Examination of Child Placement, Emotional, Behavioral and Attachment Problems Among Children with Caregiver-Perpetrated Trauma Histories

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Abstract

Caregiver-perpetrated trauma (CPT) is associated with adverse consequences for youth, including out-of-home placement. Although promotion of kinship care placement has recently increased, effects on youth remain unclear. Psychosocial functioning of 1107 CPT-exposed youth ages 2 to 18 was compared across placement types using generalized mixed models. Youth remaining at home had increased Somatization symptoms compared to kinship (OR = .25, CI = 0.07–.88) and foster care (OR = .32, CI = 0.11–.98) youth. Both out-of-home placement types had higher odds of Attachment Problems (OR = 3.61, CI = 2.22–5.87 and 4.41, CI = 2.71–7.18 respectively). PTSD symptoms varied, youth in kinship care had increased self-reported re-experiencing symptoms (OR = 2.66, CI = 1.04–6.8), while youth in foster care had elevated clinician-rated PTSD (OR = 2.07, CI = 1.13–3.80). Given the limited differences between kinship and foster care, studies should continue to delineate the impact of child placement type to inform child welfare policy.

Keywords Childhood maltreatment · Trauma · Caregiver-perpetrated trauma · Placement types · Internalizing and externalizing problems

Prevalence of caregiver-perpetrated trauma (CPT) exposure is extremely high, with recent annual estimates of 686,000 cases in the U.S. (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, [USDHHS] 2013). CPT, also referred to as child maltreatment, includes sexual, physical, and emotional abuse; neglect; and, in some states, the witnessing of domestic violence. CPT is often associated with specific

characteristics that may cause greater and more prolonged adverse consequences than other types of trauma, including earlier age of onset (USDHHS 2013; Wamser-Nanney and Vandenberg 2013), chronic and co-occurring trauma exposures, and a close, personal relationship with the perpetrator (Enlow et al. 2013; Price et al. 2013; Wamser-Nanney and Vandenberg 2013).

A related term, *complex trauma*, denotes the intricate trauma histories and symptom presentations following chronic CPT exposure that begins early in life, in which the caregiver may be the perpetrator (e.g., abuse and neglect) or the victim (e.g., domestic violence), and salient event characteristics influence the outcomes (i.e., early onset, co-occurrence, and chronicity; Cook et al. 2005). Complex trauma symptoms include posttraumatic stress disorder (PTSD) and other variable patterns of emotional and behavioral problems (Wamser-Nanney and Vandenberg 2013; Enlow et al. 2013; Price et al. 2013), and relationship impairments (Kliethermes et al. 2014). Approximately 80% of children who experience CPT develop insecure attachment (Cook et al. 2005), due to the severe disruption in the child-caregiver relationship (Baer and Martinez 2006; Putnam 2006; Stronach et al. 2011). Children who

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have experienced CPT and develop attachment problems have increased rates of developmental delays (e.g., motor, language, social, or cognitive), dissociation, school difficulties, impaired soothing and emotional self-regulation skills, aggressive and externalizing behaviors, and difficulty maintaining healthy relationships (Baer and Martinez 2006; Cook et al. 2005; Putnam 2006).

Children who experience CPT are significantly more likely to enter out-of-home placements compared to children without CPT (Stacks et al. 2011). The most common out-of-home placements include traditional foster care followed by kinship care (Schneiderman et al. 2011; USDHHS 2013), which refers to the care of children by relatives, or in some jurisdictions, close family friends. Current public policies affect placement decisions by requiring decision makers to consider what will best serve the child with an emphasis on child safety, permanency of placement, and well-being (Lin 2014; Stacks et al. 2011). During the past decade, such policies have increasingly encouraged the placement of children with CPT into kinship care (e.g., Adoption and Safe Families Act of 1997; Fostering Connections to Success and Increasing Adoptions Act of 2008), although it remains unclear which placement types are actually best for these children (Stacks et al. 2011).

Several studies have found that children in foster care have higher prevalence rates of traumatic experiences, emotional and behavioral problems, and secondary adversities compared to non-foster care youth (Greeson et al. 2011), but relatively fewer studies have compared youth outcomes across out-of-home placement types. Most studies have compared outcomes associated with placement type have either shown conflicting results (Koh 2010; Lin 2014; Walsh 2013), or minimal differences between groups (Schneiderman et al. 2011; Stacks et al. 2011). Although some studies have shown that positive attachment relationships result more commonly from placements in kinship care than other types of foster care, which in turn decreases the experience of multiple placements (Koh 2010; Walsh 2013), a recent review study came to the opposite conclusion (Winokur et al. 2009). There is some evidence that children in kinship care may be less likely to be further maltreated than those in foster care (Winokur et al. 2014), which may translate into reduced behavioral problems over time (Sakai et al. 2011). On the other hand, several risk factors have been identified for kinship care including the tendency for kinship caregivers to be older, less educated, receive less services and support, and correspond to a delay or reduction in the likelihood of reunification with birth parents or adoption (Lin 2014; Sakai et al. 2011; Taussig and Clyman 2011; Walsh 2013).

