

## ABSTRACT

WINSLOW, MARIAH CLAIRE. Characteristics of Out-of-Home Placement and Educational Outcomes: A Longitudinal Investigation. (Under the direction of Dr. Kate Norwalk).

Children in out-of-home (OOH) care often experience adverse educational outcomes, such as low levels of academic achievement and engagement and social skills deficits. Previous research has largely found that OOH care is *not* an independent risk factor for poor educational outcomes, as children and youth who enter OOH care are also more likely to come from underserved backgrounds (based on race and poverty status) and have a history of maltreatment, both of which are associated with educational challenges. Nonetheless, children in OOH care are not homogenous; therefore, the present study investigated whether and how various OOH placement factors influence trajectories of educational outcomes, while considering important background characteristics that may confound or moderate these associations. Participants, drawn from a national longitudinal dataset of children who had contact with the child welfare system, were 653 children (ages 6 and older) placed in OOH care at Time 1. Results indicated that elementary-aged children in kinship care and all children (regardless of age) experiencing more school stability had higher levels of social skills and behavioral engagement at Time 1, respectively. Additionally, compared to children in non-relative foster care, children in group home settings experienced a significant increase in behavioral engagement over time. These findings are helpful for tailoring interventions and policies to reflect the impact of certain placement characteristics on school engagement and social skills for children in OOH care.

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Characteristics of Out-of-Home Placement and Educational Outcomes: A Longitudinal  
Investigation

by  
Mariah Claire Winslow

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## DEDICATION

This dissertation is dedicated to my incredible parents and grandparents. To my parents, Stephanie and Joe Fuller, the journey toward this accomplishment would have certainly been more challenging without your unwavering love, support, and encouragement. Thank you both for “sending” positive messages about the value of education from an early age. To my “Momma,” you taught me the importance of inclusion for *all*, which inspired this career path. To my “Dad,” you taught me not to take life too seriously, relax, and laugh when nothing quite makes sense. To my grandparents, Glenna and Joe Butler (“Grandma” and “Grandad”), and Fern and Jerry Fuller (“Gram” and “Papa”) – I am forever grateful for your words of affirmation, even if from afar, or from above. As educators and strong supporters of education, you all laid the groundwork, unknowingly or not, for me to pursue my passion within the field.

## **BIOGRAPHY**

Mariah Claire “Fuller” Winslow was raised in Hertford, NC - a small coastal town alongside the Perquimans River, in northeastern North Carolina. After graduating from Perquimans County High School in 2014, she attended North Carolina State University (NCSU) where she graduated in 2017 with a Bachelor of Arts in Psychology. Following her undergraduate degree, Mariah immediately began to pursue her graduate career, also at NCSU (Go Wolfpack!). She is currently completing a predoctoral psychology internship within the Wake County Public School System and will graduate with a Ph.D. in School Psychology in May 2022.

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## INTRODUCTION

In 2019 approximately 656,000 children and youth experienced substantiated reports of child maltreatment, and about 1.3 million children received post-response services from a Child Protective Services (CPS) agency (U.S. Department of Health and Human Services, 2021). Each year a subset of children who experience maltreatment are placed in out-of-home (OOH) care, including relative (i.e., kinship) or non-relative care. Numerous studies have documented adverse educational outcomes for children and youth in OOH care, including higher rates of school absence and dropout, suspensions and expulsions from school, lower reading levels, and a greater likelihood of receiving special education services (National Working Group on Foster Care and Education, 2018). However, despite broad consensus that children and youth in OOH care are a particularly high-risk group, there is a relative lack of agreement and understanding regarding the mechanisms by which OOH care may lead to adverse educational outcomes (Romano et al., 2014).

Comparisons of children in OOH care to those from similar adverse backgrounds (i.e., maltreated children who remain in their homes) suggest that the experience of maltreatment and its co-occurring risk factors, rather than OOH care itself, may lead to poor educational outcomes (Font & Maguire-Jack, 2013; Berger et al., 2015). Maltreatment serves as both a negative outcome resulting from a wide range of individual and contextual risk factors, as well as an independent risk factor for other adverse developmental outcomes (Maclean et al., 2016). Nonetheless, children's experiences in OOH care are not homogenous. For some children and youth, OOH care may serve as a stable and protective environment that helps to support their school engagement and academic achievement (Font & Maguire-Jack, 2013) whereas for others, the additional trauma of being removed from their home may place children at a significant

educational disadvantage. Understanding whether, how, and under what conditions OOH care may have an effect on educational outcomes is important for both policy and practice, as child welfare agencies have the responsibility of promoting not only the safety of children but also their educational well-being (Berger et al., 2015).

A recent review provides a comprehensive summary of the various care-related factors associated with educational outcomes for youth in OOH care (O'Higgins et al., 2017). These factors include number of OOH placements and placement instability, school mobility, reason for entry into care, age of entry into care, length of time in care, placement type (e.g., foster vs. kinship care), the characteristics and involvement of OOH caregivers, placement with siblings, and social work factors (e.g., turnover of social workers). Overall, the results of these studies have been mixed, in part due to methodological limitations including cross-sectional research designs, a focus on traditional educational outcomes (e.g., grade retention, drop out, test scores), and the examination of care-related factors in isolation rather than considering multiple risk factors simultaneously (O'Higgins et al., 2017; Stone, 2007). Moreover, few studies have accounted for relevant sociodemographic characteristics and pre-placement experiences that are associated with both maltreatment and educational outcomes, which has led to mixed and potentially biased research findings. To address these limitations, the present study will use longitudinal data from the second cohort of the National Survey of Child and Adolescent Well-being (NSCAW-II) to explore the effect of OOH placement factors on longitudinal trajectories of school engagement and social skills across three time points, while accounting for relevant sociodemographic factors.

## **Out-of-Home (OOH) Care and Educational Outcomes**

Children and youth in OOH care represent a small subset of children who experience maltreatment and are subsequently removed from their biological caregivers and either placed within non-relative OOH care, relative OOH care, or an institutional/group home setting. Although OOH care was developed to serve as an intervention for the effects of maltreatment and other associated social risks, it has often been characterized as an independent risk factor for maladjustment including poor educational outcomes (Fantuzzo & Perlman, 2007). These disparate outcomes are often interrelated and include traditional academic indicators (e.g., grades, graduation rates) but also other important factors that have the potential to influence children's educational experience, such as behavioral and social-emotional challenges. Comprehensive reviews of the educational outcomes for children and youth in OOH care (Trout et al., 2008; Scherr, 2007) demonstrate below grade level performance on standardized academic achievement measures, disproportionate overrepresentation in special education, a higher number of absences and school changes in comparison to peers, and higher rates of grade retention and exclusionary discipline practices (i.e., suspensions and expulsions). Additionally, children in OOH care are more likely to experience social skills deficits, higher rates of behavior problems, and lower levels of school engagement compared to their peers in the general student population (Fernandez, 2008; Pears et al., 2013; Pears et al., 2018).

To date, the majority of studies examining the educational outcomes of children in OOH care have assessed these outcomes in isolation or in comparison to the general student population and national normative data (Stone, 2007). Although these types of studies provide a good overview and description of the educational outcomes of youth in care, they are unable to address the extent to which OOH care represents a *unique* risk factor for poor educational

outcomes. Children and youth who ultimately enter OOH care are more likely to come from underserved backgrounds (i.e., based on race and poverty status) and have already experienced the potentially traumatic event of maltreatment, both of which are factors associated with educational adversity (Font & Maguire-Jack, 2013; Stone, 2007). Therefore, it is unclear whether poor educational outcomes among youth in OOH care can be attributed to OOH care itself, or rather pre-placement experiences (e.g., maltreatment) and risk factors associated with OOH placement.

Researchers have recently begun to disentangle the effects of maltreatment and OOH care by controlling for key sociodemographic factors within their models or creating matched samples to compare children in OOH care to similar peers (i.e., those who experience maltreatment but remain in-home; Berger et al., 2009; Berger et al., 2015; Font & Maguire-Jack, 2013). Further, some studies have taken a longitudinal approach to estimate change in educational outcomes over time as a function of OOH care, as these models reduce bias by accounting for baseline levels of educational outcomes (Berger et al., 2009). Overall, the results of these studies suggest no significant differences in outcomes such as cognitive skills, behavior problems, school engagement, and academic achievement between children in OOH care and children who have experienced maltreatment but remain in-home (Berger et al., 2009; Berger et al., 2015; Fantuzzo & Perlman, 2007; Font & Maguire-Jack, 2013; Stahmer et al., 2009).

