicated in planning, decision making, executive functioning), and the corpus callosum (responsible for transferring information between the two hemispheres). These structural and functional differences in the cerebellum, the orbitofrontal cortex, and the corpus callosum highlight the fragility of the developmental period to brain development and its susceptibility to the influences of trauma. These structures are intricately connected to mediating or moderating the traumatic response and are yet some of the most susceptible to outside influences during the developmental period, therefore making the experiencing of a trauma at an early age even more likely to persist across the lifespan.

School performance. Experiencing trauma at a young age can put children at risk for negative academic outcomes. Children who have experienced trauma have lower scores on standardized reading, math and science measures when compared with their peers who have not experienced trauma. Exposure to trauma also increases the odds that a child will receive special education services through an Individualized Education Program (IEP; Goodman, Miller, & West-Olatunji, 2012). The ways in which the effects of trauma impact children at school are numerous and can be examined from both cognitive and psychosocial perspectives.

Social and emotional functioning. In thinking about the ways in which children's learning is affected by trauma, we might say that cognitive and neurobiological processes prime a child for experiencing the school environment. Once a child is at school, and is expected to perform according to school expectations, an additional set of psychological, behavioral and social issues may arise. Experiencing trauma puts children at risk for experiencing both internalizing and externalizing symptoms at a higher rate than their peers (Ford, Gagnon, Connor, & Pearson, 2011). Although both genders display both internalizing and externalizing symptoms (often comorbidly) as responses to trauma, girls are more likely to display internalizing symptoms (Costello, Mustillo, Erkanli, Keeler & Angold, 2003) and boys externalizing symptoms (Card, Stucky, Sawalani & Little, 2008).

Internalizing symptoms may or may not be obvious to school personnel, but they have the ability to seriously affect learning and socialization. Depression is at least 3 to 5 times more common in individuals with histories of child maltreatment. Anxiety, specifically in social settings, is also more likely to occur in children who have experienced trauma (Edwards, Holden, Felitti, & Anda, 2003).

Caregiver Rating of Child Trauma Exposure

Research shows that a child's early relationships with his or her parents or primary caregiver are central to the child's later emotional health and well-being. This is especially important for a child who has experienced trauma (Thompson 1999, 2001; Zeenah, 2005). However, parents and primary caregivers often do not identify the severity of impact of a traumatic event on their child. Carter and colleagues (2004) attribute this to the fact that young children do not express responses to trauma in the same way that older children do, and that there is a lack of

developmentally sensitive diagnostic tools for young trauma victims. Also, young victims of trauma tend to exhibit more externalizing behaviors than their older peers (Scheeringa et al., 2003), so many parents and primary caregivers may assume that the child is “acting out” rather than reacting to a traumatic experience. In order for parents and primary caregivers to properly help and maintain a positive relationship with their children who have experienced trauma, they must understand the severity of impact of these events.

PRESENT STUDY

The present study addresses a current gap in the literature by highlighting the importance of the primary caregiver’s interpretation of the impact of traumatic experiences on their children. To inform appropriate trauma-informed mental health interventions for Head Start preschoolers, it is important to understand the prevalence of trauma cases within this population as well as the types of traumatic events experienced and the impact of those events on children. The present study will address three limitations from previous research. First, it will build from previous research done by Graham- Bermann and Seng (2005) to form a more comprehensive account of type and frequency of trauma experienced by preschoolers. Previous studies measuring the prevalence of trauma in Head Start populations, including that by Graham-Bermann and Seng (2005), used scales that were either not reliable or did not truly test the full spectrum of traumatic events. Currently there is no known “gold star” of assessment for trauma affecting preschoolers such as those that exist for other things such as school readiness or social/emotional development and behavior (Graham-Bermann, Castor, Miller, & Howell, 2012). However, understanding a child’s complete trauma history is necessary for proper treatment (Chemtob, Nomura & Abramovitz, 2008). The instrument used in the current study, the Traumatic Events Screening Inventory- Parent Report Revised (TESI-PRR; Ghosh-Ippen et al., 2002) includes a wider range of traumatic events than have previously been queried. As the instrument was administered in interview format, it allowed for caregivers to expand upon responses and provide information that may not have been made available using other methodologies. Second, it will address the confound in previous studies that parents and primary caregivers do not always provide accurate accounts of what their children have experienced and how traumatic events influence them (Graham- Bermann & Seng, 2005; Chemtob, Nomura & Abramovitz, 2008). In the present study, parents are asked to rate how they believe their child was affected by each event so that this confound can be measured empirically and discussed in greater detail. Finally, the present study will inform the practice of those who work with preschoolers that are most at risk of experiencing trauma due to the socioeconomic status of their families. Research shows that children in low-income and ethnic minority families (i.e. Head Start preschoolers) will experience a higher number of traumatic events throughout their lifetimes (Turner, Finkelhor, Ormrod & Turner, 2006; U.S Department of Health and Human Services [HHS], 2009).

