

2019

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Childhood Trauma: An Analysis of Trauma Severity, Symptoms, and Contributing Factors

within a Child Advocacy Center

Hannah Coffey

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Abstract

Child abuse and neglect occur at high rates across the United States, with about one out of every seven children having experienced maltreatment in the past year (Centers for Disease Control and Prevention, 2018). Child maltreatment has been associated with a variety of negative outcomes such as developmental difficulties (Hildyard & Wolfe, 2002; Johnson et al., 2002), risky sexual behaviors (Harr et al., 2013; Haydon, Hussey, & Halpern, 2011; Maniglio, 2009; Thompson et al., 2016), criminal behavior (Edinburgh, Pape-Babolil, Harpin, & Saewyc, 2014; Higgins, Ricketts, Griffith, & Jirard, 2013; Makarios, 2007), long-term health problems (Maniglio, 2009; Trickett, Negriff, Ji, & Peckins, 2011), and decreased quality of future relationships (Colman & Widom, 2004; Maniglio, 2009; Trickett et al., 2011). Previous literature has attempted to identify risk factors for childhood trauma as well as subsequent symptomology, but much remains to be understood. The present study examined differences between children referred to a Child Advocacy Center in 2016 and 2017. Results showed a significant increase in the amount of trauma experienced as well as the severity of symptoms in 2017 compared to 2016. However, this study was unable to identify unique predictors of the differing outcomes. There is potential for future research examining factors such as parental substance use, perpetuation of trauma within a foster care setting, and a large-scale, more representative study examining risk factors for experiencing trauma during childhood.

Childhood Trauma: An Analysis of Trauma Severity, Symptoms, and Contributing
Factors within a Child Advocacy Center

Childhood Trauma in the United States

Child abuse and neglect are major public health problems in the United States, with approximately 700,000 children found to be abused or neglected annually, according to the U.S. Administration for Children and Families (2016). The Centers for Disease Control and Prevention (CDC, n.d.) has advocated for increased services through state health departments which would assist in the prevention of child maltreatment ([vetoviolence.cdc.gov](http://www.vetoviolence.cdc.gov)). Abuse and neglect, or maltreatment, encompass four common categories: physical abuse, sexual abuse, emotional abuse, and neglect. The CDC defines physical abuse as any excessive force used regarding a child. Sexual abuse is engaging a child under the age of eighteen in sexual acts, as they are unable to provide consent. Emotional abuse involves the use of often verbal remarks which negatively affect a child's sense of self-worth and wellbeing. Neglect is characterized by inadequate provision of basic needs for a child which may include housing, food, water, supervision, medical care, and education (CDC, 2016). Child maltreatment is a pervasive problem across the country, and as such there has been an abundance of research aimed toward understanding it.

Risk Factors

Previous research has examined a variety of potential risk factors associated with trauma exposure as well as Post-Traumatic Stress Disorder (PTSD).

Socioeconomic status. Several studies have investigated inter- and intrapersonal, demographic, and psychosocial factors in relation to PTSD and trauma exposure. Socioeconomic status (SES) is a commonly studied variable within the current literature and has been strongly

positively correlated with child maltreatment (Eckenrode, Smith, McCarthy, & Dineen, 2014). Parental stress has also been shown to be a strong mediating factor of the relationship between trauma exposure and PTSD symptomology (Crusto et al., 2010). This is noteworthy as low SES is associated with increased levels of stress (Cohen, Doyle, & Baum, 2006). However, it is also well known that abuse and neglect exist across all social strata. An important factor to consider is the investment of child protection agencies in low-income families (Finkelhor & Baron, 1986). Low income families generally comprise a large proportion of the population served by state and local social service entities, as they are often the families who are in need of welfare services such as Temporary Assistance for Needy Families, Medicaid, Child's Health Insurance Program, and the Supplemental Nutrition Assistance Program. As such, maltreatment within low SES families may be more easily identified than in other families.

Domestic violence. Exposure to domestic violence is another important risk factor identified by previous literature. In a review of literature examining childhood victimization, those who lived in homes with domestic violence were at a significantly greater risk of being abused themselves (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008). Crusto and colleagues (2010) found that family violence was associated with parental stress which, as discussed previously, is largely predictive of PTSD symptoms in children who witness or experience trauma. Ross (1996) also found that there was a strong positive correlation between spousal abuse and child physical abuse, in that if an individual abuses their spouse, they are more likely to also abuse their children. Children exposed to domestic abuse are also significantly more likely to exhibit externalizing behavior problems such as anger and aggression (Bozzay, Lendi, & Verona, 2017). One possible explanation for these findings is that children who witness

domestic violence are more likely to learn that aggression is an acceptable means of coping and maintaining control (Spaccarelli, Coatsworth, & Bowden, 1995).

Maternal and child age. Age of both child and caregiver has also emerged as a risk factor for maltreatment. Finkelhor and Baron (1986) found in their review that those between the ages of eight and twelve years were at increased risk of experiencing child sexual abuse (CSA). Notably, children age ten to twelve were victimized at nearly twice the average rate. The age of the mother when she gives birth has also been noted as a potential risk factor for maltreatment (Mersky, Berger, Reynolds, & Gromoske, 2009). Explanations for these findings have yet to be well understood, but it could be hypothesized that there is an association between maternal and environmental factors such as decreased child supervision, increased parental leniency, or decreased patience with children. Each of these potential explanations could, in turn, put a child at greater risk of experiencing inter- or extra-familial maltreatment; however, more research is needed to understand true correlates between maternal age and risk of child maltreatment.