### **Care-Related Factors and Educational Outcomes**

Despite research suggesting few or no differences in educational outcomes between maltreated youth in OOH care and those who remain in-home, few studies have attempted to examine the care-related risk factors that may differentially impact educational outcomes *among* youth in OOH care. The present study focuses on four specific care-related factors that have been

most extensively covered in prior research examining various outcomes for children in OOH care. Each is described in detail in the following sections.

**Placement Instability.** Placement instability is typically defined as the *number of placement changes* a child experiences, both within OOH care and between OOH care and placement with a biological caregiver. Overall, results from research examining the association between placement instability and educational outcomes have been mixed. For example, a recent systematic review of predictors of educational outcomes for children in OOH care found 11 studies between 1990 and 2016 that examined the link between placement instability and educational outcomes (O’Higgins et al., 2017). Five of these studies found that placement instability was negatively associated with reading and math skills, academic achievement on standardized measures, attendance, and GPA, whereas the remaining studies found no evidence of a link between a high number of placements with educational outcomes such as behavior problems, cognitive skills, and academic competence. Results from additional studies of placement instability that were not included in this review are similarly mixed, as some studies (Vinnerljung et al., 2005; Wiegmann et al., 2014; Lee, 2009) have found a high number of placements to be related to poor educational outcomes and problem behaviors, whereas others have not established a clear association (Maclean et al., 2017).

Despite these mixed results, there are valid reasons to anticipate that placement instability would have a negative impact on educational outcomes. Disruption associated with placement in OOH care may be accompanied by additional emotional and social stress, which is likely to adversely affect educational outcomes (Berger et al., 2015). More specifically, placement instability may result in continuous changes in primary caretakers, which require youth to adapt to new social and physical environments while simultaneously losing intimate bonds, significant

social relationships, and access to familiar places (Strikjer et al., 2008). Additionally, when children experience unstable placements, they are less likely to develop secure attachments with their caregivers, which has a negative effect on a host of developmental outcomes (Konjin et al., 2019).

**School Mobility.** Placement disruptions in OOH care often, but not always, coincide with increased school mobility (Zorc et al., 2013). In fact, one study found that approximately 65 percent of youth in OOH care experienced seven or more school changes between elementary and high school (Pecora et al., 2005). Children and youth who experience frequent school mobility may encounter disparities in curriculum and instructional methods and differences in school climate and culture, and adapting to these differences may distract from the learning process (Herbers et al., 2013). Additionally, frequent school changes may result in difficulty accumulating credits, placement in courses already taken, delays in transfer of school records and incomplete records, and barriers to receiving special education services (Zetlin et al., 2004). However, like the effects of placement instability on educational outcomes, the findings for the effects of school mobility on educational outcomes are mixed. For example, in their review, O'Higgins et al. (2017) found three studies that discovered a link between attending multiple schools and decreased test scores and another three studies that found no relationship between school mobility and educational achievement or attendance. Despite these mixed results, other studies not included in this review are more consistent, suggesting that greater school mobility is associated with worse educational outcomes for children in OOH care, such that the number of school changes predicts the likelihood of leaving high school without a credential, academic and social emotional competencies, or self-perceived academic ability (Clemens et al., 2016; Olsen & Montgomery, 2018; Pears et al., 2015).

**Caregiver educational involvement.** While its conceptualization may vary somewhat by study, caregiver involvement generally refers to caregivers' level of school-based and/or home-based educational involvement, and home-school communication. School-based involvement includes activities such as volunteering, attending a school event, and caregiver interest in solving problems at school, whereas home-based involvement may involve homework assistance and child-caregiver conversations surrounding school performance and other problems at school (Fantuzzo et al., 2000). Additionally, home-school communication involves contact between caregivers and school staff through a variety of forms (e.g., conferences, phone calls; Fantuzzo et al., 2000). Placement disruptions and school transfers often have an impact on the level of caregiver educational involvement experienced by children in OOH care, as foster caregivers may not have adequate information about a child's educational history or have few opportunities to become involved in schooling, particularly if a child is in an OOH placement for a limited time (Pears et al., 2010). Additionally, it is often unclear who acts as the child's guardian for educational purposes, which can create obstacles in educational planning and addressing school-related problems (Choice et al., 2001; Conger & Rebeck, 2001). Multiple studies have found a positive relationship between some aspects of caregiver involvement (including aspirations and expectations) and educational outcomes for youth in OOH care (Burley & Halpern, 2001; Cheung et al., 2012; Flynn et al., 2013; Pears et al., 2010). For example, Cheung et al. (2012) found that home-based caregiver involvement (but not school-based caregiver involvement) was associated with higher academic success on a multi-informant measure for youth in OOH care. Similarly, Flynn et al. (2013) found that school-based caregiver involvement along with a caregiver having higher educational aspirations for their child was associated with better average grades. Caregiver educational involvement may also have an



impact on less traditional academic indicators, as Pears et al. (2010) found that caregiver involvement fully mediated the effects of maltreatment and OOH care placement on social-emotional competence. Despite the majority of research suggesting the benefits of caregiver involvement on educational outcomes, Mihalec-Adkins et al. (2020) found no significant effects of caregiver involvement on the future expectations or social and cognitive engagement in school for youth in OOH care.

**Type of OOH Placement.** Common placement settings for youth in OOH care include non-relative foster care, kinship care, and institutional or group home settings. The decision and preference to place children entering OOH care with relatives (rather than non-relative caregivers) has been on the rise over recent years, as allowing children to establish and maintain connections with family members can have several benefits (Shlonsky & Berrick, 2001). However, studies comparing the educational outcomes of children in kinship and non-relative foster care have been mixed. Winokur et al. (2014) conducted a systematic review of the effects of kinship care on a variety of outcomes, including educational outcomes. In general, the authors found no significant associations between kinship care and rates of graduation, test scores, grades, or attendance. Similarly, O'Higgins et al. (2017) identified an additional 13 studies in their review that largely found no differences in educational outcomes between children in kinship and foster care. By contrast, Geenen & Powers (2006) found that children in non-relative foster care had significantly higher GPAs and total number of earned credits than children in kinship care; however, this study found no differences for test scores, grade retention, or attendance between the two groups. Despite these findings, there are some potential reasons to believe that children in kinship care may have poorer outcomes than children in non-relative foster care. Specifically, relative caregivers tend to be less economically advantaged compared

to non-relative caregivers, are often not required to participate in the same trainings or licensure requirements that non-relative caregivers are mandated to take, and are less likely to receive support services (i.e., respite care, peer support groups) than non-relative foster parents (Ehrle & Geen, 2002; Shlonsky & Berrick, 2001; Walsh & Mattingly, 2014). Research on the educational outcomes for children placed in residential group home settings is much more consistent, as these youth frequently experience negative educational outcomes including high dropout rates, low proficiency rates on state achievement exams, low reading scores, and poor grades (Flynn et al., 2013; Maclean et al., 2017; Wiegmann et al., 2014). Additionally, these youth often experience poor school attendance and behavior problems (Conger & Rebeck, 2001; Lee, 2009).

### **Relevant Background Characteristics**

Research examining the associations between OOH placement and educational outcomes has not consistently controlled for relevant factors that are associated with maltreatment, poor educational outcomes, or both (Piescher et al., 2014; Stone, 2007). Many of these factors may be more predictive of educational outcomes than OOH placement in and of itself and should therefore be considered when examining the educational outcomes of children and youth in care (Cage, 2018; Stone, 2007). Disability status, gender, race/ethnicity, and type of maltreatment have all been identified as factors that may impact the association between OOH care and educational outcomes. Children in out-of-home care are more likely to have a reported disability and/or chronic disability than their peers in the general student population and children who are involved with the child welfare system or experience maltreatment but remain in-home (Cusworth et al., 2020; Lightfoot et al., 2011; Smithgall et al., 2004). Several studies have also documented gender differences in academic achievement, with girls often out-performing boys among samples of children in the general population as well as those who have experienced

maltreatment (Cheung et al., 2012; Flynn et al., 2013; Pears et al., 2013). Structural and institutional racism and inequality within the education system, the child welfare system, and society at large all contribute to racial disparities in educational outcomes, disproportionality within the foster care system, and differences in care-related risk factors (Dettlaff & Boyd, 2020). These racial disparities are likely exacerbated by placement in foster care for Black youth specifically, as they are disproportionately represented in the foster care system and are more likely to experience a number of care-related risk factors compared to white children, such as placement instability and longer lengths of stay in OOH care (Dettlaff & Boyd, 2020; Foster et al., 2011). Moreover, children and their families from racial and ethnic minoritized backgrounds are less likely to receive additional services such as caseworker visits, foster parent support, and mental health treatment (Harris, 2014). Finally, research exploring the effects of maltreatment on educational outcomes for children in OOH care has typically combined children into a single maltreatment group. Consequently, it is not entirely clear how exposure to different forms of maltreatment may have differential effects on educational outcomes for children in care. Recent conceptual frameworks have begun to elucidate somewhat distinct developmental pathways for youth who experience neglect vs. physical or sexual abuse (Sheridan & McLaughlin, 2016). Neglect may be associated with the greatest risk for cognitive delays, as this form of maltreatment typically begins early in life and impacts critical periods of brain development. Alternatively, children who have primarily experienced physical and emotional abuse often have impaired emotional, behavioral, and social functioning, as they may have a tendency to perceive higher levels of hostility, threat, or aggression in their interactions with others (Romano et al., 2014).

