Screening for trauma and behavioral health needs in child welfare: Practice implications for promoting placement stability

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ABSTRACT

Background: Although the child welfare field has initiated efforts to use standardized screening for trauma and behavioral health needs, research has rarely examined whether these screenings have influenced permanency outcomes.

Objective: Using data from three states' federal demonstration projects, we examined whether receipt of trauma and behavioral health screening and results of screening were associated with placement stability (i.e., fewer placements). Our inquiry focused on whether similar patterns of statistical associations would be observed in three distinct state settings.

Participants and setting: Samples comprised children in out-of-home care in three states newly implementing trauma and behavioral health screening. The states included a South Central state, New England state, and a Central Midwestern state.

Results: In all three states, findings showed children who received screening had a higher number of placements (i.e., placement instability). Likewise, all three states found that children whose screening results indicated greater need, such as higher number of trauma symptoms or lower behavioral health functioning, were more likely to experience a higher number of placements (i.e., placement instability).

Conclusion: Despite differences in screening tools and state-specific approaches, findings suggest that early screenings may provide important information that could be used to identify children's needs, make appropriate service referrals, establish well-matched placements, and support resource parents and birth parents toward better permanency outcomes. Regardless of potential benefits of early screening, it may be underutilized in the field. Future research is needed to replicate these findings and continue to build an evidence base for trauma and behavioral health screening.

1. Introduction

Numerous studies have explored trauma experiences in the child welfare-involved population (Briggs et al., 2012; Dorsey et al.,

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2012; Salazar et al., 2013). Children in out-of-home care (OOHC) are found to have experienced significant trauma, and as a result have behavioral health needs that must be addressed (Casanueva et al., 2011). Griffin et al. (2011) found that the proportion of youth in OOHC reporting at least one type of trauma was more than 95%, compared to approximately 68% in the general population (Copeland et al., 2007). While research has clearly demonstrated that these children have extensive mental and behavioral health needs (Lehmann et al., 2013; Oswald et al., 2010), these needs often go unidentified and untreated (Ai et al., 2013; Ko et al., 2008).

The service delivery system for youth in OOHC is fragmented (Davis et al., 2010), and the challenges associated with accessing behavioral health services for those youth are often found in the child welfare and behavioral health systems' response to those needs (Cooper & Vick, 2009). It was estimated that over 75% of youth in OOHC with diagnosable disorders receive no treatment (Kataoka et al., 2002). More recently Raghavan et al. (2010) examined four waves of data from the National Survey of Child and Adolescent Wellbeing and found only half received mental healthcare consistent with any national standard. Long term effects can be far reaching, including underperformance in school, unhealthy relationships, unemployment, and involvement in the criminal justice system (Children's Bureau, 2014).

In the absence of a systematic process for identifying these needs, youth may not be referred for assessment and treatment until behavioral health problems escalate (Conradi et al., 2011), resulting in behavioral problems, and potential placement disruption which exacerbates barriers to treatment (Hyde & Kammerer, 2009). Child welfare workers have difficulty in identifying behavioral health needs, particularly in early childhood, which underscores the importance of routine screening (Hoffman et al., 2016). When referred for assessment, behavioral health providers indicate they often do not receive adequate information regarding trauma history (McMahon & Forehand, 2005), so there is a need for practices that facilitate the process of information sharing (Hwang et al., 2017). Studies have also indicated that collaborative approaches between child welfare and behavioral health increase referrals and receipt of behavioral health services (He et al., 2015) as well as improvement in mental health (Bai et al., 2009; Chuang & Wells, 2010). A number of characteristics of the child and their circumstances as well as factors associated with the child welfare work environment were associated with referral to mental health, suggesting the need for standardized screening practices (Fong et al., 2018). Another study similarly found certain types of behaviors were more likely to yield treatment for children in foster care (Conn et al., 2016). These studies underscore the value of universal standardized screening, which has been touted as critical to identify children in OOHC in need of treatment to promote their wellbeing (Conradi et al., 2011). This paper explores the results of implementation of universal screening in three states in terms of placement stability and the practice implications associated with them.

2. Screening for trauma and behavioral health needs

Trauma-informed screening is a critical tool for identifying and responding to the behavioral health needs of children in OOHC (Hayek et al., 2014; Lang et al., 2017). Conradi et al. (2011) defines trauma screening as "a brief measure, test, instrument or tool that is universally administered to children by child welfare workers ideally during their initial contact with the child welfare agency. Trauma screening tools typically detect exposure to potentially traumatic events/experiences and/or endorsement of possible traumatic stress symptoms/reactions, they are not diagnostic" (p. 132). A variety of instruments have demonstrated adequate psychometric properties to screen children (Levitt, 2009; Mccrae & Brown, 2018). Best practice guidelines recommend screening for emergent risk within a 72-hour period of entry into OOHC, and for ongoing mental health needs within 30 days, repeated annually. Positive screens should yield referrals to comprehensive assessment (Romanelli et al., 2009).