Gender. A characteristic which has been considered risk-imposing by many is female gender (Finkelhor & Baron, 1986). Much of the current literature focuses primarily, if not exclusively, on female victimization. However, it should be noted that overall, the reported rates of physical abuse are higher for males than females, whereas rates of reported sexual abuse are higher for females than males (MacMillan, Tanaka, Duku, Vaillancourt, & Boyle, 2013; Thompson, Kingree, & Desai, 2004). Remarkably, differences between male and female victimization are often more significant in within-agency studies compared to community-based studies. This suggests that although males may experience similar levels of maltreatment as females, it is often reported less, and they may be receiving less treatment, hence less difference between rates when surveys are conducted within communities as opposed to within a treatment

or service agency. This may be explained by potential underreporting of male victimization, which suggests that there may be a stigma surrounding this realm of abuse. However, among cases of maltreatment which are reported, males are more likely to exhibit externalizing behavior problems (Bongers, Koot, van der Ende, & Verhulst, 2003). A review by Garza and Jovanovic (2017) concluded that females are at a greater risk of more severe overall PTSD symptoms compared to males. In support of these findings, Thompson and colleagues (2004) also found that childhood trauma had greater negative impacts on females compared to males. These findings suggest that there may be important gender differences in risk of experiencing trauma as well as likelihood of specific symptomology following trauma, however more research is needed for confidence.

Race and ethnicity. Race and ethnicity are considered socially valuable factors and as such are often considered when looking at mental health disparities. However, Finkelhor and Baron (1986) found that there is little evidence for inter-racial differences in rates of CSA. Similarly, Drake, Lee, and Jonson-Reid (2009) found no evidence of racial disparities in the reporting of child maltreatment. Although, before controlling for poverty there were higher rates of reports of maltreatment from white families compared to black families. This literature suggests that race is not a predictive factor of child maltreatment, except perhaps indirectly through SES.

Parents and family. In a review of literature, Cyr, Michel, and Dumais (2013) made recommendations regarding identification and intervention for at-risk families, primarily suggesting that the definitions of abuse and neglect used by societies greatly influence the rate of reporting. This finding points to a larger issue such that there needs to be a greater consensus on what constitutes abuse and neglect. Additionally, the review recognized two important mediating

factors, parental level of education and parental income, and suggested increased focus on at-risk parents, promoting preventive services for those individuals and their families. Throughout the literature one common theme arose, that there should be greater attention paid to entire families within treatment as opposed to merely treating the victimized child.

Trauma Outcomes

Childhood trauma is linked to a plethora of adverse outcomes including difficulties with emotion regulation, risky sexual behaviors, internalizing and externalizing behavior problems, and drug and alcohol abuse.

Risky sexual behavior. Research suggests that experiencing abuse and neglect during childhood is highly predictive of risky sexual behaviors during adolescence (Thompson et al., 2016; Maniglio, 2009). These behaviors may include having multiple partners, having unprotected sex, being involved in sex trade, and lack of assertiveness in refusing sex. One important finding by Harr and colleagues (2013) indicated that the amount of trauma experienced was a greater predictor of risky behaviors than the type of trauma experienced. One study by Haydon, Hussey, and Halpern (2011) examined the relationship between child maltreatment and the contraction of sexually transmitted diseases (STDs). In females, there was a positive correlation between maltreatment and both self-reported and medically identified STDs; however, in males the only correlation found was between child physical neglect and medically diagnosed STDs. These findings may suggest that any type of maltreatment is a greater predictor of risky sexual behavior in females than in males.

Crime. Increased levels of substance use, delinquency, PTSD symptoms, and self-blame have been consistently noted in trauma cases, even in cases where survivors didn't remember the incident (Edinburgh, Pape-Babolil, Harpin, & Saewyc, 2014; Makarios, 2007). Makarios (2007)

found that abuse was a greater predictor of offending in females than in males. Additionally, certain demographic variables make one who has experienced abuse more likely to be arrested for violence, primarily people of color. However, arrest rates may not be indicative of risk of violent crime following abuse as people of color are largely overrepresented in the criminal justice system (Higgins, Ricketts, Griffith, & Jirard, 2013). It would be expected that this remains true in the context of abuse and arrests for violent crime.

Developmental outcomes. Maltreatment also has adverse effects on the emotional and behavioral development of young children, adolescents, and persists into adulthood. A study by Hildyard and Wolfe (2002) examined outcomes of abuse and neglect in childhood, adolescence, and adulthood. Abuse and neglect may result in poor impulse control, decreased academic achievement, negative self-concept, and poor emotion regulation. Neglect occurring in isolation has been shown to have more negative effects on language development in pre-school age children than does neglect and abuse occurring in tandem. These effects continue into adolescence often in addition to increased aggression, avoidance, and less positive peer interaction. In adulthood, lower intelligence and reading scores were observed in addition to increased risk of personality disorders, running away, and criminal activity. An important observation made in this study was that children who had only experienced neglect were equally likely to exhibit internalizing and externalizing behavior problems whereas those who experienced physical or sexual abuse were at increased risk of exhibiting externalizing behavior problems. In support of these findings, Johnson and colleagues (2002) found that child victimization and/or witness to violence are predictive of aggression and depression over time. Those who primarily witnessed violence as opposed to being personally victimized were at risk for aggression and depression as well, but additionally were more likely to display anger and

anxiety. Adverse developmental outcomes resulting from abuse or neglect have lasting consequences for the individuals who experience them, and as such should be considered in conjunction with long-term outcomes.