Research Questions

The purpose of the present study was to determine the prevalence, nature, and degree of impact of traumatic events in Head Start preschoolers’ lives. The research questions for this study are as follows:

1) What is the prevalence of exposure to potentially traumatic events among 3, 4, and 5 year- old Head Start preschoolers in mid-Michigan? Does the likelihood of experiencing a traumatic event vary by ethnicity?

It is hypothesized that between 60 and 87% of children will be reported by caregivers to have experienced at least one traumatic event, replicating findings by Beeber and colleagues (2007) and Graham-Bermann and Seng (2005). It was also hypothesized that ethnic minority children will be more likely to experience traumatic events when compared to ethnic majority children (Turner, Finkelhor, Ormod & Turner, 2006; HHS, 2009).

2) Does the child's age at the time of the traumatic event influence the degree of impact of the event on the child as rated by the caregiver as measured by caregiver ratings on the TESI-PRR?

It was hypothesized that the younger the child is at the time of the traumatic event, the less severely caregivers will perceive the impact on the child. Even though research now shows that traumatic events can seriously affect young children (Cook, Ciorciari, Varker & Devilly, 2009; DeBellis & Kuchibhatla, 2006), it was hypothesized that caregivers will be more greatly influenced by the historical belief that young children are "too young to remember," or be affected by, traumatic events.

3) Do caregivers of children who have experienced multiple traumatic events (have been *polyvictimized*) rate the impact of these events differently than caregivers of children who have only experienced one traumatic event?

Research suggests that when children repeatedly experience a variety of distinct traumatic events (*polyvictimization*), they are more likely to exhibit trauma symptoms and be affected by future traumatic events than children who have not experienced this variety of events (Finkelhor, Ormrod, & Turner, 2007). It was hypothesized that caregivers of children who have been polyvictimized will rate the impact of each event as more severe than caregivers of children who have not experienced the same variety of traumatic events because they will see their children exhibit a heightened response.

4) Does caregiver rating of impact of the traumatic event vary by nature and frequency of the event?

It is hypothesized that caregivers will rate *interpersonal* events as more traumatic than *non-interpersonal* events and *cumulative* events more traumatic than *single episode* events. Interpersonal traumatic events are most likely to lead to developing PTSD symptoms (Kessler, Sonnega, Bromet & Hughes, 1995; Stein, van der Kolk, Austin, Fayyad & Clary, 2006). DeBellis and Kuchibhatla (2006) found that the more exposure a child has to a negative event, the more severe the reaction will be.