There has been increased pressure on child welfare organizations to improve screening practices (Conradi et al., 2011; Kisiel et al., 2014; Romanelli et al., 2009) to aid in the identification of behavioral health needs and subsequent referral to a behavioral health provider for treatment. Child welfare workers have been able to identify symptoms of post-traumatic stress, and trauma intrusion and avoidance symptoms through screening (Whitt-Woosley et al., 2018). Using a standard screening instrument has been effective in identifying trauma-related behavioral health needs and resulting in more rapid access to treatment and support services, potentially minimizing behavioral escalation and reducing the risk for placement disruption (Hanson & Lang, 2016; Kerns et al., 2016; Whitt-Woosley, 2020).

Beginning in 2011, the Children's Bureau funded three cohorts of demonstration projects that involved implementation of universal trauma and behavioral health screening, and for some, implementation of related interventions such as the use of screening to trigger referral for functional assessment and use of that data in treatment selection and case planning (HHS-2011-ACF-ACYF-CO-0169; HHS-2012-ACF-ACYF-CO-0279; and HHS-2013-ACF-ACYF-CO-0637). Eighteen sites were funded. The literature has begun to document the results of many of these studies. In five states involved in the first cohort of this grant, screening generally resulted in identification of significant trauma exposure, and symptoms resulted in referral for appropriate services (Lang et al., 2017). Fraser et al. (2019) found that over 80% of children screened met the cut-off for requiring referral for treatment on at least one screening tool of those used in a statewide initiative. Another study found 61% of youth screened met this criterion for referral to treatment, which was also related to age, race/ethnicity, rurality, reason for placement, former receipt of behavioral health services and diagnosis, yet only 60% of those actually received behavioral health services (Pullmann et al., 2018). Jankowski et al. (2019) found mixed results of a multifaceted trauma-informed care intervention including trauma screening. Cao et al. (2019)) qualitatively examined caregiver engagement in behavioral health screening and its relationship to screening outcomes, which has implications for potential impact on placement stability.

In summary, recent policy and research has focused on the potential of trauma and behavioral health screening. A central assumption is that screening will help child welfare workers identify children's trauma and behavioral health needs, develop case plans that are responsive to children's needs (e.g., make referrals for appropriate treatment and services), and thereby facilitate improved children's outcomes. These assumptions have yet to be fully tested as existing studies have largely comprised process evaluations that

Table 1

Study methods across three states trauma projects.