Given the discrepant findings regarding outcomes in functioning, study hypotheses and research questions were exploratory in nature, with the intent to gain further knowledge that will inform child welfare and public policies

impacting child placement type post maltreatment exposure. More specifically, the current study examined differences in behavioral and emotional functioning between placement types for children who have experienced CPT. Consistent with a complex trauma approach to conceptualizing CPT-related outcomes, a wide range of impairments were compared, including PTSD symptoms, internalizing and externalizing behaviors, and attachment problems. The primary hypothesis for the current study was that children in foster care would exhibit greater: (a) posttraumatic stress symptoms, (b) internalizing and externalizing problems, and (c) attachment problems compared to children in kinship care and those who remained at home. An additional research question was whether these observed patterns of symptoms and problems persisted after controlling for demographic characteristics (i.e., gender, race/ethnicity, age at baseline assessment, insurance) and trauma history details (i.e. trauma types, age of onset and number of caregiver-perpetrated traumas).

Methods

Participants

Data for this study were obtained from the National Child Traumatic Stress Network (NCTSN) Core Data Set (CDS), which is comprised of 14,088 clinic-referred children and adolescents (birth to 21 years of age). CDS data were collected between 2004 and 2010, from 57 NCTSN sites across the country. The present study focused on 1107 baseline cases who had been exposed to at least one CPT (i.e., sexual, physical, or emotional abuse; neglect; domestic violence), ranged in age from 2 to 18 years, and had complete data on trauma history, current primary residence, current legal guardian, and select outcome measures (e.g., The Child Behavior Checklist (CBCL), PTSD Reaction Index, and clinical evaluations). Youth who had an endorsement of no trauma history ($n = 3,097$) or a trauma history that included only non-CPT trauma ($n = 8,858$) were excluded from this study. The study also excluded youth for which their current residence was not identified ($n = 1,026$).

Procedures and Design

This study included secondary analysis of CDS baseline data, which were collected as part of routine clinical care by master's and doctoral-level licensed clinicians. To standardize data collection efforts across all NCTSN sites, client data were entered into a web-based data collection tool (*InForm*). Data were collected at the initiation of treatment services using a comprehensive clinical protocol gathered from multiple informants (i.e., youth, parents/ caregivers, relatives,

clinicians, and other relevant collateral sources). Clinical interviews were conducted as well as the completion of standardized measures and a review of case records. Clinicians completed several mandatory trainings on the administration, scoring, and data entry of CDS forms and measures. NCTSN staff ensured integrity of measure completion and data entry through on-site visits, webinars, remote support, and ongoing consultation and training of clinical staff. All study procedures and methods complied with the Duke University Health System and Alliant International University Institutional Review Boards.

Measures

The CDS included information on demographics, history of trauma exposure, service utilization, clinical evaluations, treatment services and standardized measures of emotional and behavioral functioning.

Demographic Variables

Demographic variables were collected at baseline, including: gender, age at intake, and race/ethnicity (White, African American, Hispanic/Latino, Other). Type of insurance for the child (e.g., private or public) served as a proxy for socioeconomic status. Current primary residence (i.e., home with parents, with relatives or other family, regular foster care, or treatment foster care,) and current legal guardian (i.e., parents, other adult relative, or state) were used to determine child placement type groupings.

Child Placement Type

Child placement type (i.e., foster care, kinship care, or home with parents), the independent variable for the current study, was derived from demographic information collected at intake (i.e. current primary residence and current legal guardian). The home with parents group consisted of children whose current primary residence was indicated as *home (with parents)* and their current legal guardian was indicated as *parent*. The kinship care group was made up of youth whose current primary residence was *with relatives or other family* and their legal guardian was *other adult relative*. Those in the foster care group included youth whose primary residence was either *regular foster care* or *treatment foster care* and their legal guardian was indicated as the *state*.