METHOD

Participants

Parents or primary caregivers (N=66) of children aged 3-5 years enrolled in Head Start in a four-county region in Michigan participated in the study. The researcher interviewed primary caregivers using the Traumatic Events Screening Inventory- Parent Report Revised (TESI-PRR; Ghosh-Ippen et al., 2002) either at their child's Head Start site, over the phone, or through a take-home survey. Parents sampled represented 7 classrooms across 4 Head Start sites. The average age of primary caregivers was 30 years (SD=8.39), and their relationship to their child included biological parent, adoptive parent, grandparent, aunt, uncle and legal guardian. The average rate of participation in this study was 63% (ranging 50% to 73% depending on site). Three of the four sites were classified as urban, the fourth was classified as rural. The mean child age within the sample was 3.78 years (SD= 0.57). The majority of children in the sample were identified by their caregivers as black, 47% were identified as white, non-Hispanic. Table 1 shows the complete ethnic composition of the sample.

TABLE 1
Ethnic Composition of Sample

Self-Identified Ethnicity	Percentage of Sample
Ethnic Majority	
White, non-Hispanic	27.27
Ethnic Minority	
Black	46.97
White, Hispanic	16.67
Other	9.10

Measure

A questionnaire based on The Traumatic Events Screening Inventory- Parent Report Revised (TESI-PRR; Ghosh-Ippen et al., 2002) was created to address the research questions within this study. The TESI-PRR has been used to ascertain the presence or absence of significant impact of a traumatic event on children as reported by their parent or primary caregiver (the *respondent*; Chemtob, Nomura and Abramovitz, 2008; Beeber et al., 2007). The scale contains 24 items that focus on the child's direct exposure to or witnessing of, severe accidents, illness or disaster, family or community conflict or violence, and sexual molestation and the child's reaction to each event. If the respondent answers affirmatively to any one of the 24 items, respondents are then asked the question "Was your child strongly affected by one or more of these experiences?" (defined by if the child seemed a] to be extremely frightened; b] to be very confused or helpless; c] to be very shocked or horrified; d] to have difficulty getting back to his or her normal way of behaving or feeling when it was over, OR e] to behave differently in a different way when it was over).

Although the researcher was careful to clearly explain the meaning of “strongly affected,” it is still possible that respondents will vary in their perception of “strongly affected.” Because of this potential confound, the author of the present study added a Likert-type scale to the TESI-PRR. This scale asks respondents to rate the impact of the traumatic event on their child using a 7-point Likert-type scale (1= not at all traumatic, 4= somewhat traumatic, 7=extremely traumatic) in which parents are asked to rate the impact of the event on their child. It is believed that having respondents respond to both questions (strongly affected *and* Likert scale) will strengthen the reliability of the measure. In the case that an event occurred many times, the respondent was asked to consider and rate the most severe incident. The author also added the question, “How many times did this happen?” to each item in order to better understand the frequency of incidence. Finally, this version of the TESI-PRR does not include the item 5.1, “Has someone ever made your child see or do something sexual (like touching in a sexual way, exposing self or masturbating in front of the child, engaging in sexual intercourse)?” due to its excessively graphic nature. If parents/ primary guardians wish to describe an incident of this nature, they can do so during the last item, which asks if the child has experienced any other “stressful experiences” that have not been covered. In this study, trauma will be operationally defined as a response of either a) a response of “yes” on the “was your child strongly affected” item, b) a response of 3 or higher on the Likert-type scale, or c) both a response of “yes” on the “was your child strongly affected” item and a response of 3 or higher on the Likert-type scale.

The TESI-PRR is based on TESI Brief Parent Report Form (TESI-BPRF), but has been altered to be more appropriate for young children. Although psychometric data is still being collected on the TESI-PRR, the original measure the TESI-BPRF has moderate test-retest reliability ($\alpha = .50-.81$) and convergent validity ($\alpha = .81$; Carlson, 1997).