Method domain	South Central	New England	Midwestern
Screening administration	Screenings conducted by child welfare staff within 10 days of foster care entry	Screenings conducted by community mental health clinicians targeted within 30 days of foster care entry	Screenings conducted by child welfare staff within 20 days of foster care entry
Screening data entry	Data entered into the child welfare information system	Data were entered into a joint database built for the project	Data entered into private agencies' information systems and exported to a centralized database
Screening tools	Measured trauma experiences, trauma and behavioral health symptoms, and behavioral health functioning Strengths & Difficulties Questionnaire (SDQ) Upsetting Events Survey (UES) Young Child PTSD Checklist Child PTSD Symptom Scale (CPSS) CRAFFT	Measured trauma experiences, trauma and behavioral health symptoms, and behavioral health functioning Child and Adolescent Needs and Strengths	Measured trauma experiences, trauma and behavioral health symptoms, and behavioral health functioning Child Stress Disorder Checklist – Kansas Version (CSDC-KS) Child Report of Post-traumatic Stress (CROPS) Child and Adolescent Functional Assessment Scale (CAFAS) Preschool and Early Childhood Functional Assessment Scale (PECFAS)
Screening Tool Score Interpretation	SDQ: Scores for total difficulties range from 0 to 40; Higher scores indicate higher strengths and difficulties; Clinical significance was a score $\geq$ 17. UES: Scores range from 0 to 15; Higher scores indicate higher trauma symptoms/needs; Clinical significance was a score $\geq$ 6. Young Child PTSD checklist: Scores range from 0 to 91; Higher scores indicate higher trauma symptoms/needs; Clinical significance was a score $\geq$ 31. CPSS: Scores range from 0 to 80; Higher scores indicate higher trauma symptoms/needs; Clinical significance was a score $\geq$ 31. CRAFFT: Scores range from 0 to 18; Higher scores indicate higher substance use needs; Clinical significance was a score 2.	CANS: Scores range from 0 to 3 for each of 50 items; Higher scores indicate higher needs related to strengths, needs and life functioning. An actionable item was identified for any CANS item that scored 2 or higher. No clinical significance score was established.	CSDC-KS: Scores range from 0 to 58; Higher scores indicate higher trauma symptoms/needs; Clinical significance was a score $\geq$ 19 CROPS: Scores range from 0 to 50; Higher scores indicate higher trauma symptoms/ needs; Clinical significance was a score $\geq$ 19 CAFAS: Scores range from 0 to 240; Higher scores indicate higher functional impairment; Clinical significance was a score $\geq$ 60 or one subscale $\geq$20 PECFAS: Scores range from 0 to 210; Higher scores indicate higher functional impairment; Clinical significance was a score $\geq$ 50 or one subscale $\geq$20
Screening Tool Reliability (Cronbach's alpha)	SDQ: α = 0.748 UES: α = 0.658 Young Child PTSD: α = 0.929 CPSS: α = 0.946 CRAFFT: α = 0.903	CANS: α = 0.809	CSDC-KS: α = 0.943 CROPS: α = 0.920 CAFAS: α = 0.823 PECFAS: α = 0.841
Screening rollout	Screening was rolled out by region to permit comparisons of implementing region to non-implementing region prior to statewide rollout	Screening was rolled out statewide	Screening was rolled out statewide because changes in information systems could not be staged in agencies that served multiple regions
Study period	February 2016 to September 2019	2016 to 2018	February 2017 to June 2019
Sampling approach	Children who entered foster care due to substantiated maltreatment during the study period ($N = 14,077$ children); stayed in foster care for >2 weeks; and, had not exited care by July 1, 2019. Analytic sample for question 1: $N = 3123$ Analytic sample for question 2: $N = 11,470$	Children who entered foster care during the study period ($N = 1800$) and whose case was opened and closed ($n = 432$). Analytic sample: $N = 432$	Children who entered foster care during the study period and stayed in care at least 20 days ($N = 9513$). Analytic sample for question 1: $N = 9513$
Independent Variable, research question 1	*Receipt of screening* was a dichotomous variable with 0 = no screening and 1 = completed screening	*Receipt of screening* was a dichotomous variable with 0 = no CANS completed and 1 = CANS completed	*Receipt of screening* was a dichotomous variable with 0 = no screening and 1 = completed screening
Independent Variable, research question 2	*Screening results* were based on established criteria across the screening instruments. The possible outcomes of the screening were (a) no screen-in, (b) trauma only screen in, (c) behavior only screen in, and (d) both trauma and behavior screen in	*Screening results* were variables that summed the number of actionable items on the CANS (out of 50 items)	*Screening results* were count variables that summed the score of the corresponding screening tool
Dependent Variable (DV)	Placement stability was defined as the number of placements while in out-of-home care during the study period.	Placement stability was defined as the number of placements while in out-of-home care during the study period.	Placement stability was defined as the number of placements while in out-of-home care during the study period.
Analysis, research question 1	T-tests compared implementing regions to non-implementing regions on the number of placements during the study period	ANOVA	ANOVA

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Table 1 (*continued*)

Method domain	South Central	New England	Midwestern
Analysis, research question 2	T-test were conducted only with implementing regions, comparing the four screening groups (see IV info) on number of placements	Pearson correlation coefficients	Pearson correlation coefficients
Analysis, supplementary question on clinical cutoff scores	ANOVA	Not applicable	ANOVA

document the challenges and successes of implementing trauma and behavioral health screening (Akin et al., 2017), the prevalence of trauma needs among the youth in foster care (e.g., Fraser et al., 2019), and proximal indicators of successful implementation through worker-level outputs and outcomes (e.g., Jankowski et al., 2019). Because few studies have examined child outcomes of trauma and behavioral health screening in child welfare, we know little about how these practices are associated with outcomes. One recent study demonstrated changes in mental health functioning and trauma symptoms among children who had been screened, but did not examine more distal child welfare outcomes among those children (Kerker et al., 2020). To work toward building an evidence base on trauma and behavioral health screening in child welfare, two important points need to be addressed. First, the literature lacks information on whether being systematically screened for trauma and behavioral health needs (receipt of screening), in and of itself, is associated with positive outcomes. Second, when screening is used by child welfare workers, data are needed on whether the results of the screening are influencing outcomes.

2.1. Current study

Despite extensive research related to standardized screening with this population of children and youth in foster care, the literature lacks evidence on the relationship between such practices and permanency outcomes. In this paper, three statewide projects of the U.S. Children's Bureau's third cohort of trauma grantees provide results associated with screening for trauma and behavioral health needs and the stability of placements among children in OOHC. We explore the relationships between: (a) the *receipt* of trauma and behavioral health screening and placement stability, and (b) the *results* of trauma and behavioral health screening and placement stability. Specifically, the two research questions asked were:

1. Was *receipt* of trauma and behavioral health screening associated with higher or lower number of placements (i.e., placement instability or placement stability, respectively)?
2. Was the *result* of trauma and behavioral health screening associated with higher or lower number of placements (i.e., placement instability or placement stability, respectively)?