Trauma History

The Trauma History Profile (THP) was derived from two study developed measures: The NCTSN CDS General Trauma Form, which assesses exposure to 20 trauma types

(including an “Other” category that captures traumas not otherwise listed), and the Trauma Detail Form, which assesses additional details about each exposure (e.g., perpetrator, setting). Clinicians utilized multiple sources of information (e.g., client records, parent report, clinical interview) to complete the THP. Trauma types included in the current study were those considered to be CPT: (a) sexual maltreatment/abuse; (b) physical abuse/maltreatment; (c) emotional abuse/psychological maltreatment; (d) neglect; and (e) domestic violence. For each trauma type endorsed, clinicians also entered the age(s) (0–18) at which a specific type of trauma was experienced. This was used to determine the earliest age of caregiver-perpetrated trauma. The total number of caregiver-perpetrated trauma types experienced was calculated by summing the number of these trauma types (possible range 1–5).

Clinical Evaluation

Clinician assessments and ratings of the degree to which clinical problems, symptoms, and/or disorders were displayed by the child at the time of the baseline assessment were used as part of this comprehensive assessment. Each item was rated on a 3-point Likert scale ranging from 0 (*no*), 1 (*probable*), to 2 (*definite*). All clinical evaluation variables were dichotomized and dummy coded to include a score of 0 (to indicate that the particular problem, symptom, or disorder was *not present*) or 1 (the problem, symptom, or disorder was *probably or definitely present*). The specific clinical evaluation items used in the present study were post-traumatic stress symptoms, dissociation, depression, generalized anxiety, somatization, suicidality, general behavior problems, sexual behavioral problems, substance abuse and attachment problems (difficulty forming and maintaining trusting relationships with other people or other attachment-related difficulties).

Posttraumatic Stress Symptoms

The UCLA PTSD Reaction Index for DSM-IV (Steinberg et al. 2004) is a self- or clinician-administered report used to assess for PTSD symptoms in school age children and adolescents. This 22-item instrument uses a 5-point Likert scale from 0 (*none of the time*) to 4 (*most of the time*) to measure the frequency of PTSD symptoms during the past month. The items map directly onto DSM-IV PTSD symptom Criterion B (re-experiencing), Criterion C (avoidance), and Criterion D (hyperarousal), resulting in subscale scores and a total score. The PTSD-RI total score has been found to correlate with the Child and Adolescent Version of the Clinician-Administered PTSD Scale (0.82) and the Posttraumatic Stress Scale of the Trauma Symptom Checklist for Children (0.75). A clinical cut-off score of 38 or higher on

the total score has demonstrated sensitivity (0.93) and specificity (0.87) in detecting PTSD (Rodriguez et al. 2001a, b). In addition, excellent internal consistency has been demonstrated for the total score in previous studies and the NCTSN CDS ($\alpha=0.90$; Steinberg et al. 2013). Internal consistency for the current sample was excellent ($\alpha=0.98$). The subscale scores (re-experiencing, avoidance, hyperarousal) are scored to determine whether or not the DSM-IV symptom criteria for each of the three symptom clusters were met. The current study utilized dichotomous and dummy coded scores for the PTSD-RI total score and the three criterion subscale scores to indicate whether the child scored above the clinical cut-off or below the clinical cut-off for the total score, or whether or not a participant endorses enough symptoms to meet DSM-IV symptoms cluster criterion for the subscales.

Internalizing and Externalizing Problems

The Child Behavior Checklist (CBCL; Achenbach and Rescorla 2001) is one of the most widely used standardized measures of child emotional and behavioral symptoms. The CDS utilizes two separate caregiver-report forms for children ages 1.5–5 and 6–18 years. This measure consists of approximately 113 items scored on a 3-point scale ranging from 0 (*not true*) to 2 (*often true*). Reliability and validity of the CBCL has been well established across ethnically diverse samples (Achenbach and Rescorla 2001). The CBCL Total score demonstrated excellent internal consistency for the current sample for ages 6–18 ($\alpha=0.85$) and ages 1.5–5 ($\alpha=0.94$). The current study examined the scores derived from the measures of two broadband scales: Internalizing Symptoms (e.g., depression, anxiety) and Externalizing Symptoms (e.g., aggressive behavior). Standardized T-scores of 63 or greater on the Internalizing and Externalizing scales are considered to be of clinical significance. This clinical cut-off was used to dichotomize and dummy code these variables in the current study.

Data Analysis

Data in the present sample were compared to the full sample of trauma-exposed CDS youth on demographic variables (i.e., age, gender, ethnicity/race), and no significant differences were found. Scores on the standardized measures (PTSD-RI, CBCL Internalizing and Externalizing scales) were dichotomized according to whether or not a participant exceeded the clinical cut-off score for each of these measures. Cases with incomplete data on all relevant measures were judged to be no different than missing at random and were removed from analysis using listwise deletion.