Procedure

In order to produce a representative sample of Head Start families, a multi-stage sampling method was employed. From a total of 32 sites served by the local Head Start agency, a sample of sites were selected based on which had class during the summer and were self-transport due to facility of data collection. Of the sites that met these criteria, four sites were randomly selected, three urban, and one rural. Within the four selected sites, we randomly targeted 7 classrooms out of a possible 10. Each classroom contained an average of 15 students, for a total of 105 students in the targeted sample. Parents or primary guardians of those 105 students were invited to participate in the study either at the child’s Head Start site, over the phone, or by filling out a paper form of the survey. Caregivers were only offered this final option (N=10) if they had been unable to schedule a time to meet either in person or over the phone with the researcher. Caregivers were told initially that they would be answering questions about their child’s life experiences. They were told that they could answer confidentially unless in the case of current child abuse or neglect that would be reported to Child Protective Services. Participants were allowed to not answer any questions that they did not want to and were allowed to discontinue participation at any time. Children were not interviewed, as the study was focused on understanding caregiver perceptions of the effects of traumatic events on children. Each interview that was done in person took place in a private room, and lasted approximately 20 minutes. Respondents indicated their voluntary consent in the study by signing a consent form,

and were given a \$10 gift card for their time and effort in completing the interview. Lead teachers of targeted classrooms were also given a \$10 gift card for their indirect involvement in helping with participant recruitment procedures, although they were not directly involved in the study.

RESULTS

Prevalence of Traumatic Events

Eighty-five percent of children had experienced one or more traumatic event according to parent report. Table 2 presents the percentage of children who have experienced potentially traumatic events as varied by frequency and nature of the events.

TABLE2
Prevalence of Experience One or More Traumatic Event as Rated by the Caregiver

	Number of Events Experienced		Type of Event Experienced		
	One	Multiple	Both Interpersonal and Non-Interpersonal	Only Non-interpersonal	Only Interpersonal
Percent of Total Sample	15%	70%	55%	23%	8%
N	10	46	36	15	5

To compute these percentages, scores were tallied and divided by the total sample size (N=66) for the overall figure (85%) and by the number of children who had experienced one or more potentially traumatic event (N=56) for the frequency and nature estimates. The most frequently reported events were, (a) having a serious medical procedure, being very sick, being seen in the emergency room, or staying in the hospital overnight (N=28; 42%), (b) being away from the primary caregiver for an extended period of time or during a stressful time (N=27; 41%), (c) having a person close to the child who was very sick or injured (N=21; 32%), and (d) seeing, hearing, or hearing about people in the child's family physically fighting (N=20; 30%). Figure 1 shows a complete listing of types of events experienced.