In addition to answering these specific research questions, the focus of our inquiry was on whether the three states would find similar results. This study, while exploratory in nature, makes a unique contribution to the literature by addressing knowledge gaps on screening's relationship to outcomes, and describes whether similar results were observed in three sites that used distinct approaches to implementing screening but were striving for the same outcome of placement stability. Given that child welfare policies and practices vary dramatically across state jurisdictions, this study represents an exploratory, real-world and pragmatic inquiry that is particularly relevant to the overall field of child welfare.

3. Method

This article reports on the findings of three states' demonstration grants, focusing on the child welfare outcome of placement stability. While each state executed its screening, data collection, and data analysis within its own context, all three were exploring the relationship between trauma and behavioral health screening and placement stability. We report these three studies in a collective format, seeking to know whether results would be similar or contrasting. Table 1 compares the three states' studies by each domain of the study method. Each of the projects' research procedures were approved by their corresponding university's institutional review board.

3.1. Project setting

This paper presents results of three state's trauma demonstration project, including states in the regions of the South Central, New England, and Midwest U.S. Detailed descriptions of each states' project are available in previously published articles and summarized in Table 1 (Akin et al., 2017; Collins-Camargo et al., 2019). Trauma and behavioral health screening differed by who administered it, when it was administered, and where these screening data were collected. Two of the projects (South Central and Midwestern) had child welfare staff administer the screenings while the other project (New England) had mental health clinicians administer the screenings. The timing of administration varied from 10 days (South Central) to 30 days (New England) from entry into OOHC. Likewise, screening data were gathered in unique ways, In the South Central state, data were input into the child welfare agency's own

information system (South Central); in the New England state, data were input into a newly developed joint system with mental health; and, in the Midwestern state, data were gathered in private agencies' information systems and then exported to a centralized database (Midwestern). In all cases, these researchers were involved with the collection of the screening data and supported their dual use as both a practice and research tool.

The specific screening tools used by each state were determined by state implementation teams and unique to each state (Authors, 2017). Despite these differences, all three states used screening tools that measured trauma experiences and trauma symptoms. They also implemented the screening statewide; howeNver, the South Central site was able to execute a staged rollout by region and use the non-implementing regions as comparisons prior to the statewide rollout.

3.2. Sample

Each state defined their sample in accordance with their state partners and state policy and practice context. They developed implementation plans in a 12–18 month planning process that involved multiple child welfare stakeholders (Authors, 2017). Table 1 summarizes the samples of each state and the information below provides additional description as relevant to the state's sampling approach.

In the South Central state, between February 2016 and September 2019, 14,077 children who entered OOHC as a result of substantiated maltreatment were screened for trauma per the project protocol. Because screener compliance was not 100%, not all children who entered care from an implemented region were screened. In this study, the following inclusion criteria were used: 1) only children who were administered a screening instrument during their time in care were included in the implemented group; 2) children who entered and exited care within 2 weeks were excluded from this analysis for both the implemented and non-implemented groups because those who enter care for an extremely short duration are unlikely to be screened; 3) those children that had exited care by July 1, 2019, as a sizeable portion of the original sample was still in care at the time of this analysis. The analytic sample for the first research question was 3123 screened children. For the second research question, the sampling frame included all entries into OOHC following implementation in the child's service region who received an initial screener during the OOHC episode ($N = 11,470$).

In the New England state, approximately 1800 cases were opened for custody during the study timeframe between 2016 and 2018. There were 779 screenings completed on 432 cases. The majority of the screenings were conducted in the second half of 2017 and 2018.

In the Midwestern state, the sample compromised children who entered foster care from February 2017 to June 2019 and stayed in care for at least 20 days, allowing time for the mandatory screening. A total of 9513 children met these criteria.

3.3. Variables

3.3.1. Dependent variable

For both research questions, placement stability was the central outcome of interest. Across all three states, placement stability was operationalized as the number of placements a child experienced while in OOHC during the study period.