To address the study aims, descriptive statistics were run for each of the variables including demographics, child placement type, trauma exposure, and child outcomes

(i.e., posttraumatic stress, internalizing and externalizing problems, and attachment problems) for the entire sample ($N=1,107$). Additional descriptive analyses were conducted by child placement type. Bivariate relationships between the child placement groups and other variables (e.g., gender, race/ethnicity) were assessed with either Chi square tests for association (for categorical variables) or an ANOVA style general linear model (for continuous variables). Generalized mixed models (specifically logistic models) were used to determine the significance of the relationships between child placement types and the likelihood of impairments being clinically significant (PTSD-RI, CBCL Externalizing and Internalizing) or present (e.g., Clinical Evaluation items). Estimated odds ratios and confidence intervals were determined from these models. These models were also adjusted for NCTSN CDS center-level random effects (e.g., heterogeneity between sites, geographic factors, differences in population, etc.), and race/ethnicity (the only covariate found to be related to the independent and dependent variables). All analyses were conducted using SAS version 9.3.

Results

Demographics

Demographic characteristics by child placement types and for the overall sample (total) are presented in Table 1. The mean age of the sample was 9.3 ($SD=4.1$) years. The sample was 55.3% female. There were no significant differences between child placement types for age at baseline, $F(2, 1104)=5.35$, $p=.05$ or gender, $X^2(2, N=1107)=0.54$, $p=.76$. Much of the sample was Hispanic/Latino (36.3%), followed by White/Caucasian (32.5%), African American (25.7%) and Other (5.6%). Child placement type varied significantly across race/ethnicity, $X^2(4, N=1,107)=68.40$, $p<.0001$, with the majority of youth in kinship and foster care being African American and the majority remaining home with parents being Hispanic/Latino. The majority of the sample was receiving public insurance (72.9%), a proxy indicator for low socioeconomic status. Insurance type was also found to be statistically significant across the three child placement types, $X^2(4, N=1107)=65.91$, $p<.0001$. Regarding child placement type, 856 children were living at home with their parent(s), 133 were in kinship care, and 118 were in foster care.

Trauma History

With regard to CPT history (see Table 2), 50.5% of the sample had a history of exposure to domestic violence, 34.8% to sexual abuse, 27.5% to physical abuse, 25.5% to emotional abuse, and 18% to neglect. Each type of CPT was

Table 1 Demographic characteristics by child placement types

Characteristics	Home w/ parents (n = 856)	Kinship care (n = 133)	Foster care (n = 118)	Total (N = 1,107)
Age, <i>M</i> (<i>SD</i>)	9.9 (3.9)	8.7 (4.0)	9.5 (4.0)	9.3 (4.1)
Gender, <i>n</i> (%)				
Male	386 (45.1%)	60 (45.1%)	49 (41.5%)	495 (44.7%)
Female	470 (54.9%)	73 (54.9%)	69 (58.5%)	612 (55.3%)
Race/Ethnicity*				
White	269 (32.4%)	34 (30.4%)	35 (35.7%)	338 (32.5%)
African American	171 (20.6%)	54 (48.2%)	42 (42.9%)	267 (25.7%)
Hispanic/Latino	344 (41.5%)	17 (15.2%)	16 (16.3%)	377 (36.3%)
Other	46 (5.5%)	7 (6.3%)	5 (5.1%)	58 (5.6%)
Insurance*				
None	88 (12.1%)	9 (7.8%)	–	97 (10.3%)
Private	154 (21.1%)	4 (3.5%)	–	158 (16.8%)
Public	488 (66.8%)	102 (88.7%)	95 (100.0%)	685 (72.9%)

* $p < .05$ **Table 2** Caregiver-perpetrated trauma types, total number of trauma types, and earliest age of onset by child placement types

Trauma types	Home w/ parents (n = 856)	Kinship care (n = 133)	Foster care (n = 118)	Total (N = 1,107)
Sexual abuse*, <i>n</i> (%)	318 (37.1%)	34 (25.6%)	33 (28.0%)	385 (34.8%)
Physical abuse*	204 (23.8%)	38 (28.6%)	62 (52.5%)	304 (27.5%)
Emotional abuse	231 (27.0%)	30 (22.6%)	21 (17.8%)	282 (25.5%)
Neglect*	71 (8.3%)	73 (54.9%)	55 (46.6%)	199 (18.0%)
Domestic violence*	489 (57.1%)	33 (24.8%)	37 (31.4%)	559 (50.5%)
Number of trauma types*, <i>M</i> (<i>SD</i>)	1.5 (0.8)	1.6 (0.8)	1.8 (0.9)	1.6 (0.9)
Earliest age of onset	4.6 (3.7)	4.1 (3.4)	4.5 (3.7)	4.5 (3.7)