Long-term health and future relationships. CSA has been associated with adverse physical and mental health outcomes (Maniglio, 2009). Chronic pelvic pain, seizures, borderline personality disorder, depression, and compulsive behaviors are among several health problems identified in the literature. CSA has also been correlated with early onset puberty in females (Trickett, Negriff, Ji, & Peckins, 2011). Potentially exacerbating consequences such as depression, anxiety, and antisocial behaviors may be lack of prosocial interaction. Trickett and colleagues (2011) found that children who had been maltreated were more likely to experience increased conflict with peers, display less positive affect in social settings, and hold lower peer-rated status. Abuse and neglect have also been associated with increased risk of revictimization as well as poor intimate relationships in adolescence and adulthood (Colman & Widom, 2004; Maniglio, 2009; Trickett et al., 2011). Colman and Widom (2004) found that both male and female survivors were more likely than their non-abused peers to report cohabitation, having walked out on a significant other, and divorce. Females, specifically, were more likely to have negative concepts of current relationships and less likely to be sexually faithful to a partner. Based upon the current literature, it is apparent that childhood maltreatment has significant adverse effects on individuals' relationships and health throughout their lifetime.

Access to Mental Health Services

For many children, mental health services are not conveniently located or affordable, which may prevent them from receiving much needed assistance following abuse or neglect. Minority groups disproportionately lack access to health care services across the United States

(Lau, Lin, & Flores, 2012). Rural Appalachia is especially susceptible to mental health service shortages. Hendryx (2008) found that across thirteen Appalachian states, 70% of rural and suburban areas were considered mental health professional shortage areas. Important predictive factors noted in this study were low levels of education and racial and ethnic minority status. Switzer and colleagues (1999) found that those living in rural areas seemed to experience more trauma than those living in urban or suburban locations; however, there was an apparent hesitance to diagnose PTSD in these individuals, which led to a lack of appropriate treatment. Lack of access to mental health services for minority individuals may be indicative of a larger societal problem. In accordance with these findings, one might suggest that lack of mental health provisions has become inherently discriminatory.

Attrition is another common problem among underserved communities. Moore (2018) reviewed several interventions which were intended to maintain mental health services in underserved youth. They found that interventions which incorporated family support systems, addressed one's culture, and promoted independence were more likely to keep minority children involved in treatment. While accessing treatment remains a major issue, keeping children and families involved is also important. Moore's findings coincide well with previous findings suggesting that family and environmental factors (i.e. parental stress, cultural beliefs and practices, and family structure) should be incorporated into treatment (Cyr et al., 2013).

Child Advocacy Center Model

Child Advocacy Centers (CACs) are child-friendly environments which provide a variety of services to children who have experienced trauma and their families. CACs address issues such as mental health care access and attrition by providing streamlined services. The services provided vary by location and the resources available, but generally may include forensic

interviews, medical services, family and child advocacy, mental health services, a multidisciplinary team (MDT), and a collaborative approach to community outreach.

History. The National Children’s Advocacy Center emerged in 1985, headed by former Alabama Congressman Robert E. Cramer. He recognized a problem in the lack of communication and collaboration between services in child abuse and neglect cases and, as a result, the MDT model was designed (National Children’s Advocacy Center, 2018). As CACs began forming across the country and internationally, the National Children’s Alliance was formed. In 1988, the National Children’s Alliance was created to ensure high quality services in all accredited CACs and to provide support and assistance where needed (National Children’s Alliance, 2014). Locally, the West Virginia Child Advocacy Network was officially formed in 2006 when CACs were being built in Hinton, Wheeling, and Martinsburg, now providing support to over 40 CACs across the state of West Virginia (West Virginia Child Advocacy Network, 2018).

MDT. The MDT consists of Child Protective Services (CPS), medical professionals, law enforcement, mental health professionals, and family advocates. Ideally, the MDT approach is meant to reduce the number of times a victim of child abuse or neglect must repeat their story. Additionally, collaboration between these entities should allow for a more seamless delivery of services to children and their families. Several studies have looked at the efficacy of this model. One study found that decisions by the MDT pertaining to likelihood of abuse following a forensic interview greatly increased the likelihood of substantiation by CPS. This study also found that certain child factors increased the incidence of MDT and CPS agreement. These included female gender, absence of language delays, completion of evidence collection, and a disclosure of abuse prior to the forensic interview (Bring, Thackeray, Bridge, Letson, &

Scribano, 2015). A review by Herbert and Bromfield (2016) also found that the presence of an MDT had positive outcomes in terms of substantiation and sentencing. Overall, the literature suggests that the utilization of an MDT in child abuse and neglect cases is beneficial for children and families in need of optimal investigation and sentencing of a perpetrator.