These sociodemographic characteristics may also contribute to variability in OOH placement characteristics themselves. Disability status, experiencing physical abuse as a maltreatment type, and placement in a group home setting have been identified as risk factors for placement instability and school mobility (Connell et al., 2006; Koh et al., 2014). Similarly, racial, ethnic, and gender disparities in placement stability have been identified, with girls and Hispanic youth more likely to experience child-initiated placement disruptions (i.e., running away), and Black youth at the greatest risk for placement disruptions due to placement mismatch or substandard care (Sattler et al., 2018). These sociodemographic characteristics may also influence the types of placements that children enter. Children in kinship placements, which tend to be more stable than non-relative foster care placements (Steen & Harlow, 2012), are less likely to have an identified disability and less likely to be white than children in non-relative foster care (Font, 2014), whereas youth in group homes are more likely to be male, from a racial or ethnic minoritized background, and have more significant mental health needs, which are all associated with challenges to the child welfare objectives of permanency and stability (Chow et al., 2014).

### **Present Study**

Despite the widespread assertion that children in OOH care represent a particularly high-risk population for poor educational outcomes, there remains a general lack of agreement and understanding regarding *why* these poor educational outcomes exist (O'Higgins et al., 2017). Although several OOH care-related factors have been associated with a range of child educational outcomes, the results of this research are mixed, and these factors have largely been examined in isolation. Moreover, past research has typically failed to consider relevant sociodemographic background characteristics associated with maltreatment that may also lead to

poor educational outcomes. Examining the characteristics of OOH care that drive educational outcomes is crucial for the selection and development of targeted interventions to improve outcomes for children and youth in care. Thus, the purpose of the present study will be to contribute to the understanding of whether and how various OOH placement factors influence trajectories of educational outcomes across time, while considering important background factors that may confound or moderate these associations. More specifically, using longitudinal data from the second cohort of the National Survey of Child and Adolescent Well-being (NSCAW-II), the present study will examine the effects of aspects of OOH care (i.e., placement instability, school mobility, caregiver involvement, and placement type) on trajectories of two educational outcomes (school engagement and social skills), while controlling for relevant background characteristics (i.e., disability status, gender, race/ethnicity, and maltreatment type).

Based on previous research (Clemens et al., 2016; O'Higgins et al., 2017; Wiegmann et al., 2014), it is hypothesized that placement instability and school mobility will both be negatively associated with educational outcomes, such that children experiencing greater placement instability and school mobility will demonstrate a significant decrease in school engagement and social skills over time compared to children experiencing stable OOH placements and schools. Additionally, based on findings from previous studies (Burley & Halpern, 2001; Cheung et al., 2012; Pears et al., 2010), it is hypothesized that caregiver educational involvement will be positively related to educational outcomes, such that higher levels of caregiver educational involvement will be related to a significant increase in school engagement and social skills over time. Lastly, it is hypothesized that there will be a significant relationship between placement type and educational outcomes. Given findings that relative caregivers receive fewer supports, are less economically advantaged, and receive less training

than non-relative caregivers (Ehrle & Geen, 2002; Shlonsky & Berrick, 2001; Walsh & Mattingly, 2014), it is hypothesized that children in kinship care will show a greater decrease in school engagement and social skills over time, compared to children in non-relative foster care. Additionally, children in group home/residential programs will demonstrate the worst outcomes in these areas, as these children experience the most consistent negative outcomes across studies (Flynn et al., 2013; Maclean et al., 2017; Wiegman et al., 2014). It is anticipated that all aspects of OOH care (placement instability, school mobility, caregiver educational involvement, and placement type) will predict educational outcomes even after controlling for relevant background characteristics (race/ethnicity, gender, disability status, and type of maltreatment).

## **METHOD**

This study received exempt status by the North Carolina State University IRB for the use of extant data.

### **Description of Extant Data Source**

The present study utilized data from the second National Survey of Child and Adolescent Well-Being (NSCAW-II). The NSCAW-II is a national longitudinal dataset of children who had contact with the child welfare system within a fifteen-month period, beginning in February 2008. The NSCAW-I was the first national study of child welfare that collected data from children and families to answer a range of questions about the outcomes for children who experienced abuse and neglect, as well as about their involvement in the child welfare system. The purpose of NSCAW-II was to examine how the outcomes of children who had experienced abuse and/or neglect had changed since the conclusion of NSCAW-I, as data collection for this first study began nine years prior to the start of NSCAW-II. Baseline data collection took place between April 2008 and December 2009, with 18-month and 36-month follow-ups; all data collection

ended in December 2012. This longitudinal study was sponsored by the Administration for Children and Families (ACF) and the U.S. Department of Health and Human Services (DHHS).

### **Sampling Strategy**

The NSCAW-II study utilized a two-stage stratified sampling design. In the first stage, the United States was divided into nine sampling strata, with eight of the strata corresponding to the eight states with the largest child welfare caseloads, and the ninth stratum corresponding to the remaining 34 states and the District of Columbia. Eight states were excluded from the sample due to state laws requiring an agency first contact of the sample members. In the second stage, primary sampling units (PSUs) were formed and selected within each of the nine strata at the county level, for a total of 81 PSUs. Once the PSUs were formed, the NSCAW-II sample was constructed from monthly lists of children who were investigated or assessed for child abuse/neglect within the sample PSUs between February 2008 and April 2009. Children who were members of the same family or household of a previously selected child were deleted from the monthly file, to reduce burden on families. After deleting siblings and applying other eligibility rules (e.g., no children over age 17.5), a simple random sample of children was selected within each NSCAW-II domain, which included all children who were not receiving CPS funded services, infants receiving CPS funded services who were and were not in OOH care, and children ages 1 to 17.5 who were receiving CPS funded services and were and were not in OOH care. This sampling design contains many of the essential elements of NSCAW-I, including 71 PSUs in common, which was cost effective and field efficient, since cooperative relationships were already formed across most agencies.

## **Participants**

The total NSCAW-II cohort consists of 5,872 children and youth ranging from birth to 17.5 years at the time of sampling. For purposes of this study, only school-age children (age six and older) were included in the analyses, as the outcome variables of interest were related to educational outcomes and were not collected for children younger than six. Additionally, only children placed in OOH care at Wave 1 were included within the analyses. The resulting sample consisted of 653 children and youth ranging in age from 6 to 17 ( $M = 11.21$ ,  $SD = 3.45$ ).

Placement status breakdown during Wave 1 was as follows: 267 (non-relative foster care), 309 (formal or informal kinship care), 62 (group home/residential program), and 15 (other OOH arrangement). Given that children and youth in other OOH arrangements (e.g., emergency shelters, detention centers) represented such a small proportion of the sample, they were not included in the primary analyses. See Table 1 for additional demographic information.

## **Data Collection Procedures**

Data were collected from interviews with children, caregivers, child welfare caseworkers, teachers, and local agency directors. All three waves of data collection were used in this study. Baseline data were collected between February 2008 and December 2009, with follow-up data collection occurring approximately 18-months and 36-months later. To obtain child and caregiver responses, computer-assisted personal interviewing (CAPI) and audio computer-assisted self-interviewing (ACASI) methods were used. For children under 11-years-old, the CAPI and a modified version of the ACASI were used. In many instances, caregiver selection for the interview was straightforward; when field representatives encountered households with more than one caregiver, the adult who was “most knowledgeable” about the child and who had co-resided with the child for at least two months was selected. In situations where multiple



caregivers met this criterion, field representatives adhered to the following hierarchy: mother (biological, stepmother, adoptive mother, foster mother), grandmother, father (biological, stepfather, adoptive father, foster father), aunt, adult sister (biological, step, adoptive), uncle, adult brother (biological, step, adoptive), and other. However, for children in OOH care, biological parents were not included as respondents.