Trauma types are not mutually exclusive. * $p < .05$

significantly related to child placement type except for emotional abuse. Specifically, those who remained home with parents had a higher proportion of sexual abuse, $X^2(2, N = 1,107) = 9.51, p < .01$ and domestic violence, $X^2(2, N = 1,107) = 67.44, p < .0001$ than those in kinship and foster care. Youth in the kinship and foster care groups experienced higher rates of neglect, $X^2(2, N = 1,107) = 242.92, p < .0001$ than those living at home with parents. The foster care group had a higher rate of physical abuse, $X^2(2, N = 1,107) = 43.01, p < .0001$ than youth living at home with parents or in kinship care.

The average number of CPT types endorsed was 1.6 ($SD = 0.9$). Mean number of trauma types was significantly related to child placement type, $F(2, 1104) = 3.72, p = .02$. Youth in the foster care group experienced a slightly higher mean number of total trauma types ($M = 1.8, SD = 0.9$) compared to those in kinship care or those living at home with parents. Given the small effect size, this variable was not controlled for in later analyses. Table 2 also includes the earliest age of onset for caregiver-perpetrated trauma

exposure by each group. Upon further analyses, this result was not found to be related to child placement type, $F(2, 998) = 1.00, p = .37$.

Child Placement Types and Child Outcomes

Generalized mixed models were used to examine whether there were differences across child placement types in regard to child outcomes (Table 3). Table 4 shows the estimated odds ratios and confidence intervals that were generated from these models. NCTSN center-level random effects and race/ethnicity were controlled for, as previously noted.

Child and Caregiver Report Measures

Posttraumatic Stress Disorder Symptoms

Re-experiencing symptoms, as measured by the UCLA PTSD-RI, was reaching significance across child placement types when examining the overall model ($p = .06$),

Table 3 Child outcomes by child placement types

Outcome variable	Home w/ parents	Kinship care	Foster care	Total
CBCL subscales	n = 684	n = 82	n = 71	n = 837
CBCL externalizing scale ^a	291 (42.5%)	39 (47.6%)	26 (36.6%)	356 (42.5%)
CBCL internalizing scale ^a	309 (45.2%)	33 (40.2%)	20 (28.2%)	362 (43.2%)
Externalizing problems ^b	n = 771	n = 121	n = 114	n = 1,006
General behavioral problems	389 (50.5%)	50 (41.3%)	51 (44.7%)	490 (48.7%)
Sexual behavioral problems	104 (13.5%)	24 (19.8%)	19 (16.7%)	147 (14.6%)
Substance abuse	25 (3.2%)	3 (2.5%)	–	28 (2.8%)
Internalizing problems ^b	n = 771	n = 121	n = 114	n = 1,006
Depression	378 (49.0%)	46 (38.0%)	42 (36.8%)	466 (46.3%)
Generalized anxiety	334 (43.3%)	39 (32.2%)	38 (33.3%)	411 (40.9%)
Somatization*	113 (14.7%)	3 (2.5%)	4 (3.5%)	120 (11.9%)
Suicidality	73 (9.5%)	7 (5.8%)	2 (1.8%)	82 (8.2%)
Attachment problems ^{b*}	175 (22.7%)	47 (38.8%)	47 (41.2%)	269 (26.7%)
UCLA PTSD-RI	n = 556	n = 74	n = 71	n = 701
Re-experiencing subscale*	415 (76.1%)	49 (89.1%)	43 (68.3%)	507 (76.5%)
Avoidance subscale	272 (49.9%)	26 (47.3%)	30 (47.6%)	328 (49.5%)
Hyperarousal subscale	406 (74.5%)	44 (80.0%)	42 (66.7%)	492 (74.2%)
Total ^a	122 (21.9%)	16 (21.6%)	14 (19.7%)	152 (21.7%)
Posttraumatic stress symptoms ^b	n = 771	n = 121	n = 114	n = 1,006
Posttraumatic stress disorder*	435 (56.4%)	51 (42.1%)	69 (60.5%)	555 (55.2%)
Dissociation	86 (11.2%)	5 (4.1%)	13 (11.4%)	104 (10.3%)