Training. CACs may vary in the level and type of training provided. However, several training areas remain constant. Trauma Informed Care (TIC) is important across the CAC model. TIC emphasizes child physical and psychological safety, identification of children's trauma-related needs, enhancement of wellbeing and resilience of those who work within the system, positive interaction with children and families, and collaboration with other agencies which work with children and families (Kenny, Vazquez, Long, & Thompson, 2017). In a survey of CAC directors, Wherry, Huey, and Medford (2015) inquired about knowledge of evidence-based treatments and PTSD symptomology. Most directors reported feeling that their center would benefit from more training on effective treatments. On average, about 60% of PTSD symptoms were correctly identified on the survey. Many directors reported that there was inadequate access to clinicians trained in treating PTSD in their communities. Trauma-focused Cognitive Behavioral Therapy (TF-CBT) is widely used in CACs. Sigel and colleagues (2013) reviewed the training requirements for therapists wishing to become certified in TF-CBT. First, mental health professionals must complete online modules, following which they attend a two-day in-person training. For seven months after this training, bi-weekly phone calls with a professional certified in TF-CBT are conducted, during which at least two cases utilizing TF-CBT must be presented by the trainee. The completion of these steps qualifies one to be certified, and afterwards they are invited to an annual one-day conference to review their skills. The training

provided to CAC staff is important to understand and improve upon, as it has a direct influence on the quality of treatment provided to children and families.

CAC outcomes. In a review of the literature, Elmquist and colleagues (2015) found most studies have indicated that CACs are effective in reducing stress for children throughout the investigation process. This review also found that CACs are more likely than other entities to push for prosecution. When compared to other community services, CACs are more likely to provide a physical exam, genital exams when necessary, make referrals for counseling, and diagnose and treat STDs (Edinburgh, Saewyc, & Levitt, 2008). CACs have also been found to provide increased rates of substantiation and efficiency in comparison to traditional CPS (Wolfeich & Loggins, 2007). Another study concluded that CAC-based investigations were more likely to involve police, MDT interviews, case reviews, police and CPS collaboration, and recorded interviews. Additionally, significantly more CAC interviews took place in a child-friendly setting compared to typical interviews which took place in CPS offices, police stations, homes, and schools (Cross, Jones, Walsh, Simone, & Kolko, 2007). Overall, CACs are more likely to provide necessary medical services, promote inter-agency collaboration, increase likelihood of substantiation by CPS, and encourage the use of a child-friendly environment.

TF-CBT. TF-CBT is an evidence-based treatment commonly used within CACs. It was developed by Dr. Judith Cohen, Dr. Anthony Mannarino, and Dr. Esther Deblinger for children who have experienced trauma. It consists of two phases made up of several components. During the first phase of treatment, emotion identification is emphasized as well as strategies to reduce arousal and strategies for avoiding maladaptive thoughts. During this first phase, caregivers learn to utilize praise, selective attention, and reinforcement to assist their children in managing emotion regulation and behavior problems. During the second phase of TF-CBT, children begin

to develop a trauma narrative. During this step, the child adds details to their story during each session until they and their mental health care provider feel the trauma has been adequately discussed and processed. Throughout this process, the strategies developed during the first phase are utilized to manage stress and regulate emotions. Upon completion of the trauma narrative, the caregiver spends time with the therapist reviewing what the child will disclose to them and how they should respond, such as by modeling appropriate emotion expression and praising their child for sharing with them (Cohen, Mannarino, Kliethermes, & Murray, 2012; Cohen, Mannarino, & Murray, 2011).

There is evidence for the effectiveness of TF-CBT in children who have experienced various types of abuse or neglect as well as complex trauma (Goldbeck, Kirsh, Seitz, & Fegert, 2012). However, Cohen and colleagues (2012) suggested a few modifications to treatment for children who experience complex trauma. These modifications include increased focus on coping skills, implementation of the safety component early and repeatedly as needed, decreased rapidity of gradual exposure, unifying trauma themes, and generalized trust and safety components. Many children also experience ongoing trauma such as witnessing domestic or community violence. In these cases, Cohen and colleagues (2011) suggest early implementation of the safety component, effectively engaging parents who may be involved in the trauma, increasing parental awareness and acceptance of the effects of the trauma exposure on the child, and helping the child differentiate between signs of danger and trauma reminders. Thornback and Muller (2015) investigated the relationship between TF-CBT and improved emotion regulation. While there was no change in overall emotion regulation skill over the course of treatment, maladaptive use of emotion regulation did decrease. This indicates that while clients may not have adopted new skills, they did learn to identify ineffective utilization of certain emotion

regulation skills. There was, however, an increase in inhibition as well as a decrease in negativity. Notably, the change in inhibition was highly predictive of PTSD symptom improvement.