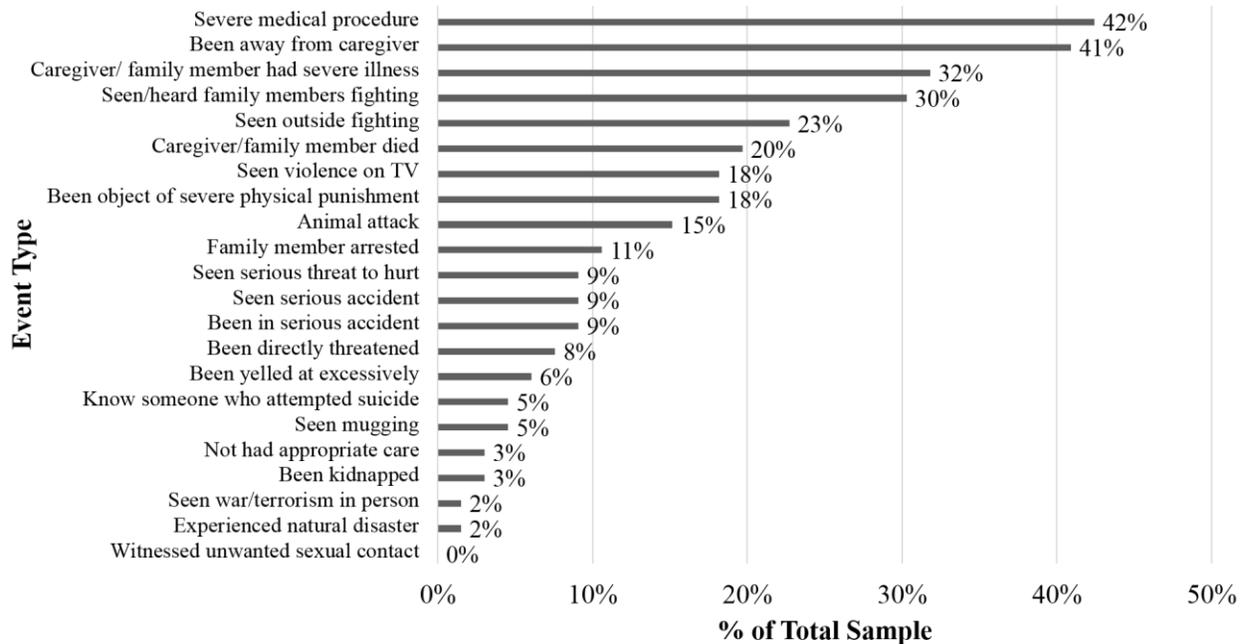


Figure 1. Types of Events Experienced by Young Children as Reported by Primary Caregivers

There were no ethnic differences detected between children in the ethnic majority (Caucasian; N= 11; 83%) versus those in the ethnic minority (all other ethnicities, N= 41; 85%), as both groups had experienced potentially traumatic events at a similar rate $\chi^2(1)=0.04, p=0$.

Logistic Regression Model

As the impact rating scale can be viewed as an ordinal variable, caregiver ratings of impact were explored in an ordinal logistic regression model. This model, which can be considered a multiple logistic regression, is different than the simple logistic regression in that it allows for the measurement of the effects of multiple independent variables on the dependent variable (Hosmer & Lemeshow, 2000). Table 3 explains the variable structure for the model.

Results of this model suggest that frequency of experiencing events is a significant predictor of ratings of traumatic impact, such that every one unit of increase in the frequency rating is correlated to an .22 (p=.036) increase in the ordered log odds of moving to a higher trauma rating category (either from low severity to moderate severity, or moderate severity to high severity) when other predictors are held constant. Further, the ordered log odds for those who have experienced both types of events (interpersonal and non-interpersonal) is 2.30 more than those who have only experienced one type of event when other predictors are held constant (p=.001). There were no significant effects for the child’s age at the time of the event or the caregiver’s ethnicity, except that caregivers who identified as White-Hispanic were had a -2.00 less ordered odds when compared with the White-non-Hispanic reference group.

TABLE 3
Variable Structure for Ordinal Regression Model

<u>Response Variable</u>
Caregiver Trauma Rating
Low Severity (Rating of 1-2 on trauma scale)
Moderate Severity (rating of 2.1-3.9 on trauma scale)
High Severity (rating of 4-7 on trauma scale)
<u>Predictors</u>
Average frequency of events
Child mean age at time of event
Nature of events experienced
Either interpersonal or non-interpersonal
Both interpersonal and non-interpersonal
Caregiver Ethnicity
White, non-Hispanic
Black/African American
White, Hispanic
Asian
Other

Note: This model was shown to significantly improve on the base or “intercept only” model $\chi^2(7)=22.37, p=.002$ (see Table 4 for model summary).

TABLE 4
Model Summary: Ordered Log Odds of Predictors of Caregiver Rating Categories

	Log Odds (SE)	<u>95% Confidence Interval</u>	
		Lower	Upper
Caregiver Ethnicity †			
Black/ African American	-0.74(0.65)	-2.02	0.53
Asian	-0.157(1.50)	-3.02	2.71
White, Hispanic	-2.00(1.00)	-3.02	2.71
Other	1.00(1.40)	-1.70	3.62
Mean Age at Event	0.19(0.39)	-0.60	1.00
Mean Frequency	0.22(.103)*	0.01	0.42
Nature of Event Experienced (either interpersonal OR non-interpersonal) † †	-2.28**	-3.67	-0.89