* $p < .05$ ^aPercentage of participants that scored in the clinical range for this measure^bBased on the Clinical Evaluation item(s)**Table 4** Modeled odds ratios for child outcomes by child placement types

	Kinship care versus home w/ parents		Foster care versus home w/ parents		Foster care versus kinship care	
	OR	95% CI	OR	95% CI	OR	95% CI
Somatization ^a	0.25*	(0.07, 0.88)	0.32*	(0.11, 0.98)	1.31	(0.24, 6.84)
Attachment problems ^a	3.61*	(2.22, 5.87)	4.41*	(2.71, 7.18)	1.22	(0.67, 2.24)
Re-experiencing	2.66*	(1.04, 6.8)	0.7	(0.37, 1.33)	0.26*	(0.09, 0.78)
Posttraumatic stress disorder ^a	0.67	(0.43, 1.06)	1.39	(0.87, 2.24)	2.07*	(1.13, 3.80)

OR odds ratios, CI confidence interval

* $p < .05$ ^a Based on the Clinical Evaluation item(s)

with youth in kinship care reporting the greatest frequency (89.1%), followed by those who are home with parents (76.1%), and then those in foster care (68.3%). After further examination of the differences among each of the three groups, re-experiencing did reach significance when comparing the kinship care group versus the home with parents group, $t(21) = 2.17$, $p = .04$, as well as the foster care group versus kinship care group, $t(21) = -2.56$, $p = .02$. Specifically, living in kinship care was associated with significantly increased odds for having re-experiencing symptoms when compared to children living at home with parents (OR = 2.66) as well as children in foster care (OR = 0.26).

There was no significant difference in the likelihood of exhibiting re-experiencing symptoms when comparing the foster care group with those living at home with parents (OR = 0.7).

Internalizing and Externalizing Problems

There were no significant differences in CBCL Externalizing scores or externalizing behavior problems as reported by clinicians. CBCL Internalizing scores were also not significantly related to child placement types. However, there was some variation based on the clinical evaluation data.

Clinical Evaluation

Somatization

Somatization differed significantly across child placement types with those living at home with parents having the greatest frequency of Somatization (14.7%), followed by those in foster care (3.5%), and those in kinship care (2.5%; $p = .02$). Further, children living in kinship care ($OR = .25$) and foster care ($OR = .32$) had lower odds of experiencing Somatization than those living at home with parents, $t(28) = -2.26$, $p = .03$; $t(28) = -2.09$, $p = .04$; respectively. The likelihood of exhibiting somatization symptoms was not significantly different between those in foster care versus kinship care.

Attachment Problems

The likelihood of clinician's endorsing the presence of Attachment Problems significantly differed by child placement type in the overall model ($p < 0.001$) as well as when specifically comparing kinship care versus remaining home with parents, $t(28) = 5.40$, $p < .0001$ and foster care versus remaining home with parents, $t(28) = 6.23$, $p < .0001$. The odds ratios for Attachment Problems were particularly high when comparing the out-of-home placement groups with those living at home with parents; with youth in foster care ($OR = 4.41$) and kinship care ($OR = 3.61$) having significantly higher odds of such problems than those living at home with parents. When comparing foster care versus kinship care, there was no significant difference regarding Attachment Problems ($OR = 1.22$).

PTSD

Although the clinical evaluation of PTSD was only approaching significance when examining the overall model ($p = .06$), it was found to be significant when comparing the foster care and kinship care groups only, $t(28) = 2.45$, $p = .02$. That is, those living in foster care had higher odds of PTSD endorsement by a clinician ($OR = 2.07$) in comparison to children in kinship care ($OR = 1.39$).

Discussion

The purpose of this study was to examine the role of child placement types post caregiver-perpetrated trauma exposure(s) in child emotional and behavioral outcomes among a sample of clinic-referred children and adolescents in the United States. The study was exploratory in nature due to the mixed and inconclusive findings in the literature on child placement types and best practices for the child welfare

system, but it was expected that youth in foster care would show more severe trauma histories and symptoms compared to youth in kinship care. A particularly unique strength of this study was the in-depth level of available information regarding child trauma and outcomes, which was gathered from multiple informants (i.e., clinicians, youth, parents/caregivers, other relatives, and relevant collateral sources). In addition, the dataset captures a large, diverse group of trauma-exposed youth presenting at mental health agencies across the United States. Although this sample is not nationally representative, the results of this study provide clinically relevant information for clinicians and researchers working with trauma-exposed youth.