Adaptations of TF-CBT may be necessary to best accommodate certain behaviors. Allen (2017) tested adaptations in TF-CBT to help children displaying problematic sexual behaviors. Additions to treatment included sexual education, having caregivers implement sexual behavior rules, teaching impulse-control, and enhancing safety while continuing to promote pro-social development. In a study by Herbert and Daignault (2014), the effectiveness of TF-CBT was examined in a cohort of pre-school children who had been sexually abused. Results showed a significant decrease in internalizing and externalizing behaviors. Also noted were decreased PTSD symptoms and psychological distress in the caregivers of the children. Caregiver involvement during TF-CBT has been shown to increase positive outcomes for children. Yasinski and colleagues (2016) examined caregiver behaviors during session which predicted positive outcomes. During the trauma narrative phase, caregiver processing of emotional and mental responses of the child and themselves was correlated with decreased internalizing and externalizing behaviors post-treatment. Conversely, blame and avoidance by the caregiver during session was associated with more self-blame and negative beliefs about the trauma by children. There is sufficient evidence for the effectiveness of TF-CBT, as well as a number of adaptations meant to accommodate various types of trauma.

Present Study

Upon examination of the existing literature it became clear that there is much uncertainty regarding predictors and outcomes of child abuse and neglect. As such, the present study examined potential contributing and risk factors for increased trauma severity and PTSD

symptoms within a CAC in Morgantown, West Virginia- the Monongalia County Child Advocacy Center (MCCAC). It was expected that age and gender would be significant predictors of trauma and resulting symptomology. However, race and ethnicity were expected to be insignificant in predicting trauma and outcomes. Upon examination of the previous literature, the impact of family structure and SES were unclear in their ability to predict these outcomes.

Additionally, the Executive Director of the MCCAC reported an unexpected apparent increase in the number and severity of referrals received in 2017 compared to previous years. Given this observation, the present study also examined differences in the nature of the referrals made and the reported symptomology of clients referred in 2016 and those referred in 2017. It was expected that the amount of trauma experienced as well as the severity of the resulting symptomology would be higher in 2017 compared to 2016.

Method

Participants

The present study utilized data collected from child clients of the MCCAC who received therapy services in 2016 and/or 2017. The MCCAC primarily receives referrals for clients through CPS due to families who have a history of abuse or neglect. For inclusion in this study, clients were children (ages 0-18) referred to one of the MCCAC's three programs. Client placement in one of these three programs is decided upon by the Executive Director of the MCCAC and based upon the nature and source of the referral (i.e., CPS, school). The first program is the CAC program in which clients are seen only at the center. School-based services (SBS) are also offered in which clients are seen primarily in their school with a once a month appointment at the center. Clients referred to the SBS program are referred by a Monongalia County school, and do not have to have a trauma history in order to receive services. Lastly, a

combination of these two options exists, CAC/SBS, in which clients are seen at their school and the center.

Participants included 121 clients from the MCCAC who were enrolled in one of the three above mentioned programs. Fifty-nine participants (48.8%) were referred to the MCCAC in 2016, while 62 participants (51.2%) were referred in 2017. The sample was relatively young ($M= 9.37$, $SD= 4.31$) and primarily female ($n = 62$; 53.1%). Most participants ($n = 100$; 82.6%) were white, 13 (10.7%) were bi-racial, 3 (2.5%) were Hispanic, 2 (1.7%) were African American, 1 (0.8%) was Asian, and 2 (1.7%) identified with an unlisted racial or ethnic group. 75 clients (62%) were identified as being economically disadvantaged. Forty-three participants (35.5%) had been placed in DHHR custody while receiving services at the MCCAC. Table 1 displays a breakdown of demographic variables by referral year.

Procedures

Data was collected from the MCCAC utilizing standard clinic procedures. The MCCAC gathers demographic information, trauma history, and assessments at client intake. All data was entered into a database using a chart review method by one research assistant. Data was compared between clients entering the center between January 1, 2016-December 31, 2016 and those who entered between January 1, 2017-December 31, 2017.

Measures

General and supplemental child and adolescent forms. At intake, the caregivers of child clients fill out two forms- the General Child form and the Supplemental Child form. These gather basic demographic information, medical and psychological history, family history, and reason for referral.

Behavior Assessment System for Children-Third Edition. The BASC-3 is a measure used to assess child problem behaviors and adaptive functioning. It has parent-report, teacher-report, and self-report forms. The BASC-3 provides clinical, adaptive, and validity scales, which have demonstrated validity and reliability (Reynolds, Livingston, & Willson, 2010). The BASC-3 has separate forms based on child age as well as respondent type. There are three respondent-dependent variations of the BASC-3, the Teacher Rating Scale (TRS), Parent Rating Scale (PRS), and Self-Report Measure (SRP). Table 2 shows the breakdown in measure assignment based upon age group. Table 3 shows the clinical and adaptive scales for each form. Table 4 shows the number of items on each form. On the BASC-3, a *T*-score of 70 or above indicates clinical significance. For the purposes of this study, the Internalizing Problems composites were analyzed across the PRS and SRP BASC-3 forms. Additionally, the Externalizing Problems composite, Adaptive Skills scale, and the Behavioral Symptoms Index from the PRS and as well as the Personal Adjustment scale, Emotional Symptoms Index, and the Inattention/Hyperactivity scale from the SRP were analyzed.