Adult respondents were asked to provide consent for their own interview and for the interview of the sampled child; however, if the adult respondent did not have legal guardianship of the child, the appropriate agency or person was contacted to provide informed consent for the child interview. Children over 7-years-old also signed an assent form. Caregivers were paid a \$50 cash incentive for their participation in the interview, children aged 10 and under received a \$10 gift certificate to a local toy store, and children aged 11 and over received a \$20 gift certificate to a local music or video store.

### **OOH Placement Characteristics**

A number of OOH placement characteristics were examined in relation to educational outcomes of children and youth in care. Continuous predictor variables (i.e., number of placements, school mobility, and perceptions of caregiver educational involvement) were grand mean centered prior to statistical analyses to aid in interpretation of the results.

**Number of Placements.** To estimate placement instability in OOH care, a derived variable was used from information gathered as part of the comprehensive cross-wave placement history for each child, which utilized caseworker and caregiver interviews. This cross-wave placement history includes the number and type of placements that the child experienced, which include transitions within OOH care and between OOH care and placement with a biological caregiver. The total number of placements that each child experienced by Wave 3 was used to

indicate the amount of instability over time, with higher numbers indicating more placement instability.

**School mobility.** Children were asked a set of questions regarding school change after placement into OOH care. To measure school instability, data from the following youth-reported item at each wave were used: “How many schools have you gone to since you stopped living with your parents?” This is a continuous variable, with higher numbers indicating a greater number of school placements. Youth who responded “1” to the previous question did not experience a change in school after placement into OOH care.

**Placement type.** Placement type was measured using a derived variable from information gathered from the child, caregiver, and caseworker instruments. OOH placement types include non-relative foster care, formal kinship care, informal kinship care, and group/home residential program. For purposes of this study, formal and informal kinship care were combined into one group; however, formal kinship placements are usually licensed and/or supported, both financially and through services, while informal kinship care generally lacks those supports and licenses. Each placement type was dummy coded to be dichotomized, and children in non-relative foster care served as the primary reference group.

**Perceptions of caregiver educational involvement.** Perceptions of caregiver educational involvement was measured using four “yes/no” youth-reported items, which focused on home-based activities that caregivers engaged in surrounding the child’s education and learning. These items were administered to all adolescent students (i.e., children in out-of-home care and those living in-home with their biological/adopted caregivers) 11 and older within the sample and include: 1) In the past 4 weeks, have you had a talk with your caregiver about a personal problem you were having? 2) In the past 4 weeks, have you talked about your

schoolwork or grades with [caregiver]? 3) In the past 4 weeks, have you worked on a project for school with [caregiver]? 4) In the past 4 weeks, have you talked with [caregiver] about other things you're doing in school? Responses (No = 0, Yes = 1) were summed across all items, so that higher scores indicate greater perceptions of caregiver educational involvement held by youth. A prior study which conducted a confirmatory factor analysis of these items indicated excellent fit (Mihalec-Adkins et al., 2020).

### **Educational Outcome Measures**

**School engagement.** To measure school engagement, students responded to 11 items from The Drug Free Schools Outcome Study Questionnaire (Dowd et al., 2013). Participants responded on a Likert scale, where 1=Never, 2=Sometimes, 3=Often, and 4=Almost Always. Items that were negatively phrased were reverse coded, so that higher scores on each item would indicate higher levels of school engagement. Similar to previous studies (e.g., Cage et al., 2019; Font & Maguire-Jack, 2013), these questions were divided into smaller scales to capture different aspects of school engagement (i.e., emotional, behavioral, cognitive-behavioral). Specifically, the three-factor structure of school engagement identified by Cage et al. (2019) using NSCAW-I data was used, which differs slightly from the structure used by Font & Maguire-Jack (2013). Three items measured emotional engagement (e.g., “How often do you enjoy being in school), six items measured behavioral engagement (e.g., “How often do you listen carefully or pay attention at school?”), and two items measured cognitive-behavioral engagement (e.g., “How often do you feel your work too hard to understand?”). A confirmatory factor analysis (CFA) revealed good fit ( $CFI = .945$ ) for the three-factor structure previously identified from an exploratory factor analysis (EFA) (Cage et al., 2019). Additionally, the total

scale demonstrated acceptable internal reliability ( $\alpha = .71$ ; Cage et al., 2019). Within the current sample, reliability estimates ranged from 0.72 to 0.77 across the three waves.

**Social skills.** Students' social skills were measured using caregiver responses to the Social Skills Rating System - Social Skills Scale (Gresham & Elliot, 1990). This scale assesses four positive social behaviors (assertion, self-control, responsibility, and cooperation). Out-of-home caregivers responded on a 3-point Likert scale, where 1 = never, 2 = sometimes, and 3 = very often. Some example items included: "How often does *child* respond appropriately when hit or pushed by other children?" and "How often does *child* make friends easily?" The number of items ranges from 38 to 40, depending on the child's age. The outcome variable is separated into two age groups, elementary (ages 6-10) and secondary (11 and older). The measure has well-documented psychometrics, with internal consistency estimates for the parent form ranging from 0.87 to 0.90 (Gresham et al., 2011). Similarly, reliability estimates on this measure for the current sample ranged from 0.85 to 0.90 across waves and age group (i.e., elementary and secondary).

### **Covariates**

Analyses will account for relevant background characteristics, including race/ethnicity, gender, disability status, and type of maltreatment. Additionally, models examining school engagement controlled for the effects of age.

**Race/Ethnicity.** Race and ethnicity were measured using a derived variable from information provided in the child, caregiver, and caseworker interviews. Dummy indicators (0 = no and 1 = yes) were created for the following categories: White/Non-Hispanic, Black/Non-Hispanic, Hispanic, and Other. Because research has demonstrated worse outcomes for children and youth in OOH care from historically marginalized racial/ethnic groups, White/Non-Hispanic

served as the reference group for comparisons; however, follow-up analyses comparing participants identifying as Black/Non-Hispanic, Hispanic, and Other were performed when applicable.

**Gender.** Gender (0 = male and 1 = female) was also measured using a derived variable from child, caregiver, and caseworker instruments.

**Disability status.** To measure disability status, OOH caregivers were asked “Have you ever been told by an education or health professional that [child] has learning problems, special needs, or developmental disabilities?” In this study, this variable was coded so that 0 = no (disability not reported) and 1 = yes (disability reported). Baseline responses were used to indicate the presence of pre-placement disability status.

**Type of maltreatment.** A derived variable using caseworker responses during Wave 1 was used to determine the “most serious” type of maltreatment the child experienced. Specifically, caseworkers were asked, “Of the types of abuse or neglect that were reported, please look at Card 9 and tell me the type that you felt was the most serious.” Dummy variables (0 = no and 1 = yes) were used to indicate the following maltreatment types: physical maltreatment, sexual maltreatment, neglect, and other (e.g., domestic violence, substance exposure, exploitation). Youth in the “other maltreatment” category served as the primary reference group in this study, and follow-up comparisons between the other types of maltreatment were conducted when applicable.

**Age.** Participants’ age was recorded in years, and ranged from 6 to 17. Age at Time 1 was centered around the youngest age group (6 years) and entered into the models examining school engagement as a fixed effect.

## **Analytic Strategy**

To address the primary research aims, multilevel growth curve modeling was used to examine initial levels and trajectories of school engagement and social skills over time as a function of the care-related factors of interest. The SAS PROC MIXED (Version 9.4) procedure was used to estimate two-level models, with Level-1 representing time and Level-2 representing children. For each educational outcome variable, model building proceeded in a series of steps. First, unconditional growth models with a random intercept and time as a Level-1 fixed effect were estimated to determine whether significant variance existed within and between children in the educational outcomes of interest. Time was centered at the first time point and treated as a continuous variable. Next, models were fitted with all covariates of interest. For each outcome, the control variables (i.e., age at Time 1, disability status, gender, race/ethnicity, and maltreatment type) and primary predictors were first tested as main effects and then as growth parameters by interacting each variable with time. All main effects, regardless of statistical significance, were retained in the final models whereas nonsignificant interactions based on the  $\chi^2$  likelihood-ratio test were omitted from the final models.