Note: $R^2=0.37$ (Cox and Snell), 0.41 (Nagelkerke), 0.21 (McFadden). Model $\chi^2(7)=22.37, p=.002$. * $p<.05$, ** $p<.01$
†Reference group: White, non-Hispanic ††Reference group: Nature of Event Experienced (Both interpersonal and non-interpersonal)

Child's Age at the Time of Event

The average age at which children experienced traumatic events was 2.93 years ($SD=0.76$, range 3-48 months). There were no significant age differences among those who had experienced only one type of event (either interpersonal or non-interpersonal; $M=2.80, SD=0.96$) or both types of events ($M=3.01, SD=0.64$) $F(1,51)=1.00, p=0.33$. Across all types of events, there was no

significant relationship between the child's age at the time of the event and the caregiver's rating of impact of the event on the child $r(51)= 0.26, p=0.59$.

Multiple Traumatic Events

A one-way analysis of variance was used to assess the differences among caregiver rating of impact on children who had experienced varying numbers of events. There was a significant effect of number of events experienced on caregiver rating of impact, $F(2,53)=3.41, p=.041$ (see Figure 2), meaning that caregivers rated each event differently based on how many events were experienced.

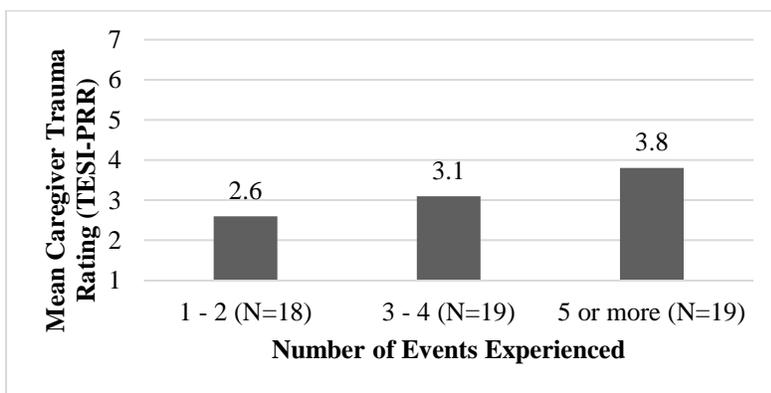


Figure 2. Caregiver Rating of Impact by Number of Events Experienced

A comparison using the Tukey HSD post hoc test revealed that the differences in ratings occurred between those who had experienced 1 or 2 events and those who had experienced more than 5 events ($p=.032$), but there were no significant differences between the two intermediate groups.

Nature of the Event

Items on the TESI-PRR were classified into groups based on the nature of the events they measure (interpersonal vs. non-interpersonal). For those who had experienced both types of events ($N=36; 64%$), there were no significant differences between the mean ratings of impact on interpersonal ($M=3.36, SD=1.73$) and non- interpersonal ($M=3.44, SD=1.76$) event items $t(35)=.30, p=0.77$. However, an analysis of covariance (ANCOVA) suggests that, controlling for the frequency of experiencing event, the average caregiver rating of impact was greater for those children who had experienced both types of events ($M=3.58, SD= 1.32$) versus those who had only experienced one type of event ($M=2.49, SD=1.47$) $F(1,51)=7.78, p=.007$.

DISCUSSION

The present study tested four research questions related to the prevalence, nature and degree of impact of traumatic events on Head Start preschoolers (N=66). Eighty-five percent (N=56) of caregivers reported that their children had experienced one or more traumatic event, of which 82% had experienced more than one event. The findings from this study closely align with previous research estimating the prevalence of traumatic events in this population, suggesting that between 60% and 87% of Head Start preschoolers had experienced at least one traumatic event (Beeber, et al., 2007; Graham-Bermann & Seng, 2005). It is likely that the estimate is higher than that made by Graham-Bermann and Seng (2005; 78% of Head Start preschoolers from Michigan) because the instrument used in the present study, an adapted version of the Traumatic Events Screening Inventory-Parent Report Revised (TESI-PRR), inquired about a broader range of potentially traumatic events (both interpersonal and non-interpersonal) than previously used instruments. Experiencing non-interpersonal events (i.e., a natural disasters or car accidents) was more common (27%) than experiencing interpersonal events (9% i.e., abuse). However, the majority of children had experienced both (N=36; 64%). This is consistent with research suggesting that non-interpersonal events are more commonly experienced (Resnick, Kilpatrick, Dansky, Saunders & Best, 1993).