3.3.2. Independent variables

Two independent variables were of primary interest, one per research question. In the first research question, the independent variable was *receipt of trauma and behavioral health screening*. Across all three states, receipt of trauma and behavioral health screening was operationalized as a dichotomous variable with 0 = no receipt of screening and 1 = receipt of screening. The specific trauma and behavioral health screening varied by state. For those states that had multiple screening tools (i.e., South Central and Midwestern), receipt of one or more of the screening tools was defined as receiving screening. In the second research question, the independent variable was the *results of trauma and behavioral health screening* (i.e., score or category that resulted from screening). The New England and Midwestern states operationalized the result of screening as a total score (i.e., continuous variable). The South Central state used a categorical approach, indicating which of the following groups a child screened into: (a) no screen-in, (b) trauma only screen in, (c) behavior only screen in, and (d) both trauma and behavior screen in. Additionally, as part of supplemental analyses, results of trauma and behavioral health screening was considered in relation to established clinical cutoff scores on the various screening tools as described in Table 1 under screening tool interpretation.

3.4. Measures

The specific measures used for trauma and behavioral health screening were different in each state. However, in all cases, the states conducted a 12–18 month comprehensive planning period to select their specific screening tools and plan for their implementation statewide (Authors, 2017). Below is a summary of the screening tools used in each of the three states.

In the South Central state, child welfare workers screened all children entering OOHC within 10 days. The battery of instruments included in the screening process included the *Strengths and Difficulties Questionnaire* (SDQ) (Goodman, 1997), *Upsetting Events Survey* (UES) (Kubany et al., 2000), *Young Child PTSD Checklist* and *Child PTSD Symptom Scale* (CPSS) (Foa et al., 2001), and *CRAFFT* (Dhalla et al., 2011) dependent on the age of the child. Screening data were entered into the child welfare management information system, which calculated whether the scores indicated referral to behavioral health for a required functional assessment. All four screening tools demonstrated adequate internal consistency in this sample (SDQ, α = 0.748; UES, α = 0.658; Young Child PTSD, α = 0.929; CPSS (0.946); CRAFFT, α = 0.903).

The New England state used the *Child and Adolescent Needs and Strengths* Tool (CANS) (Lyons et al., 1999) as their trauma and behavioral health screening tool. It was administered by community mental health clinicians within 30 days of a child entering OOHC and then shared with the child welfare caseworker. Screening data were entered into a joint database that was built for this project with the goal of merging both child welfare and children's mental health data. Point-in-time screening data and point-in-time child welfare administrative outcome data were jointly fed into the system to allow for a comprehensive snapshot at the point of custody of the child's history, including risk and protective factors, allowing for enhanced progress monitoring over time. The CANS demonstrated adequate internal consistency in this sample ($\alpha = 0.809$).

The Midwestern state used a battery of screening tools based on the age of the child, including the *Child Stress Disorder Checklist – Kansas Version* (CSDC-KS) (Saxe et al., 2003), the *Child Report of Post-traumatic Stress* (CROPS) (Greenwald & Rubin, 1999), the *Child and Adolescent Functional Assessment Scale* (CAFAS) (Hodges & Wong, 1996) and the *Preschool and Early Childhood Functional Assessment Scale* (PECFAS) (Hodges & Wong, 1996). This set of screening tools were to be administered by day 20 of children entering OOHC. Each of them were entered into individual foster care agencies' information systems and then exported to a centralized database for analyses. All four screening tools demonstrated adequate internal consistency in this sample (CSDC-KS, $\alpha = 0.943$; CROPS, $\alpha = 0.920$; CAFAS, $\alpha = 0.823$; PECFAS, $\alpha = 0.841$).

3.5. Data analysis

Analyses varied by site according to the type of data collected in that state. In all cases, analyses were conducted by the research teams represented by the authors of this paper.

3.5.1. RQ1: receipt of screening and placement stability

For research question 1 on the receipt of screening and placement stability, analyses were concerned with comparing groups that received to groups that did not receive trauma and behavioral health screening. The researchers in the New England and Midwestern states conducted ANOVA to compare receipt of screening group to the no receipt of screening group on number of placements. The South Central state researchers used *t*-tests to compare the implementing region (receipt of screening) to the non-implementing region (no receipt of screening) on number of placements.

3.5.2. RQ2: results of screening and placement stability

For research question 2 on the results of screening and placement stability, analyses were focused on comparing screening scores in relation to number of placements. Researchers in the New England and Midwestern states had continuous data for the independent and dependent variables and, therefore, examined this question with Pearson correlation coefficients. In the South Central state, the independent variable was ordinal and, therefore, these researchers used t-tests only with the implementing regions, comparing their four screening groups on number of placements.

As supplemental analysis on research question 2, researchers in the South Central and Midwestern states conducted ANOVAs to assess the relationship between results on clinical cutoff scores and placement stability. These ANOVAs examined differences in number of placements (continuous variable) among two groups: children whose screening score was at or above the clinical cutoff and children whose screening score was below the clinical cutoff.