## **RESULTS**

Descriptive analyses, including frequency counts, means, and standard deviations, were calculated for all variables. Table 1 presents frequency counts and percentages for all background characteristics. Additionally, the number of placements ranged from 1 to 13, and the number of school placements ranged from 1 to 25. Chi-square analyses were performed to determine if there was significant overlap among any background characteristics. Results indicated significant overlap between gender and disability status ( $\chi^2(1) = 14.44, p < .001$ ), gender and sexual abuse ( $\chi^2(1) = 13.14, p < .001$ ), and gender and neglect ( $\chi^2(1) = 7.54, p =$

.006). An examination of the standardized residuals for each cell indicated that males were more likely than females to have a caregiver-reported disability and to experience neglect, whereas females were more likely to experience sexual abuse. Analyses were also performed to determine the extent of association among the background characteristics and the OOH care characteristics. Chi-square analyses revealed no statistically significant overlap between any of the background characteristics and placement type at any time point. Additionally, results of a series of one-way ANOVAs revealed that perceptions of caregiver involvement, number of placements, and school mobility did not vary by any of the background characteristics at any time point, with one exception: children and youth who experienced sexual abuse had greater school mobility than those who experienced “other” maltreatment at the second time point ( $p = .024$ ).

Bivariate correlation analyses were also conducted to examine the associations among the OOH placement characteristics at each time point. Results are presented in Table 2. Number of placements was moderately and positively associated with school mobility at each time point, such that a higher number of placements was associated with a higher number of school changes. By contrast, number of placements was positively associated with perceptions of caregiver educational involvement at Time 2 only, and there was no statistically significant association between perceptions of caregiver involvement and school mobility at any time point. In general, kinship care was associated with fewer placements and lower levels of school mobility, whereas group home status was associated with a higher number of placements and school changes. Additionally, non-relative foster care was associated with a higher number of placements, but not greater school mobility. Lastly, at Time 2, kinship care was negatively associated with perceptions of caregiver educational involvement, whereas a positive association was found for non-relative foster care.

Finally, bivariate correlations among the outcome variables of interest, between and across time, are presented in Table 3. All measures of school engagement and social skills were relatively stable over time. In general, emotional engagement and behavioral engagement were positively and moderately associated with each other at each time point, whereas the associations with cognitive behavioral engagement were weaker and less consistent across each time point. There were a number of positive associations between school engagement and social skills, with the strongest associations between behavioral engagement and social skills for secondary-aged students. Notably, there was a moderate, negative association between Time 2 cognitive behavioral engagement and Time 3 social skills among elementary-aged students, such that lower levels of cognitive behavioral engagement were associated with higher levels of social skills.

### **Effects of OOH Placement Characteristics and Covariates on Educational Outcomes**

For each educational outcome, multi-level models included the background variables described above (disability, gender, race/ethnicity, and maltreatment type), and the OOH placement predictors of interest (i.e., placement type, perceptions of caregiver educational involvement, school mobility, and number of placements). Table 4 presents results from the main effects models, where statistically significant main effects represent differences at the first time point. To determine whether trajectories of educational outcomes varied over time based on any of the background variables or OOH placement characteristics, two-way interactions between these variables and time were tested individually. Statistically significant interactions are reported in text and plotted in figures.

**Social skills.** The first two analytic models examined trajectories of caregiver-rated social skills over time. The first model examined social skills among elementary-aged children, and the



second among secondary-aged students. Results from the main effects model are presented in Table 4. For elementary-aged students, disability status was the only background characteristic that predicted social skills at Time 1 ( $b = -6.79, p = .040$ ); children with a caregiver-reported disability had lower caregiver-rated social skills scores at Time 1 compared to their peers without disabilities. This association did not change over time, as evidenced by a nonsignificant interaction between disability status and time. None of the remaining interactions between time and background characteristics were statistically significant and were subsequently removed from the final model. Among the OOH care characteristics, there was a statistically significant main effect for kinship care ( $b = 7.81, p = .007$ ); compared to children in non-relative foster care, those in kinship care had higher levels of caregiver-reported social skills at Time 1, and this association did not change over time. None of the interactions between time and the remaining OOH characteristics were statistically significant.

Regarding students at the secondary level, none of the interactions between time and the background characteristics were significant predictors of social skills and were subsequently removed from the model. There were statistically significant main effects for youth identified as Black ( $b = 6.03, p = .037$ ) and Hispanic ( $b = 7.59, p = .019$ ); compared to youth identified as White, Black and Hispanic youth had higher levels of caregiver-rated social skills at Time 1. There was no statistically significant difference between Black and Hispanic youth ( $b = 1.56, p = .571$ ). The main effect for physical abuse was also statistically significant ( $b = -9.37, p = .005$ ); children who experienced physical abuse as their “most serious” form of maltreatment reported by the caseworker had lower social skills scores at Time 1 compared to youth who experienced “other” maltreatment. There was also a statistically significant main effect for disability status ( $b = -4.92, p = .050$ ); compared to youth without a disability, those with a caregiver-reported

disability had lower social skills at Time 1. None of these effects changed over time, as evidenced by nonsignificant interactions with time. Finally, none of the OOH placement characteristics predicted initial levels or trajectories of social skills among secondary students when controlling for background characteristics.

**School engagement.** Three models examined the effects of background characteristics and OOH placement characteristics on types of school engagement (emotional, behavioral, and cognitive-behavioral). There was a statistically significant main effect regarding emotional engagement for gender ( $b = .18, p = .047$ ); girls reported greater levels of emotional engagement than boys at the first time point, and this did not change over time. Additionally, there were statistically significant main effects regarding emotional engagement for youth identified as Hispanic ( $b = .27, p = .037$ ) and youth within the “Other” race category ( $b = .38, p = .024$ ); compared to youth identified as White, Hispanic youth and youth in the “Other” race category had higher levels of emotional engagement at Time 1, and these associations did not change over time. Regarding behavioral engagement, the main effect of gender was statistically significant ( $b = .14, p = .040$ ), indicating that girls reported greater levels of behavioral engagement at Time 1 than boys. This association did not change over time, as evidenced by a statistically nonsignificant interaction between gender and time. Additionally, there was a statistically significant main effect for school mobility on behavioral engagement ( $b = -.03, p = .016$ ); students experiencing greater school mobility also reported lower levels of behavioral engagement at Time 1, and this association did not change over time. The two-way interactions between physical abuse and time ( $b = -.23, p = .009$ ) and group home placement and time ( $b = .18, p = .017$ ) were also statistically significant. These interactions are presented graphically in Figures 1 and 2, respectively. Follow-up simple slopes analyses revealed that children and youth

whose “most serious” form of maltreatment (as reported by the caseworker) was physical abuse experienced a significant decrease in behavioral engagement over time ( $b = -.19, p = .002$ ). By contrast, behavioral engagement did not change significantly over time for children and youth in all other maltreatment categories (i.e., neglect, sexual abuse, and “other”). Additionally, compared to children in non-relative foster care, those in group home settings experienced a significant increase in behavioral engagement over time ( $b = .22, p < .001$ ). There was no statistically significant difference in trajectories of behavioral engagement between children in foster care and kinship care. Lastly, neglect was the sole predictor of cognitive behavioral engagement at Time 1, such that children who experienced neglect reported lower levels of cognitive-behavioral school engagement ( $b = -.19, p = .037$ ) than children experiencing other types of maltreatment, and this did not change over time. None of the other covariates emerged as statistically significant predictors of initial levels or change over time in cognitive-behavioral engagement.

## DISCUSSION

Previous research has consistently documented adverse educational outcomes for children in OOH care; however, the extent to which OOH care represents a *unique* risk factor beyond sociodemographic characteristics and trauma history is not well understood. Given that children in OOH care are a particularly high-risk group, it is important to understand how various conditions of OOH care affect educational outcomes, in order to inform policy and practice across multiple systems (e.g., child welfare, education). Therefore, the purpose of the present study was to examine the effects of four OOH care-related risk factors (i.e., number of placements, school mobility, placement type, and perceptions of caregiver educational involvement) on the trajectories of two social-emotional related educational outcomes (i.e.,

social skills, school engagement), while accounting for relevant background characteristics (i.e., race, gender, maltreatment type, and disability status). Similar to past research, results of this study were mixed, with partial support for the hypotheses that OOH care factors would predict educational outcomes beyond sociodemographic factors and trauma history.

### **OOH Placement Characteristics and Educational Outcomes**

The primary aim of this study was to examine whether specific OOH placement characteristics predicted initial levels and trajectories of educational outcomes over time. It was hypothesized that both number of placements and school mobility would be negatively associated, whereas perceptions of caregiver educational involvement would be positively associated, with educational outcomes over time. Additionally, it was hypothesized that compared to children in non-relative foster care, children in kinship care and group homes would show a greater decrease in educational outcomes over time, with children in group homes demonstrating the worst outcomes. In general, only partial support was found for these hypotheses.