Suicidal ideation. To measure suicidal ideation in young children ages eight to eleven, a BASC-3 self-report item pertaining to thoughts of self-harm was utilized. A code of “4” indicated endorsement of the item, and a code of “5” indicated no endorsement. To measure suicidal ideation in adolescents ages twelve to eighteen, a BASC-3 item pertaining to one’s desire to live was utilized. A code of “0” indicated they “never” felt like life wasn’t worth living, “1” indicated “sometimes” they felt this way, “2” indicated “often” feeling this way, and “3” indicated “always” feeling this way.

Trauma screening form. The child trauma screening form is administered to the parent or caregiver of every child client at the MCCAC to assess trauma exposure and assist with

treatment planning. This fifteen-item assessment complies with the Adverse Childhood Experiences (ACE) study, one of the largest studies examining long-term outcomes of childhood trauma (Felitti et al., 1998). The ACE score is used to determine the amount of trauma an individual has experienced throughout their life. There are additional items on the screener pertaining to types of trauma not identified by the ACE study as well. Caregivers indicated whether each type of traumatic experience “yes,” definitely happened, “no,” did not happen, “suspected,” or “unknown.” They are also prompted to provide age(s) at which the event(s) occurred if they select “yes.” Contingent upon endorsement of at least one traumatic experience, caregivers are asked whether their children experience symptoms related to arousal and reactivity, emotion regulation, and behavior regulation.

Data Analysis

All data analyses were conducted in Statistical Package for the Social Sciences (SPSS). Preliminary analyses were conducted to assess for normality, linearity, multicollinearity, and homoscedasticity. Independent samples *T*-tests revealed there were no significant differences in predictor variables between 2016 and 2017. To analyze aim one, differences in client referrals between 2016 and 2017, independent samples *T*-tests were performed on each variable. For aim two, multiple linear regression analyses were conducted to understand the impact of child age, gender, race, ethnicity, family income, classification as economically disadvantaged, and family status on ACEs and BASC scores.

Results

Descriptive Statistics

Drug and Alcohol Use. A correlation was utilized to examine the relationship between children’s exposure to drug and alcohol use and number of ACEs. The correlation was

significant, suggesting that children who experience parental substance use have a higher number of ACEs ($r(68) = .72, p < .001$) as well as more overall trauma ($r(68) = .70, p < .001$).

Differences in exposure to substance use between the two referral years could not be analyzed due to differences in the items on the Trauma Screener in 2016 and 2017.

Differences by Referral Year

ACEs scores. To examine the hypothesis that there was an increase in the amount of trauma experienced by clients in 2017 when compared to 2016, an independent samples *T*-test was conducted to compare ACE scores in 2016 and 2017. There was a significant difference in the mean number of ACEs experienced by children referred in 2016 ($M = 1.95, SD = 1.74$) and the number experienced by those referred in 2017 ($M = 4.83, SD = 3.19$); $t(113) = 5.96, p < .01$.

Total trauma screener scores. Total trauma screener scores were also analyzed to examine the hypothesized increase in amount of trauma experienced. There was a significant difference in the mean number of traumatic experiences endorsed in 2016 ($M = 3.25, SD = 2.21$) and the number endorsed in 2017 ($M = 6.37, SD = 4.38$); $t(113) = 4.74, p < .01$.

BASC-3 self-report form. Independent samples *T*-tests were conducted to examine the hypothesis that symptom severity increased in 2017 compared to 2016 according to the Self-Report form of the BASC-3. The means are reported as *T*-scores. Self-reported internalizing problems did not significantly differ between children referred in 2016 ($M = 56.5, SD = 16.12$) and those referred in 2017 ($M = 62.68, SD = 16.82$); $t(66) = 1.53, p = .130$. *T*-scores on the Emotional Symptoms Index were not significantly different between 2016 ($M = 55.37, SD = 15.13$) and 2017 ($M = 63.08, SD = 16.85$); $t(66) = 1.96, p = .054$. Scores on the Personal Adjustment scale did not differ significantly between 2016 ($M = 46.13, SD = 13.06$) and 2017

($M = 40.14$, $SD = 14.34$); $t(65) = 1.77$, $p = .081$. *T*-scores for the Inattention/Hyperactivity scale were significantly different between 2016 ($M = 50.97$, $SD = 12.71$) and 2017 ($M = 58.39$, $SD = 13.92$); $t(66) = 2.27$, $p = .027$.

BASC-3 parent-report form. Independent samples *T*-tests were conducted to examine changes in symptom severity as reported by caregivers of clients referred to the MCCAC via the parent-reporting form of the BASC-3. There were no significant differences on the Internalizing Problems composite between 2016 ($M = 56.79$, $SD = 15.29$) and 2017 ($M = 60.14$, $SD = 14.29$); $t(113) = 1.22$, $p = .227$. Differences in *T*-scores for the Behavioral Symptoms Index scores were significantly different between clients referred in 2016 ($M = 58.0$, $SD = 13.68$) and those referred in 2017 ($M = 66.82$, $SD = 16.18$); $t(110) = 3.11$, $p = .002$. *T*-scores on the Adaptive Skills scale were significantly different between 2016 ($M = 44.30$, $SD = 8.71$) and 2017 ($M = 38.95$, $SD = 8.32$); $t(111) = 3.34$, $p = .001$. *T*-scores for the Externalizing Problems composite were significantly different between 2016 ($M = 56.75$, $SD = 13.76$) and 2017 ($M = 67.09$, $SD = 18.90$); $t(113) = 3.35$, $p = .001$.

