Reconciling Discrepancies between Entry into Foster Care and Mental Health Service Use for Black and Latinx Youth

By

Mehar N. Singh

Submitted to the graduate degree program in Clinical Child Psychology and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Master of Arts.

`

_____

Chair: Omar G. Gudiño, Ph.D., ABPP

_____

Paula P. Fite, Ph.D.

_____

Ric G. Steele, Ph.D., ABPP

Date Defended: 9 September 2020

The thesis committee for Mehar N. Singh certifies that this is the approved version of the following thesis:

Reconciling Discrepancies between Entry into Foster Care and Mental Health Service Use for Black and Latinx Youth

Chair: Omar G. Gudiño, Ph.D., ABPP

Paula P. Fite, Ph.D.

Ric G. Steele, Ph.D., ABPP

Date Approved: 9 September 2020

Abstract

Black and Latinx youth who are the subject of a child welfare investigation are more likely to be placed into foster care compared to non-Latinx White youth. Foster care placement can facilitate mental health service use, yet youth from marginalized and oppressed racial/ethnic groups in foster care are still less likely to receive mental health services compared to non-Latinx White youth. This study aims to reconcile this discrepancy in Black and Latinx youth, who are (a) overrepresented in foster care yet (b) less likely to receive mental health services. For the first aim, it was predicted that mental health need would moderate the relationship between race/ethnicity and foster care placement. In the second aim, it was predicted that race/ethnicity would moderate the relationship between foster care placement and mental health service use. Data come from the National Survey of Child and Adolescent Well-Being (NSCAW II), a longitudinal and national probability study, with participants including youth who came into contact with the child welfare system between February 2008 and April 2009. Caregiver, caseworker, and youth reports were obtained, including information on youth demographics, foster care placement, youth mental health need, and mental health service use. Internalizing need was associated with a decreased likelihood for foster care placement for non-Latinx White youth compared to those with no need; findings showed the opposite for Latinx youth. Race/ethnicity did not significantly moderate the relationship between foster care placement and mental health service use, although there was some evidence that the association of non-kinship foster placement and mental health services was stronger for Black and Latinx youth. Implications for child welfare reform in terms of foster care placement and mental health service use are discussed.

Keywords: foster care, mental health service use, Black and Latinx youth

Table of Contents

Introduction

The child welfare system aims to protect youth from abuse and neglect and to promote the well-being of youth through a network of services that investigate allegations of maltreatment, identify needed services to ensure safety, and place youth in safe environments when their safety cannot be maintained with their family of origin (Child Welfare Information Gateway, 2013; Child Welfare League, 2013). The child welfare system intends to support youth through the equitable allocation of such services and resources. Thus, individual, family, community, and systemic factors can be targeted to enhance child well-being. However, race/ethnicity impacts youth trajectories within the child welfare system, such that disparities and disproportionality exist in foster care placement and mental health service use (Child Information Gateway, 2016; Garcia, Kim, & DeNard, 2016; Kim & Garcia, 2016). Because these disparities cannot be explained by one single factor, understanding youth well-being within the child welfare system is more complex than simply identifying need for services (Detlaff et al., 2011).

The child welfare system has a significant history of institutionalized racism, which can be traced back to its earliest roots ranging from the removal of poor children from their families, the forcible "assimilation" of Native American children, the exclusion of Black children from the child welfare system prior to the Civil Rights Movement, and then the eventual increase in removal of Black children from their families in the mid-twentieth century (Hill, 2006; Minoff, 2018). Further, Black youth are consistently overrepresented in the child welfare system and Latinx youth are overrepresented in child welfare system in certain states (Drake et al., 2011; Fluke, Yuan, Hedderson, & Curtis, 2003; Hill, 2006; Hill, 2007; Kim, Chenot, & Ji, 2011; Morton, 1999; National Council of Juvenile and Family Court Judges, 2017; Putnam-Hornstein, Needell, King, & Johnson-Motoyama, 2013; Roberts, 2002). Services are also not provided

equitably, as evidenced by mental health service use disparities for youth from marginalized and oppressed racial/ethnic groups in foster care (Garland et al., 2000; Garcia, Palinkas, Snowden, & Landsverk, 2013; Horwitz et al., 2012a; Kim & Garcia, 2016).