Contrary to expectations, number of placements and perceptions of caregiver educational involvement were not associated with initial levels or change over time in social skills or school engagement. These findings are somewhat surprising; although past research findings regarding these factors have been mixed, there is reason to speculate that negative associations between number of placements and educational outcomes, and positive associations between perceptions of caregiver involvement and educational outcomes, would exist (Flynn et al., 2013; Lee, 2009; Pears et al., 2010; Vinnerljung et al., 2005; Wiegmann et al., 2014). Specifically, experiencing a higher number of placements may be accompanied by additional social and emotional stress due to continuous changes in social environments which can lead to decreased engagement in school

and social competence, while caregiver educational involvement may help to buffer against the negative effects of early adversity, as caregivers can provide practical assistance, emotional support, and may pass on their views regarding the value of education, which all support educational success (Berger et al., 2015; Pears et al., 2018; Strikjer et al., 2008). Notably, this study did not examine the *quality* of the placements that children in OOH care experienced, which may have contributed to these non-significant findings. Past research has demonstrated that feeling loved and secure in OOH care placements is a stronger predictor of educational success than number of placements and school mobility alone (Cashmore et al., 2007). Similarly, one study found that children's perceived feelings of placement security had an indirect effect on school engagement, via future expectations (Mihalec-Adkins et al., 2020). Thus, it is possible that a change in placement could result in *positive* outcomes for children in OOH care if the placement were a more supportive environment. Relatedly, this study did not examine the characteristics of caregivers (e.g., age, educational attainment, mental and physical health status, marital status) which may have impacted both educational outcomes and variability among the OOH placement characteristics themselves. For example, caregivers with a higher education level, sufficient economic resources, and healthy family and marital functioning have been found to promote placement permanency for older youth in OOH care (Day et al., 2018). Additionally, caregiver characteristics can impact the level of cognitive stimulation and emotional support children receive while in OOH care (Barth et al., 2008).

Measurement concerns with the number of placements and perceptions of caregiver involvement variables may have also contributed to nonsignificant findings. An estimation of placement instability was measured using a *total count of the number of placements* a child experienced across the waves, which may not adequately address the complexity that

accompanies placement change. Specifically, while the characteristics of the placement (e.g., restrictiveness, type, outcome) can be controlled using this method, it does not take into consideration essential differences that explain the placement change, such as the length of placement or reason for disruption (Pac, 2017). Future work should explore creative methods to measure placement instability more precisely, which may include controlling for time (including the length of placement and overall placement trajectory), comparing categories of sample participants which describe a child's overall placement trajectory (e.g., early stability, later stability, variable pattern, and unstable pattern), and using more advanced methods, such as survival analysis to model placement instability (Pac, 2017). Moreover, this study relied on a limited measure of caregiver educational involvement, as it consisted of four, yes/no questions measuring adolescent (ages 11 and older) perceptions of home-based involvement. Despite results of a CFA with excellent fit for the latent variable in a prior study (Mihalec-Adkins et al., 2020), this measure may not be adequate to capture the complexity of caregiver educational involvement. Specifically, while the latent variable captures behavioral aspects of caregiver involvement (e.g., talking about schoolwork, working on a project), it does not capture whether these interactions are positive or negative. Future studies should consider other aspects of caregiver involvement such as academic socialization, which includes the messages that caregivers use to convey their attitudes, beliefs, and expectations around the value and utility of education (Hill & Tyson, 2009). For example, several studies have shown that parental messages regarding pressure and shame have a negative effect on educational outcomes, including classroom engagement and academic self-efficacy (Cross et al., 2019; Ross, 2017). Additionally, elementary-aged children (ages 6 to 11 within this study) did not respond to these questions, which potentially limited the findings in this study. Previous research has consistently shown that

caregiver educational involvement declines as children get older and become more autonomous (Jensen & Minke, 2017). Additional work should be done to develop valid and reliable measures of caregiver educational involvement which adequately address the nuances within the construct across all ages.

In contrast to nonsignificant findings for number of placements and perceptions of caregiver involvement, hypotheses regarding school mobility were partially supported, for the behavioral engagement outcome only. Although a greater number of school moves did not predict changes in social skills or school engagement over time, it did predict initial levels of behavioral engagement, such that children experiencing a higher level of school mobility had lower levels of behavioral engagement initially. Behavioral engagement is generally described as participation in school, as it includes involvement in academic and social/extracurricular activities, effort, and positive conduct (Appleton et al., 2008; Fredericks et al., 2004). Although not specific to children in OOH care, studies have found that changing schools predicts decreased classroom participation and increased behavior problems (Gruman et al., 2008; Lleras & McKillip, 2017). Given a host of other adverse experiences (e.g., maltreatment, poor social functioning) that youth in OOH care are likely to experience, the negative effects of school mobility on behavioral engagement are likely exacerbated for this population and highlight the importance of maintaining stability when possible and beneficial to the individual student. It is also possible that behavioral engagement may precede school mobility, rather than mobility leading to lower behavioral engagement. More specifically, disengagement and behavioral problems can lead to school-initiated (e.g., suspensions, expulsions) or caregiver-initiated (e.g., school transfers) school moves in order to address student challenges (Gasper et al., 2012). As

such, students with behavioral challenges are more likely to change schools and dropout when compared to their peers (Calibuso & Winsler, 2021; Osher et al., 2003).

These findings are important in light of recent legislation (i.e., Every Student Succeeds Act; ESSA, 2015) that prioritizes educational stability for children in OOH care, which includes protections against school moves, delays in transfer of school records, and gaps in enrollment. This federal policy also includes a reciprocal requirement for local education and child welfare agencies to determine whether school moves associated with a change in placement are in a student's best interest, through a process called best interest determination (BID; ESSA, 2015). While the directionality between school mobility and behavioral engagement is unclear, schools should 1) prioritize stability as mandated and determined to be in the best interest of the child, and 2) explore strategies that encourage and support behavioral engagement and positive conduct for youth in OOH care and consider alternative forms of school discipline, which may lead to unnecessary transitions.

Placement type (i.e., non-relative foster care, kinship, or group home) also emerged as a significant predictor of initial levels of social skills among elementary-aged (ages 6-11), but not secondary-aged, children. Compared to children in non-relative foster care, elementary-aged children in kinship care had higher levels of social skills initially, and this did not change over time. It is possible that similar effects were not found for older children due to differences in developmental contexts. When children are younger, parents and caregivers play a crucial role in their social development; however, as children age and enter adolescence, they often become more independent and look toward their peers for support in navigating social situations (Rubin et al., 2006). Therefore, when children are younger, living with a familiar and similar relative, particularly for children from racially and ethnically marginalized communities, may be even



more important for social-emotional development and psychological adjustment (Anderson & Linares, 2012). It is also possible that reporter bias may have contributed to these findings, as kinship caregivers may be less inclined to report negative behaviors compared to non-relatives (Shore et al., 2002; Vis et al., 2016). Therefore, it is possible that teacher responses to the social skills measure would have more accurately captured the child's ability to interact with their peers and school staff. While teacher ratings of social skills were included within the NSCAW-II dataset, the overall response rate was extremely low, especially for youth in OOH care, and data was not collected from teachers in Wave 3.

Finally, results did not support the hypothesis that children in group homes would experience the greatest decrease in educational outcomes over time compared to their peers in kinship and non-relative foster care, and in fact, the opposite was found for behavioral engagement. Specifically, children in group homes experienced an increase in behavioral engagement over time compared to children in non-relative foster placements. This result is surprising, as a wealth of literature has consistently shown worse outcomes for youth in residential group homes (Conger & Rebeck, 2001; Maclean et al., 2017; Wiegmann et al., 2014). It is possible that this finding was due to differences in school experiences between youth in residential group homes and other placement types, as children in group homes may attend on-site schools with additional resources that support behavioral engagement, while children in other placement types generally attend schools within the community. Additionally, many group homes offer health care (mental and medical), additional educational services, advocacy, and the opportunity to acquire independent living skills, which may contribute to positive outcomes (Chow et al., 2014). While this study revealed encouraging findings related to behavioral engagement for youth in group homes, recent federal child welfare reform, the Family First

Prevention Services Act (Family First; Lindell et al., 2020), significantly restricts federal funding to most group home settings in order to encourage and expand access to family-based placements and preventative services. Considering the wealth of literature regarding negative outcomes for youth in group homes that prompted Family First provisions, policymakers should equally consider the potential benefits associated with group home care, especially for students with significant emotional and behavioral needs. To ensure the educational success for all youth in OOH care, it is imperative that child advocates, researchers, and policymakers work in collaboration to make sure these provisions have their intended effect and do not contribute to any unforeseen consequences.