Suicidal ideation for young children. Independent samples *T*-tests were conducted to examine differences in the occurrence of suicidal ideation, according to responses on the BASC-3 self-report form, in children ages eight to eleven. Reports of suicidal ideation did not significantly differ between 2016 ($M = 4.64$, $SD = .51$) and 2017 ($M = 4.46$, $SD = .52$); $t(22) = .83$, $p = .41$.

Suicidal ideation for adolescents. Independent samples *T*-tests were conducted to examine differences in the occurrence of suicidal ideation in adolescents ages twelve to eighteen. There was no significant difference in reports of suicidal ideation between 2016 ($M = .78$, $SD = 1.10$) and 2017 ($M = .83$, $SD = .96$); $t(31) = .14$, $p = .89$.

Predictors of Trauma and Outcomes

BASC-3 self-report. A multiple linear regression was conducted to understand the association between family structure, race and ethnicity, family income, gender, age, and classification as economically disadvantaged and self-reported scores on the BASC for inattention, personal adjustment, internalizing symptoms, and emotional symptoms. The multiple linear regression model was not significant in predicting inattention ($F(6,62) = .83, p = .55$), personal adjustment ($F(6,61) = .62, p = .71$), internalizing symptoms ($F(6,62) = .97, p = .46$), or emotional symptoms ($F(6,62) = .84, p = .55$).

BASC-3 parent-report. A multiple linear regression was conducted to understand the association between family structure, race and ethnicity, family income, gender, age, and classification as economically disadvantaged and parent-reported scores on the BASC for internalizing problems, externalizing problems, adaptive skills, and behavioral symptoms. The multiple linear regression model was not significant in predicting internalizing problems ($F(6,114) = .46, p = .84$), externalizing problems ($F(6,114) = .97, p = .45$), adaptive skills ($F(6,112) = .81, p = .57$), or behavioral symptoms ($F(6,111) = .64, p = .70$).

Total traumatic experiences. A multiple linear regression was conducted to understand the association between family structure, race and ethnicity, family income, gender, age, and classification as economically disadvantaged and total number of traumatic experiences according to the Trauma Screener. The multiple linear regression model was significant in predicting total number of traumatic experiences ($F(6,102) = 2.20, p = .049, R^2 = .121$). Within the model, family structure uniquely predicted total number of traumatic experiences ($\beta = -.40, p = .002$).

ACEs scores. A multiple linear regression was conducted to understand the association between family structure, race and ethnicity, family income, gender, age, and classification as economically disadvantaged and ACEs scores. The multiple linear regression model was not significant in predicting total ACEs scores ($F(6,102) = 1.70, p = .13$).

Trauma type. A multinomial regression analysis was conducted to examine the predictive influence of gender on trauma type, pertaining to physical and sexual abuse. The model was not significant, so gender was not predictive of type of trauma experienced.

Discussion

The purpose of this project was to examine children's trauma experiences, their potential predictors, and possible outcomes. It was hoped that in analyzing this data, clear patterns would arise making the identification and treatment of children who experience trauma more refined. Data was collected from 121 clients of the Monongalia County Child Advocacy Center and analyzed to search for trends in contributing factors and outcomes. The variables examined included child age, gender, race, ethnicity, family structure, and classification as economically disadvantaged. The data was also analyzed to determine if there were significant changes in the experiences of children referred to the MCCAC between 2016 and 2017. The variables examined for change included self- and parent-report measures of internalizing and externalizing behaviors, suicidal ideation, ACEs experienced, and overall amount of trauma experienced by children.

Overall, the amount of trauma and the severity of the resulting symptomology was significantly higher in 2017 compared to 2016. There are several possible explanations for these differences. One possible explanation is the drug epidemic in West Virginia. According to the West Virginia DHHR (2016), the rates of opioid use have increased significantly in the past four

years. As such, children are removed from their homes more often, exposed to more traumatic experiences, and ultimately express more severe symptomology as a result. Unfortunately, examining changes in the number of children exposed to drug use was beyond the scope of this study, as the appropriate item on the Trauma Screener was not present for the majority of participants referred in 2016. However, results did suggest that children who were exposed to parental substance use were more likely to have higher ACE scores and higher incidence of overall traumatic experiences. It should be noted that parental substance use is an ACE, so this finding is slightly confounded; however, the level of significance suggests that this relationship is still significant, even excepting parental substance use as an ACE itself.

Another possible explanation for the differences between groups in this study pertains to the West Virginia foster care system. Much of the news in the state of West Virginia recently has been related to the shortcomings of the state's DHHR. Of primary importance is the lawsuit brought against the West Virginia DHHR by the Department of Justice (DOJ) due to the excessive placement of children in group homes as opposed to single-family foster homes (Lannom, 2018). Placement in group homes may also lead to increased trauma for these children. This issue is likely related to West Virginia's foster family crisis, in which DHHR is struggling to find willing foster families. Additionally, DHHR recently announced their initiative to remove fewer children from homes where there is substance abuse. This was in response to the federal lawsuit as a means to keep children out of the foster care system in the first place; however, remaining in foster care very well may increase a child's risk of experiencing further trauma.