4. Results

This study sought to explore the relationship between trauma and behavioral health screening and placement stability, observing two constructs around screening. First, we observed *receipt of screening* to explore whether a child simply having any trauma or behavioral health screening was associated with placement stability. Second, we examined whether the scores generated in screening – *the results of screening* – were associated with placement stability. Moreover, we analyzed data from three different states' implementation of trauma and behavioral health screening in child welfare and focused our inquiry on whether similar statistical relationships were found among the three sites. Below are the results for the study's two research questions.

4.1. RQ1: was receipt of screening associated with placement stability?

As summarized in Table 2, receipt of trauma and behavioral health screening was associated with placement instability and was statistically significant for two of the three sites. All sites found that receipt of screening was associated with a higher number of

Table 2
Summary answers to research questions, across three states' projects.

Research question (rq)	South Central State	New England State	Midwestern State
RQ1: was receipt of screening associated with placement stability?	Yes	Yes	Yes
	Higher # of placements	Higher # of placements*	Higher # of placements*
RQ2: was screening result associated with placement stability?	Yes	Yes	Yes
	Higher # of placements*	Higher # of placements*	Higher # of placements*

* Statistically significant at $p \leq .05$ level.

placements (i.e., placement instability) as shown in Table 4. In the South Central state, children who received screening in the implemented regions experienced higher average placements than children in the non-implemented regions who did not receive screening (i.e., implemented region, $M = 1.91$ (SD = 1.23); non-implemented region, $M = 1.85$ (SD = 1.31)). These differences were not statistically significant ($t(3122) = 1.44$, $p = .150$). In the New England state, analyses showed that the average number of placements among children who received a screening upon entry to OOHC was 4.4 placements (SD = 2.9) while the average number of placements in the no receipt of screening group was 3.2. placements (SD = 2.1; $F = 192.28$ (df = 1); $p = .000$). Similarly, in the Midwestern state, results indicated that receipt of screening was significantly related to number of placements with those who received screening having an average of 3.7 placements (SD = 5.4) and those not receiving a screening having an average of 3.0 placements (SD = 4.7) (F (1, 9511) = 43.93, p = .000).

4.2. RQ2: result of screening and placement stability

As with receipt of screening, results of screening were associated with placement instability and were statistically significant in all three states (see Table 2). Results of screening that flagged higher trauma and behavioral health needs were associated with higher number of placements (i.e., placement instability). In the South Central state, there was a significant difference in average number of placements and screening result groups ($F(3, 11,466) = 226.3$, $p < .001$). The mean number of placements for each screening result group is shown in Table 3. Children who did not screen positive for trauma had significantly fewer placements than all other groups, followed by those who screened positive for trauma only, those who screened positive for behavior issues only, and then those who screened positive for both trauma and behavior issues. In the New England state, findings from Pearson's correlation showed a significant correlation between the number of actionable items identified on the screening measure at intake and number of placements ($r = 0.325$, p = .000). Finally, the Midwestern state's analyses of the relationship between the results of screening and placement stability were conducted for each of the screening tools using Pearson correlations. Screening results from each of the tools were significantly associated with placement stability with higher scores being related to higher number of placements (CSDC-KS, $r = 0.12$, $p < .05$; CROPS, $r = 0.10$, $p < .05$; CAFAS, $r = 0.36$, p < .05; PECFAS, $r = 0.34$, $p < .05$).

Results of the supplemental analysis on the relationship between clinical cutoff scores and placement stability were available for the South Central and Midwestern states. For the South Central state, the results were mixed. Three of the screening tools indicated no significant difference in number of placements between groups whose screening score was above and below clinical cutoff scores (Young Child PTSD, $F(1, 234) = 0.37$, $p = .55$; CPSS, $F(1, 861) = 2.77$, $p = .10$; CRAFFT, $F(1,614) = 0.78$, $p = .78$). In contrast, two screening tools indicated significant difference in number of placements with children who scored above the clinical cutoff having more placements (SDQ, $F(1,678) = 7.05$, $p < .01$; UES, $F(1,904) = 9.71$, $p < .01$). The Midwestern state found statistically significant associations for clinical cutoffs and placement stability on all screening tools with these associations representing higher number of placements for children who scored above clinical cutoffs (CSDC-KS, $F(1, 3477) = 31.99$, $p < .001$; CAFAS, $F(1, 985) = 137.66$, $p < .001$ CROPS, $F(1, 2081) = 22.05$, $p < .001$).