### **Relevant Background Characteristics and Educational Outcomes**

Prior research has not consistently accounted for the impact of relevant sociodemographic background characteristics associated with maltreatment that may also impact educational outcomes for youth in OOH care. Although not the primary aim of the current study, a number of background characteristics emerged as predictors of social skills and school engagement, both initially and across time. Both elementary and secondary-aged children with a caregiver-reported disability had lower levels of caregiver-reported social skills initially, and this did not change over time. This finding is unsurprising, as many students with disabilities, not just those in OOH care, experience social challenges. Nonetheless, there is evidence that children in OOH care are more likely to have a disability and be placed in special education than their peers who are not in OOH care (Lightfoot et al., 2011; Scherr, 2007). Similarly, gender predicted initial levels of both behavioral and emotional engagement, such that female students reported higher levels of engagement compared to male students, and this association did not change over time. Consistent with a previous systematic review documenting gender differences in

educational outcomes (O'Higgins et al., 2017), girls in this study out-performed boys in their level of behavioral participation and emotional engagement in schools.

Race/ethnicity also emerged as a significant predictor of social skills for secondary-aged students and emotional engagement for all students. Compared to their White counterparts at Time 1, Black and Hispanic youth had higher levels of caregiver-reported social skills, while Hispanic youth and youth in the "Other" race category had higher levels of emotional engagement. These findings are somewhat difficult to interpret, as the literature regarding the associations between race/ethnicity and social skills and school engagement is both limited and mixed (Elias & Haynes, 2008; Garner, 2006; Johnson et al., 2001; Kistner et al., 1993; Li & Lerner, 2011; Sciarra & Seirup, 2018). Further, prior investigations examining racial and ethnic differences in school engagement have primarily focused on samples of predominantly White or Black youth, making it difficult to connect findings to Hispanic youth and youth from "other" racial/ethnic backgrounds (Garcia-Reid et al., 2005). Additionally, these findings are limited to demographic descriptions of race categories which do not capture within-group variability or the cultural and contextual mechanisms that may contribute to group differences. Group comparisons based on race/ethnicity may also mask the effects of other sociodemographic characteristics which are closely associated with race/ethnicity, such as socioeconomic status (SES), which was not controlled for within the current study. One study (Kuo et al., 2020) found a significant interaction between race/ethnicity and SES on social-emotional skills, such that White students from low SES backgrounds had the lowest social-emotional scores, compared to their peers from other racial/ethnic groups. However, as SES increased, White students tended to have higher social-emotional scores when compared to their similar SES peers from other racial/ethnic groups. Several possible explanations were proposed by the authors, including a

reference bias related to SES differences across race/ethnicity and cultural differences in values or experiences. Future studies should explore the relationships between race/ethnicity and both social skills and school engagement to better understand *why* such between-group discrepancies exist.

Lastly, this study revealed some interesting findings related to the association between the type of maltreatment a child experienced and educational outcomes over time. These findings contribute to the limited research on how experiencing different forms of maltreatment may differentially impact educational outcomes for children in OOH care. In general, a cumulative risk model is the prevailing approach for examining the consequences of child adversity and maltreatment, given the recognition that children who have been exposed to one type of adverse experience have also likely experienced other types of adversities (Evans et al., 2013); however, an alternative neurobiological conceptual framework termed the Dimensional Model of Adversity and Psychopathology (DMAP; Sheridan & McLaughlin, 2014) differentiates between two dimensions of adverse experiences (i.e., threat and deprivation). According to DMAP, experiences of deprivation (typically operationalized as neglect) and threat (typically operationalized as physical and/or sexual abuse) are likely to co-occur, but nonetheless represent distinct forms of maltreatment that have unique effects on cognitive, emotional, and neurobiological developmental pathways. As such, DMAP contends that children who experience neglect are more likely to experience disruptions in cognitive development, whereas difficulties for children who experience physical abuse may include hypervigilance for threat and hostile attributional biases (Lee & Hoaken, 2007; Romano et al., 2014, Sheridan et al., 2017).

Consistent with a dimensional model of adversity, children in the present study who experienced neglect as their most significant form of maltreatment had lower self-reported levels

of cognitive behavioral engagement at Time 1, whereas children whose most significant form of maltreatment was physical abuse demonstrated lower levels of social skills at Time 1 and a significant decrease in behavioral engagement over time compared to children experiencing “other” maltreatment. Experiences of neglect may lead to cognitive delays and differences in higher-order cognitive processes (e.g., executive functioning) that make academic work more difficult (Sheridan & McLaughlin, 2014; 2016). Accordingly, children who had experienced neglect in the present study were more likely to report that they found schoolwork too hard to understand and that they frequently failed to turn in homework and assignments. By contrast, experiences of physical abuse may lead to difficulties with emotional and behavioral regulation, as well as a greater likelihood of using avoidant coping strategies (Milojevich et al., 2020). These challenges are likely to impact interactions with peers and school staff and ultimately impact a child’s social functioning and their level of participation in schools. Overall, these findings contribute to the growing literature that different dimensions of child maltreatment have unique influences on development, and ultimately educational outcomes.

### **Limitations and Future Directions**

While the present study has a number of strengths, and contributes to the literature regarding predictors of educational outcomes for children in OOH care, results should be interpreted in light of some limitations. First, although the longitudinal nature of the present study is a key strength, children were ultimately followed for a relatively short period of time (i.e., 36 months). Therefore, this study cannot make conclusions about the longer-term impacts of OOH placement characteristics on social skills and school engagement. Second, there were a number of measurement issues that may have limited the validity of the findings. In addition to the aforementioned limitations of the caregiver educational involvement and placement

instability variables, it is important to note that the measure of school mobility did not account for “natural” school changes (e.g., transitioning from elementary to middle school), which may have limited the findings regarding change in educational outcomes over time as a function of school mobility. Additionally, the measure of disability status relied on caregiver report, rather than formal documentation of a disability (e.g., Individualized Education Plan, private evaluation report). Therefore, it is possible that the overall percentage of children with a disability in the sample was biased, as caregivers may underreport or overreport the presence of a disability.

Finally, the purpose of this study was to isolate individual placement factors to examine their unique associations with school engagement and social skills; however, by controlling for all other predictors and background characteristics within the analytic models, the interactive or cumulative associations between these factors and educational outcomes were not examined. As mentioned previously, when children in OOH care experience one risk factor (e.g., placement instability), it is more likely that they will also encounter another risk factor (e.g., school mobility). Similarly, intersectionality among the socio-demographic background characteristics examined in this study (e.g., race and gender) may have led to variability in the OOH placement characteristics, further impacting trajectories of engagement and social skills. This study also did not consider other relevant child characteristics, such as behavior problems and mental health concerns, that may have impacted educational outcomes for children in OOH care. Each of these characteristics can lead to differential selection into the placements they are assigned, as well as the quality of those placements, and ultimately impact how well children respond to OOH care. For example, for children with significant emotional and behavioral challenges, placement in a residential group home may be in their best interest, particularly if they are receiving evidence-based treatment (i.e., cognitive-behavior therapy) during their stay (Swart et al., 2012).

## **Conclusion**

This study extends the current literature by examining how several OOH care placement characteristics differentially impact social-emotional related educational outcomes. Notably, this study has many strengths, as it addresses a number of methodological concerns previously noted within the literature (Stone, 2007). Specifically, it utilizes a national sample, controls for potentially biasing socio-demographic characteristics, uses a longitudinal framework to examine trajectories in educational outcomes, and focuses on less-traditional outcomes that are equally important to student success. Future studies should examine how OOH placement characteristics and background characteristics interact to change the trajectories in educational outcomes. Nonetheless, the results of the current study are helpful for tailoring interventions and policies to reflect the impact of certain placement characteristics and socio-demographic factors on student engagement in school and social skills.

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**Table 1***Baseline Sample Demographics*

Variables	<i>n</i> = 653	%
<b>Gender<sup>ab</sup></b>		
Male	332	50.8%
Female	321	49.2%
<b>Race/Ethnicity</b>		
Black	245	37.5%
White	187	28.6%
Hispanic	167	25.6%
Other	52	8%
<b>Disability Status</b>		
Yes (Disability Present)	171	26.2%
No (Disability Not Present) <sup>a</sup>	462	70.8%
<b>Type of Abuse</b>		
Physical Abuse	110	16.8%
Sexual Abuse <sup>b</sup>	72	11%
Neglect	174	26.6%
Other	177	27.1%

*Note.* Percentages do not add up to 100 percent due to missing data.