Upon examination of the predictor variables- child age, gender, family income, economic disadvantage, and involvement with DHHR- none were predictive of self- or parent-report BASC-3 composites, nor were any predictive of ACE scores. However, involvement with

DHHR, or family structure, was predictive of the total amount of trauma experienced. This result was expected, as children who are taken from their parents' custody are often taken due to exposure to some traumatic experience. The insignificance of the other variables in predicting outcomes may be explained by the complexity of childhood trauma. Experiencing abuse or neglect is not confined to any specific group of children, and as such it is quite possible that no demographic variable can reliably predict one's propensity for experiencing such things.

Strengths

This study has several notable strengths. The findings of this research are immediately applicable to the services being provided in Monongalia County. Specifically, the MCCAC will be able to utilize the findings of this study to enhance their services and as a basis for future research. This study also had a large sample size which allowed for high confidence in interpretation of the results. Lastly, the predictive factors which were examined were chosen according to previous research and analyzed in combination. It was expected that these variables worked together to increase risk and predict outcomes as opposed to one variable being entirely responsible.

Limitations

There were some limitations in this study which should also be considered. The sample was not diverse in race and ethnicity or in income, and therefore these results cannot be generalized to any other populations. However, it should be noted that the demographics of the sample are consistent with those of West Virginia (U.S. Census, 2017). As with any study which relies upon self-report measures, reporting bias is a possible limitation. Particularly when considering measures such as the Trauma Screener, if the offending parent is still with the child they may be reluctant to report honestly. Research looking at the reliability of parent reporting on

childhood trauma is inconclusive in its findings. Kerker, Horwitz, Leventhal, Plichta, and Leaf (2000) found that parents are generally reliable in their reports of child trauma. Alternatively, Lanyon, Dannenbaum, and Brown (1991) found that most parents are unreliable in reporting incidents of abuse or neglect. Additionally, parent- and self-report measures may be biased. Another limitation to be discussed is the use of economic disadvantage as a predictor of trauma. This finding is difficult to confirm, as economic disadvantage is assigned to any children in foster care. As such, many of those who were economically disadvantaged were also inherently experiencing an ACE.

Future Directions

Much research remains to be done to fully understand childhood trauma. The findings of this study may be used to inform future research within Monongalia County. Due to the findings that trauma occurrence and symptom severity increased over time, a longitudinal study examining these changes over the course of several years while also gathering information on potential risk factors could allow for more insight into how this has come about. A study such as this would also allow for better identification of effective interventions and more informed prevention efforts. Additionally, the addition of several counties across the state, or even several states across the country, to the sample would allow for more diversity in the sample population and more generalizable results. This project has provided insight which is fundamental to the future of research pertaining to childhood trauma in West Virginia. The findings of this study may now be utilized in the formation of new, larger-scale projects with the potential to change treatment for children across the country.

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Table 1
Demographics by Referral Year

Variable	Referral Year	
	2016	2017
	M (SD)	M (SD)
Age	8.59 (4.26)	10.11 (4.26)
Family Income	35,660 (55,757)	32,500 (52,680)
	N (%)	N (%)
Gender		
Female	30 (50.8%)	35 (56.5%)
Male	29 (49.2%)	26 (41.9%)
Race		
White	45 (76.3%)	55 (88.7%)
Bi-Racial	8 (13.6%)	5 (8.1%)
African American	1 (1.7%)	1 (1.6%)
Other	1 (1.7%)	1 (1.6%)
Asian	1 (1.7%)	0 (0%)
Hispanic	3 (5.1%)	0 (0%)
Economically Disadvantaged	40 (67.8%)	35 (56.5%)
Foster Care or Adopted	24 (40.7%)	19 (30.6%)

Table 2

BASC-3 Forms by Age

	TRS	PRS	SRP
Age Groups	Preschool (2-5 years) (TRS-P)	Preschool (2-5 years) (PRS-P)	Interview (6-7 years) (SRP-I)
	Child (6-11 years) (TRS-C)	Child (6-11 years) (PRS-C)	Child (8-11 years) (SRP-C)
	Adolescent (12-21) (TRS-A)	Adolescent (12-21) (PRS-A)	Adolescent (12-21 years) (SRP-A)
			College (18-25 years) (SRP-COL)

Table 3
BASC-3 Scales

Clinical and Adaptive Scales	TRS-P	TRS-C	TRS-A	PRS-P	PRS-C	PRS-A	SRP-I	SRP-C	SRP-A	SRP-COL
Externalizing Problems	X	X	X	X	X	X				
Internalizing Problems	X	X	X	X	X	X		X	X	X
Behavioral Symptoms Index	X	X	X	X	X	X				
Adaptive Skills	X	X	X	X	X	X				
School Problems		X	X					X	X	
Inattention/Hyperactivity								X	X	X
Emotional Symptoms Index								X	X	X
Personal Adjustment								X	X	X

Note. An “X” indicates that the form contains that scale.

Table 4
BASC-3 Number of Items

Form	Number of Items
TRS-P	105
TRS-C	156
TRS-A	165
PRS-P	139
PRS-C	175
PRS-A	173
SRP-I	13
SRP-C	137
SRP-A	189
SRP-COL	192