Although not initially hypothesized, important findings on the relationship between race/ethnicity and child placement type were noted. African American youth had twice the rate of out-of-home placement compared to White youth, who were evenly distributed across placements. This result is consistent with the disproportionate rates of foster care reported for African American youth (Knott and Donovan 2010; Summers 2015). Knott and Donovan (2010) examined the association between African American racial identity and foster care placement after controlling for child, caregiver, household and abuse characteristics, and found that African American children had 44% higher odds of foster care placement compared with White children. African American children tend to have lower rates of adoption and reunification from foster care, leaving them to spend more time in the child welfare system (Knott and Donovan 2010; U.S. Government Accountability Office 2007). Such racial disproportionality in the child welfare system has been impacted by relevant issues in policy implementation, such as the Multiethnic Placement Act of 1994 and Interethnic Adoption Provisions of 1996 (MEPA-IEP), due to insufficient funding and training. Further, studies have demonstrated relationships between children who are African American, children placed in state custody, and premature treatment dropout (Fraynt et al. 2014; Sprang et al. 2013). Barriers to access of services, as well as factors associated with foster placement for African American children need to be more fully considered when developing child welfare policies (Fraynt et al. 2014; Knott and Donovan 2010). Interestingly, Hispanics/Latinos were more likely to remain home with parents in this study. This aligns with reports that Hispanic/Latino overrepresentation in foster care across the country is less pronounced than for African American children (Summers 2015).

Another important descriptive finding that may have implications for study results was that the majority of children were living at home with parents post caregiver-perpetrated trauma exposure. This is consistent with research that states that the majority of children tend to remain home after an initial maltreatment investigation. As

noted, children remaining home have been found to have significant mental health needs, yet receive fewer services and are examined less often in the literature (Schneiderman et al. 2011; Walsh 2013). It is imperative that future research continue to contribute to our understanding of the needs and service utilization of children who remain home with parents after experiencing maltreatment.

Posttraumatic Stress Symptoms

The hypothesis that youth in foster care would experience higher levels of PTSD was partially supported by study results. According to the clinical evaluation data, providers endorsed PTSD at a significantly higher rate for youth in foster care compared to kinship care. The rate of PTSD diagnosis among youth living at home was also notably higher than youth in kinship care, but it did not reach statistical significance. It is possible that kinship care provides an adequate balance between child protection and continued connection with familiar caregivers (Walsh 2013), which may reduce risk for posttraumatic stress. Provision of social support following trauma exposure has been identified by multiple studies as an important factor influencing the development of posttraumatic stress among youth (Trickey et al. 2012). Youth in foster care in the current sample also had significantly higher number of trauma types, but the magnitude of this difference was small and therefore was not controlled in the analysis; it is unlikely, but possible, that small incremental trauma exposure among youth in foster care may have increased rates of clinician-rated PTSD.

Youth reports of PTSD symptoms contrasted with clinical evaluation results. Self-report data on the PTSD-RI indicated no significant differences in overall scores for PTSD across placement types. At the individual symptom cluster level, however, youth in kinship care reported significantly higher re-experiencing symptoms than youth in other settings. It is possible that youth in kinship care were exposed to more frequent or unpredictable trauma reminders through increased contact with their caregiver perpetrators. Although consistent, structured visits with biological parents for children in foster care have been found to be beneficial in some studies, other studies have found increased behavioral and emotional problems following biological parent contact (McWey et al. 2010). It is also possible that youth who remained at home may have reported fewer re-experiencing symptoms because the perpetrating caregiver was not living in the home or had been removed from the home. These differences likely reflect complex factors related to caregiver contact, including visit consistency, predictability, and safety, which should be accounted for in future studies.

Internalizing and Externalizing Symptoms

Overall, results of the clinical evaluation and caregiver report on the CBCL found few significant differences in internalizing and externalizing symptoms across placement types, with the exception of clinician-rated Somatization, where youth living at home showed significantly higher rates of clinical concern. Although not statistically significant, similar patterns of clinician-rated depression and anxiety were observed for youth living at home. On the CBCL, non-significant patterns showed reduced internalizing and externalizing symptoms for foster care youth compared to other placement types. It is possible that youth in foster care had previously received mental health services at a greater rate compared to youth living at home or with family, as children who are formally removed from home are required to receive a medical and mental health evaluation shortly after placement (Health Consumer Alliance 2006), often leading to a referral for mental health services that may target internalizing and externalizing behavioral concerns. As previously mentioned, it is unknown whether youth in kinship care were in formal arrangements that would result in a similar referral, or whether placements were informal. It is also plausible that, since the CBCL is a caregiver report measure, the caregiver completing the CBCL may not have had adequate opportunity to observe and reliably report on symptoms for youth in foster care.