5. Discussion

This study contributes to the literature on trauma and behavioral health screening in child welfare by reporting findings on an important child welfare outcome, placement stability. We examined whether placement stability was associated with either the *receipt of screening* or the *results of screening* at the time children entered OOHC. While prior literature has provided a rationale for trauma and behavioral health screening in child welfare (Conradi et al., 2011; Romanelli et al., 2009) and explored the process of using these screenings in child welfare settings (Lang et al., 2017), to our knowledge, few prior studies report on the relationship between screening and a child welfare outcome (Clark et al., 2020). We found that both the receipt of and results of trauma and behavioral health screening were related to placement stability. Specifically, those children who received screening had a higher number of placements than children who were not screened. Additionally, children with results of screenings that indicated greater trauma and/or behavioral health needs had a higher number of placements. Although these findings are exploratory and require replication, they are noteworthy because they suggest that trauma and/or behavioral health screenings conducted at intake to foster care may forecast later outcomes. Additionally, the findings indicate that high-need screenings at intake relate to more problematic outcomes. Below is further discussion of these findings.

This study's findings on receipt of screening and results of screening should be considered side by side. Notably, screening for trauma and/or behavioral health needs as children enter foster care did not in and of itself result in improved outcomes as may have been hypothesized in the early conceptualization of this federal discretionary funding cluster (Administration for Children and Families, 2013). Rather, we found that receipt of screening was related to poorer outcomes (i.e., higher placement instability). Thus, it

Table 4
Receipt of screening by number of placements, across three states' projects.

State project	Mean placements (SD)		Test statistic	p
	Screened	Not screened		
South Central	1.9 (1.23)	1.8 (1.31)	t (3122) = 1.44	0.150
New England	4.4 (2.89)	3.2 (2.19)	F (1, 2017) = 95.16	0.000
Midwestern	3.7 (5.4)	3.0 (4.7)	F (1, 9511) = 43.93	0.000

Table 3

Result of screening and number of placements, south central state.

Screening result	Mean (SD)
No screen-in	1.7 (0.9)
Trauma screen-in only	1.9 (1.2)
Behavior screen-in only	2.1 (1.4)
Trauma & behavior screen-in	2.4 (1.9)

is important to pair the findings on *receipt of screening* with findings on *results of screening*. Like receipt of screening, results of screening were related to worse placement stability. With the backdrop of research on children's behavioral health in child welfare (e.g., Chamberlain et al., 2006; Koh et al., 2014; Leathers, 2006; Rubin et al., 2007), findings that show high-need screenings as predictors of high placement instability may be unsurprising. Prior research has revealed a complex relationship between social and emotional problems and placement instability, indicating that children's behavioral health problems may contribute toward placement moves; and, conversely, increases in placement changes may fuel behavioral health problems (Rubin et al., 2007). A key aspect of this study is that screenings occurred at the time of entry into OOHC; thus, children's trauma and behavioral health needs predicted placement instability. What is unknown is whether increased placement changes were in response to children's behavioral health needs and, therefore, clinically appropriate, or whether effective clinical use of screening results to treat concerns may be associated with reduced placement stability. We may also speculate that screening results created transparency around children's needs that were not revealed under pre-implementation practices. Thus, once a casework team knew a child had complex trauma needs, it may have set in motion a process for trying to find a well-matched placement and potentially increasing placement moves among children with significant needs. An increased knowledge of trauma needs may boost an emphasis on matching placements to those needs and clearer and quicker discovery of placements that are not going to meet a child's trauma needs.

A relevant implication of this study concerns the program placement and timing of screening for trauma and behavioral health needs. In the present study, screening was applied at intake to OOHC. Screening was envisioned as a mechanism to provide clinically important information that could guide selection of the *first* placement. Instead of allowing children to enter an emergency or brief first placement and then move a few days later, screening for trauma and behavioral health needs was a tool for making more effective matches between children's needs and first placements and potentially increasing placement stability. However, none of the three state projects were able to implement trauma and behavioral health screening during the child protective services' (CPS) assessments that occur pre-placement. Without frontloading trauma and behavioral health screening to occur before placement decisions, the opportunity to select the best placement may be lost. Prior research has shown that behavioral health interventions with resource parents or birth parents may support more positive outcomes for children with serious emotional and behavioral problems (Akin and McDonald, 2018; Price et al., 2008); therefore, identifying and intervening earlier could facilitate improvements in child welfare outcomes. Currently, child welfare systems are designed to focus on parent assessments prior to the child coming into custody, primarily because this is the information requested by courts to make removal decisions. Child assessments tend to occur after a child has entered OOHC, contributing toward a reactive foster care system that scrambles to conduct assessments that could inform well-matched placements.

Beyond strengthening children's experiences of foster care, screening for trauma and behavioral health needs during the CPS assessment process could support prevention efforts and align with states' implementations of the Family First Prevention Services Act (P.L. 115–123) (2018) in several important ways. First, screening for trauma and behavioral health needs may expand opportunities for making referrals to community-based Family First providers and thereby prevent placements in OOHC. Second, trauma and behavioral health screening results may assist CPS caseworkers in making good matches between children's needs and service referrals. Third, CPS referrals to Family First providers could include screening results to help providers respond more adequately and timely to children's trauma and behavioral health needs. Fourth, the aggregate data from behavioral health and trauma screenings can inform training needs of the workforce and resource needs of communities. Once child welfare systems become knowledgeable of behavioral health and trauma needs, they may begin to identify where needs are not being met by available community resources.