Contrary to previous findings (Turner, Finkelhor, Ormrod & Turner, 2006) suggesting that racial minority children are more likely than white children to experience trauma, the present study found no significant differences in experiencing events based on ethnicity. This difference may be due to the fact that previous studies have failed to separate race from socioeconomic status when claiming that racial minority children were more likely to experience trauma. By only involving children from similar socio-economic backgrounds, the present study effectively controlled for the effects of socioeconomic status. Therefore, present findings suggest that the likelihood of a child to experience trauma may be related to his or her family's socioeconomic status, as opposed to the child's ethnicity. However, caution must be taken when interpreting this finding given the small representation of white children in the study (N=11; 17%).

The present study fills a gap in the current literature related to primary caregivers' perceptions of traumatic events on their children. This is important to understand, especially in early childhood, because young children often are not able to understand and express the impact of these events, instead expressing their impact through externalizing behaviors such as anger and aggression (Scheeringa et al., 2003). Therefore, it is up to these children's caregivers who must help children get connected to appropriate treatment.

Results suggest that overall, both frequency of experiencing traumatic events and the nature of the events experienced were significantly related to caregiver rating of impact, such that the more frequently children experienced traumatic events, caregivers rated all events endorsed as more severe. Additionally, controlling for the frequency at which they experienced events, caregivers of children who had experienced both types of events (interpersonal and non-interpersonal) rated the impact of each event as more severe compared with those who had only experienced one type of event (either interpersonal or non-interpersonal). The number of *different* events that a child had experienced also affected caregiver ratings of each event. Caregivers of children who had experienced multiple events rated each of the events as more traumatic for the child than those who had experienced fewer events. This difference was established between children who had experienced one or two different events and those who had experienced five or more events.

Further, contrary to previous findings (Janoff-Bulman, 1992 as cited in Lily, Valdez & Graham-Bermann, 2011), there was no significant difference in mean caregiver rating of impact between interpersonal events and non-interpersonal events. One possible interpretation of this finding is that children who had experienced both types of traumatic events (N=36; 64%) formed more heightened responses to all events due to the cumulative effects of experiencing trauma (as demonstrated by Chemtob, Nomura, & Abramovitz, 2008). These children are therefore in a continuous state of “high alert” in which they react severely to all events without regard to the type of event they are experiencing.

Previous research shows that children who have an established trauma background are less likely to cope effectively with traumatic events over time, and are therefore more likely to develop a clinical pattern of PTSD symptoms (i.e., Ghazali, Elklit, Yaman & Ahmad, 2013; Overstreet, Salloum & Badour, 2010). Caregiver response patterns in the present study echo this research in suggesting that caregivers are able to identify when children are most highly distressed and relate the level of distress back to the experiencing of trauma. However, caregivers of children who had experienced few events, experienced an event infrequently, or had only experienced one type of event did not endorse a high level of impact/ distress on their child. It is logical that children who are experiencing fewer events, or experiencing trauma less frequently will not react as severely to each event, therefore prompting caregivers to endorse a less severe rating. However, it is also possible that caregivers are not attuned to the subtle ways in which traumatic events are affecting children, even if they don’t appear to be highly distressed. This may lead caregivers not to seek treatment until symptoms become more severe and are therefore more difficult to treat.