Attachment Problems

Children in kinship care were three times as likely, and children in foster care four times as likely, to be identified by clinicians as exhibiting attachment problems. There were no significant differences between foster and kinship placements. Previous studies have found that maltreatment-related attachment problems may be exacerbated when children enter out-of-home placements, due to continued disruption in the child-caregiver relationship (Van den Dries et al. 2009). The lack of significant differences between the two out-of-home placement types may suggest that living with a relative in kinship care may not protect against the development of insecure attachment behaviors. Although kinship care placement has been found to decrease the number of multiple placements (Koh 2010; Walsh 2013), other studies have demonstrated that this decrease is not statistically significant compared to children in traditional foster care (Winokur et al. 2009).

Children who are removed from their homes often experience multiple placement transitions, even if they live with kinship caregivers for a portion of their time in the system (Taussig and Clyman 2011; Winokur et al. 2009), and placement instability is a powerful risk factor for developing attachment and other behavior problems (Simmel

2007). Additionally, prior research suggests that kinship care delays the time and reduces the likelihood of reunification with birth parents or adoption, with the advantages of kinship care diminishing as the duration of time in kinship care increases (Taussig and Clyman 2011). It is also possible that exposure to certain types of trauma experiences interact with placement type to affect outcomes. In alignment with prior literature (Greeson et al. 2011; Winokur et al. 2009), youth in both out-of-home placement types had significantly higher rates of exposure to neglect, which has been consistently been associated with developments of attachment problems (Tyler et al. 2006).

Limitations

Despite the aforementioned strengths, this study also had several limitations. The NCTSN Core Data Set is a quality improvement initiative that includes a sample of youth referred for trauma-focused mental health services at clinics within the National Child Traumatic Stress Network. Consequently, the sample is not nationally representative of U.S. youth, or clinic-referred youth seen for reasons other than trauma exposure. Additionally, specific details on a child's history of involvement in the child welfare system were not available (e.g., number of placement types, length of time in current placement, and reunification or reentry into the system). These details are important to consider when examining the role of the child welfare system and child placement types due to the noted impact of placement instability. The current study examined information collected at baseline; however, longitudinal studies will be necessary to better determine the impact of placement types on child outcomes, especially for symptoms and behaviors that have been found to develop as children get older. Attachment problems were determined by a single clinical evaluation item, which was not standardized. Self-reported categories were used to define placement types versus the use of child welfare administrative placement records.

Notably, the current study did not differentiate between the different types of kinship care (i.e., formal, informal, and voluntary), and it is possible that the sample consisted of a large percentage of children in informal or voluntary kinship care, which has been documented as the most common type (Walsh 2013). These types of placements may require less involvement of the child welfare system, suggesting either less severe trauma histories, fewer traumatic separation experiences when removed from home, and/or greater availability of supportive or involved family members. Future research should examine the relationship between kinship care types, trauma history, and posttraumatic stress.

Moreover, one of the primary measures of child behavior used in this study was a caregiver-report form.

Caregiver reporting accuracy may vary according to whether children are residing with their parent, a relative, or in foster care. Internalizing and externalizing symptoms may be harder for a caregiver to detect, especially for a caregiver who is less familiar with the child (i.e., “foster” caregiver versus “kinship” caregiver), which would contribute to less recognition and consequent endorsement of such symptoms amongst foster caregivers. Also, parents of those remaining at home may be hesitant to report symptoms, especially if they are the perpetrators of the child's trauma. It will be important for future research to address these limitations in order to better understand the role of child placement types for children who have experienced caregiver-perpetrated trauma.

Conclusions

Overall, this study's findings contribute to the inconclusive literature regarding child outcomes by placement types. Prior research suggests that there are advantages and disadvantages to each placement type, and that there may few differences between placements in regard to child symptoms and functioning (Rufa and Fowler 2016). Although policy endorses kinship placements when out-of-home placement is deemed necessary, the only finding of the current study supporting this approach was that children in foster care were more frequently rated by clinicians as having PTSD compared to kinship care. Future research should continue to delineate the benefits and drawbacks of each placement type in order to increase the ability of policymakers and other child welfare decision makers to reach informed decisions.

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Compliance with Ethical Standards

Conflict of interest This manuscript was developed (in part) under grant numbers 2U79SM054284 and 1SM080034-01 from the Center for Mental Health Services (CMHS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS). The views, policies, and opinions expressed are those of the authors and do not necessarily reflect those of CMHS, SAMHSA or USDHHS. On behalf of all authors, the corresponding author state that there is no conflict of interest.

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