Collectively, this study's findings on the receipt and results of screening for trauma and behavioral health needs suggest that screening data holds promise for informing case planning and treatment planning. Our findings showed that screening data at intake to OOHC predicted later placement stability. Thus, if these exploratory findings are confirmed in future research, practice modifications may be worth further investigation around caseworkers' use of screening data to not only make placement decisions but to also support resource parents. These findings may also speak to the longstanding challenges that persist for child welfare systems to collaborate effectively with behavioral health systems (Kerns et al., 2014). As described in an earlier implementation study (Authors, 2017), these projects found it was difficult to engage the behavioral health system in coordinating screenings and providing timely responses to children in OOHC. Given the organizational and system snags and the current study's findings, another implication that warrants additional development and testing may be that child welfare systems conduct screening to inform child welfare outcomes (e.g., placement stability) and establish interventions within child welfare to address children's trauma and behavioral health needs, particularly interventions that will aide resource parents in keeping children stable while in OOHC. In addition to supporting resource parents, these results may also suggest that child welfare systems need interventions that support birth parents in caring for their children with trauma and behavioral health needs because permanency outcomes, namely reunification, are thwarted by a lack of interventions that meet children's behavioral health needs (Akin, 2011; Akin and McDonald, 2018).

This study suggests promise for using trauma and behavioral health screening at intake to OOHC because screenings demonstrated potential for informing referrals and service provision, which in turn could improve placement stability. With additional study and

consistent results, child welfare administrators should consider whether screening for trauma and behavioral health needs becomes routine and integrated practice in child welfare systems. Importantly, all three projects used a unique battery of screening tools. Despite the sizable amount of time, resources, and angst that was spent on selecting the "right" set of screening tools, we found a high level of consistency in placement stability outcomes across these three projects. Thus, the precise screening tool may be less important than using one that fits the child welfare jurisdiction, can be readily adopted and used by caseworkers, and provides data on level of trauma and behavioral health needs.

5.1. Study strengths and limitations

Key strengths of this study include its ability to measure trauma and behavioral health needs early in children's time in OOHC and track placement stability longitudinally. Second, the study's use of three state projects was beneficial because common results were found even with each state's distinct statutes, child welfare practice models, and organizational cultures. Another advantage was that each state project applied different screening tools and approaches, showing the study results within real-world implementation and evaluation. In addition to these strengths, some study limitations are noted. First, these analyses do not include data on the treatments and services delivered to children. Future research is needed to understand the relationship between screening, treatment, and placement stability. Second, we tracked placement stability longitudinally but also need research that looks toward longer-term outcomes, such as reunification, guardianship, and adoption. Third, the assumption that screening may result in fewer placements may be dependent not only on services provided to children but on the use of the information gained through screening by resource parents in their response to behaviors in the home. This study was unable to examine this mechanism. Finally, this study's analyses focused on investigating the pattern of findings across three state systems. Given the differences in available data, we were not able to include any covariates and therefore cannot account for other factors that may influence placement stability. A substantial literature exists that documents a wide range of potentially important predictors of placement stability including child factors (age, race, disability, siblings in OOHC), caregiver/family factors (type of foster home, number of children in home, parenting skills), maltreatment factors (type of maltreatment, severity, chronicity), and organizational factors (caseload size, worker turnover, burnout, private vs public) (e.g., Konijn et al., 2019; Oosterman et al., 2007). Future research on screening and placement stability could incorporate multivariable analyses that include additional contributing factors and thereby potentially provide more nuanced support of best practice recommendations for trauma screening in child welfare.

6. Conclusion

Trauma and behavioral health needs are significant and prevalent among children in OOHC. Yet, the field continues to lack systematic and routine practices that identify and treat these needs. In this study of whether the receipt or results of trauma and behavioral health screening would predict placement stability, we found that they did. Should these findings hold true in future studies, they will contribute to a body of evidence that promotes the use of trauma and behavioral health screenings as usual practice in child welfare systems. Although the literature documenting the array of trauma and behavioral health needs in this population, and extoling the benefits of such screening of children served by the child welfare system, there is a tremendous need for further research to understand the mechanisms of how screening and outcomes may interact with each other, and how the benefits of screening may be leveraged to promote the outcomes we seek for children, particularly in enhancing their overall well-being.

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Declaration of competing interest

None.

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