**Table 2***Bivariate Correlations among Predictor Variables*

	1.	2.	3.	4.	5.	6.	7.
1. Number of Placements	--						
Perceptions of Caregiver Educational Involvement							
2. Wave 1	-.02						
3. Wave 2	.15*	.23**					
4. Wave 3	.08	.30**	.19*				
School Mobility							
5. Wave 1	.13*	.14	.16	.13			
6. Wave 2	.30**	.16	.01	.21	.51**		
7. Wave 3	.32**	.20	.11	.04	.29	.69*	--
OOH Placement Type							
8. Kinship-Wave1	-.27**	.09	-.03	.10	.01	-.24**	-.25*
9. Foster-Wave 1	.12**	-.07	.08	-.06	-.01	.06	.05
10. Group Home-Wave 1	.24**	-.05	-.05	-.05	.03	.30**	.36**
11. Kinship-Wave 2	-.30**	-.05	-.15*	.10	-.06	-.22**	-.33**
12. Foster-Wave 2	.15**	.02	.21**	-.09	-.08	.04	.09
13. Group Home-Wave 2	.27**	.04	-.04	-.03	.19*	.23**	.37**



**Table 2** (continued)

	1.	2.	3.	4.	5.	6.	7.
1. Kinship-Wave 3	-.38**	-.07	-.04	.04	-.17	-.25*	-.34**
2. Foster-Wave 3	.04	.05	.10	-.07	-.01	-.11	.04
3. Group Home-Wave 3	.29**	.20*	-.01	.03	.17	.33**	.37**
Mean	1.71	2.27	2.30	2.55	2.32	3.01	2.58
SD	2.47	1.25	1.22	1.18	2.45	2.88	2.96

*Note.* \* $p < 0.05$ , \*\* $p < 0.01$



**Table 3** (continued)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
9. Cog. Behavioral – Wave 3	.08	.18**	.29**	.14*	.17**	.19**	.24**	.15**							
<b>Social Skills</b>															
10. Elementary – Wave 1	.08	.04	.14*	.13*	.17*	.10	.08	-.05	.01						
11. Elementary – Wave 2	.06	.05	.11	.16	.17*	.11	.11	.02	.08	.37**					
12. Elementary – Wave 3	.08	.12	.05	.08	.14	.15	.10	-.36**	.15	.39**	.63**				
13. Secondary – Wave 1	.16**	.04	-.02	.22**	.14*	.02	.13*	-.03	.07	-	-	-			
14. Secondary – Wave 2	.14*	.10	.10	.20**	.29**	.20*	.16**	.08	.13	.47**	-	-	.47**		
15. Secondary – Wave 3	.14*	.12	.22**	.27**	.24**	.28**	.06	.14*	.16*	.37**	.47**	-	.39**	.59**	
Mean	2.90	2.89	2.93	3.28	3.34	3.39	2.80	2.91	2.96	84.65	89.95	90.39	94.54	93.89	94.98
SD	.71	.74	.72	.54	.51	.49	.71	.64	.57	17.51	15.04	15.02	16.03	15.87	15.99

Note. \* $p < 0.05$ , \*\* $p < 0.01$

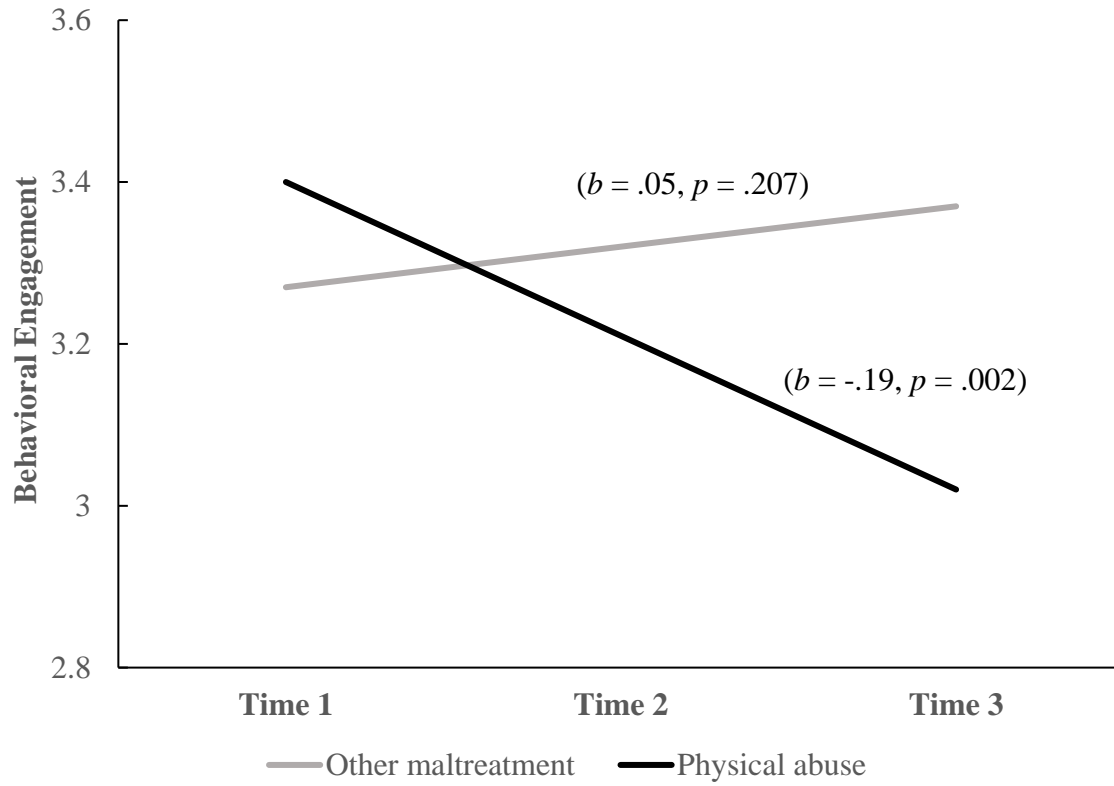
**Table 4***Unstandardized Coefficients and Standard Error Estimates for Fixed Effects*

	Social Skills Elementary	Social Skills Secondary	Emotional Engagement	Behavioral Engagement	Cognitive Behavioral Engagement
Intercept	85.15 (3.74)**	93.82 (2.99)**	2.85 (.21)**	3.41 (.16)**	2.86 (.19)**
Slope	1.41 (2.26)	.84 (1.21)	-.03 (.05)	.04 (.04)	.07 (.06)
Age	-	-	-.03 (.02)	-.02 (.02)	.01 (.02)
Gender	-3.02 (2.89)	-2.04 (2.24)	.18 (.09)*	.14 (.07)*	-.07 (.08)
Black	-.55 (3.53)	6.03 (2.87)*	.21 (.12)	-.05 (.09)	.08 (.10)
Hispanic	3.65 (3.77)	7.59 (3.20)*	.27 (.13)*	-.01 (.10)	-.01 (.11)
Other Race	11.75 (7.71)	3.75 (3.99)	.38 (.17)*	.02 (.12)	.17 (.14)
Physical	-2.79 (3.92)	-9.37 (3.32)**	.07 (.13)	-.04 (.10)	-.10 (.12)
Sexual	.27 (4.65)	-3.28 (3.29)	-.26 (.13)	-.06 (.10)	-.15 (.11)
Neglect	.93 (3.45)	-3.12 (2.57)	-.11 (.11)	-.05 (.08)	-.19 (.09)*
Disability Status	-6.79 (3.27)*	-4.92 (2.59)*	-.02 (.10)	-.08 (.08)	-.05 (.09)
Kinship Care	7.81 (2.84)**	4.49 (2.51)	.02 (.10)	.06 (.07)	.02 (.09)
Group Home	-1.27 (5.90)	-1.82 (2.71)	.09 (.11)	-.05 (.08)	.08 (.10)
Number of placements	-1.34 (1.26)	-.64 (.45)	-.02 (.02)	-.01 (.01)	-.02 (.02)
School Mobility	-.34 (.79)	-.30 (.39)	-.01 (.02)	-.03 (.01)*	.02 (.01)
Perceptions of Caregiver Educational Involvement	--	.53 (.79)	-.01 (.03)	.03 (.02)	-.05 (.03)

Note. \* $p < .05$ , \*\* $p < .01$

**Figure 1**

*Interaction Effect between Type of Maltreatment and Time on Behavioral Engagement*



**Figure 2**

*Interaction Effect between Placement Type and Time on Behavioral Engagement*