By better understanding how primary caregivers rate the impact of traumatic events and comprehending the types of events that parents rate as traumatic, we can more easily focus child and caregiver interventions. These findings lend support to providing psychoeducation regarding the effects of traumatic experiences to all caregivers of at-risk children, as this study demonstrated that caregivers are not always immediately aware of the negative effects of traumatic experiences on their children. Figuring out ways to incorporate this type of trauma education at the systems level so that it is available to many, if not all, caregivers that work with Head Start preschoolers is a key implication of the present findings. Programs such as Head Start Trauma Smart are already working to incorporate trauma-informed practices in Head Start agencies (Holmes, Levy, Smith, Pinne, & Neese, 2014). Other interventions such as Trauma-focused CBT (Cohen, Mannarino, & Deblinger, 2006) and social emotional skill-building in areas that children who have been traumatized tend to lack (e.g., feeling safe, making sense of past experiences, self-regulation, forming appropriate peer relationships) are promising practices, and should be adapted for use with young children and families within the Head Start setting.

Limitations

In order to accurately represent trauma prevalence, nature, and frequency in schools, it is important to have a high rate of participation from each classroom. The average response rate across our four sites was 63%. While this response rate may be lower than that of other larger epidemiological studies on prevalence (i.e., the National Health Interview Survey [NHIS] with an 87% response rate; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [HHS CDC], 2004), others such as The Behavioral Risk Factor

Surveillance Survey [BRFSS] conducted by the Centers for Disease Control and Prevention [CDC] have lower response rates (51% response rate in 2005; CDC, 2013). Further, while historically low responses were viewed as a threat to study validity (Babbie, 1990), more current research shows that data is similar in those studies with a high response rate (20%) and those with low response rates (60-70%; Visser, Krosnick, Marquette & Curtin, 1996). The sample, while relatively small in size, was also drawn from one Head Start organization in the Mid-West. One must use caution before generalizing findings to other geographic areas, as findings are likely to vary regionally.

Further, the 7-point Likert scale that was used for this study was analyzed both as a continuous and categorical variable. Although it is generally suggested that Likert scales be analyzed as categorical, there is research supporting the treatment of Likert scale data as continuous variables, especially when there are more than 5 items on the scale and the variables are evenly distributed (de Winter & Dodou, 2010). As these two conditions were met, the Likert scale was treated as continuous.

Additionally, ratings of traumatic impact in this study were endorsed by caregivers through interviews with the researcher making salient the issue of bias. Bias likely influenced results of the present study, both on the part of the caregiver and the researcher, who was aware of research questions and methodology while conducting interviews. Caregiver bias was likely related to trauma of the caregiver, which was not accounted for but likely present. In addition to statistically controlling for these biases, student and teacher report data to corroborate the caregiver report would be an important step for future research.

Future Directions

Because living in poverty puts children at risk for experiencing traumatic events (HHS, 2009), it is necessary to teach Head Start preschoolers skills for dealing with trauma and stress, as they are likely to experience many different traumatic events throughout their lifetimes. As schools are rapidly becoming places to receive mental health interventions (Adelman & Taylor, 2012), it is important for teachers to be trained in identifying children that have been traumatized and teaching skills in schools that will help children cope. Preschool teachers should be especially aware of this as early intervention is important for preventing psychopathology later in life (Coates & Gaensbauer, 2009). Corroborating information learned from the present study with parent and possibly child report and subsequently spreading information about childhood trauma to parents, teachers, Head Start family advocates, and other Head Start staff are the first steps to getting children the help they need.

The next step would be to implement trauma-focused interventions in Head Start preschools. To date there are no research-based trauma-informed curricula for preschool-aged children. Programs for older students such as Cognitive Behavioral Intervention for Trauma in Schools (C-BITS) have shown promising results for decreasing PTSD and depression scores in children who have experienced trauma (i.e., Jaycox et al., 2010). Adapting similar programs for use in preschools will ensure that young children get the intervention services that they need. Additionally, making psychoeducation regarding the effects of trauma on children available to all Head Start staff and families will help confirm that all caregivers are aware of trauma-informed practices and can respond appropriately to children who have experienced trauma.

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