An examination of the complex relationships between youth race/ethnicity and service use patterns within the child welfare system is needed in order to understand how inequities in allocation of services might arise. This can be conceptualized within the Ecological Systems Theory (Bronfenbrenner, 1979), which posits that youth outcomes are influenced by the complex interaction of various environmental systems surrounding youth (e.g., individual-level factors, microsystem, mesosystem, exosystem, macrosystem, chronosystem; child race/ethnicity, caregivers, schools, culture, systemic biases). As such, individual and contextual factors influence youth trajectories within the child welfare system. In fact, youth foster care placement is influenced by an amalgam of factors that go beyond a child's need for protection. For example, the type of maltreatment allegation, socioeconomic status, youth age, and previous child welfare involvement are all factors that influence the likelihood of youth placement in foster care (Courtney, 1995; Detlaff, 2011; Garland, Landsverk, Hough, & Ellis-Macleod, 1996; Kim, Chenot, & Ji, 2011; Shaw, 2006). However, it is important to note that beyond such individual factors, the macrosystem influences of racism, prejudice, discrimination, and oppression also likely influence disparities in child welfare. It may be that broader systemic qualities, such as systemic racism and the history of oppression among specific racial/ethnic groups (e.g., Black, Latinx), impact the allocation of services that are intended to enhance youth well-being. This study aims to understand pathways that increase the likelihood for Black and Latinx youth to be placed in foster care yet decrease the likelihood for these youth to receive mental health services once in foster care.

Overrepresentation of Black and Latinx Youth in Child Welfare

As noted, youth from marginalized and oppressed racial/ethnic groups are more likely to have contact with the child welfare system compared to non-Latinx White youth (Drake et al., 2011). Specifically, studies have consistently found that there is an overrepresentation of Black and Latinx youth in the child welfare system (Hill, 2006; Kim, Chenot, & Ji, 2011; Morton, 1999; Ortega, Grogan-Kaylor, Ruffolo, Clarke, & Karbe, 2010). Factors such as poverty and geographic location have also been shown to contribute to this overrepresentation, beyond race and ethnicity (Drake et al., 2011; Maguire-Jack, Lanier, Johnson-Motoyama, Welch, & Dineen, 2015). As such, there is concern that systemic- and community-level biases persist in maltreatment identification, protective services intervention, and foster care placement (Ards et al., 2012; Detlaff et al., 2011; Gudiño, Liu, & Lau, 2006). For example, Lau and colleagues (2003) examined the identification of maltreatment by the child welfare system for youth receiving public services across four major racial/ethnic groups (i.e., Black, Latinx, Asian/Pacific Islanders, non-Latinx White). Racial/ethnic disparities were found, particularly for Black youth, in terms of foster care placement, even though levels of maltreatment were similar across racial/ethnic groups (Lau et al., 2003). Thus, the differential treatment of Black and Latinx youth within the child welfare system contributes to their increased representation in the child welfare system (Hines, Lemon, Wyatt, & Merdinger, 2004).

Disproportionality—defined as the level at which youth are represented in the child welfare system compared to their representation in the general population— has been consistently demonstrated for youth from marginalized and oppressed racial/ethnic groups (e.g., Black, Latinx, Native American/Alaska Native; Hill, 2006; Tilbury & Thoburn, 2009; Wulczyn & Lery, 2007). Disproportionality is calculated by dividing the proportion of the select

racial/ethnic group by the proportion of the same racial/ethnic group in the general population; scores of 1.1 or greater indicate overrepresentation (National Council of Juvenile and Family Court Judges, 2017). Though rates of disproportionality have decreased over time, they continue to be higher for Black, Native American, and Latinx youth compared to non-Latinx White youth in the placement of youth in foster care. The National Council of Juvenile and Family Court Judges gathered data from the Adoption and Foster Care Analysis and Reporting System and reported that disproportionality in foster care placement rates in 2015 were 1.7 for Black youth, 2.7 for Native American/Alaska Natives/Hawaiian Native, and greater than 1.1 for Latinx youth in three states (National Council of Juvenile and Family Court Judges, 2017). Statistics from the U.S. Census Bureau and U.S. Department of Health and Human Services from 2014 reported similar findings for youth identified by Child Protective Services as being victims of maltreatment and youth entering foster care (Child Welfare Information Gateway, 2016). Thus, not only are Black, Latinx youth, and Native American/Alaska Natives/Hawaiian Native youth overrepresented in the child welfare system overall, but they are also specifically being placed into foster care at higher levels compared to non-Latinx White youth.

Child Welfare and Mental Health Need

Youth in the child welfare system are more likely to have clinically significant mental health need (i.e., presenting with trauma symptoms, externalizing symptoms, internalizing symptoms) compared to youth in the general population due to high levels of maltreatment (Burns et al., 2004; Farmer et al., 2001; Garland et al., 1996; Horwitz et al., 2012b; Oswald, Heil, & Goldbeck, 2010; Pecora, White, Jackson, & Wiggins, 2009), suggesting mental health need should be taken into consideration when discussing pathways to foster care placement. In a systematic review, Bronsard and colleguaes (2016) found that youth in child welfare experience

a greater burden of mental health disorders compared to the general population, with externalizing disorders being the primary concern followed by internalizing disorders. In a national sample of youth investigated by the child welfare system, 41.8% of toddlers and 68.1% of preschool youth had behavioral or developmental needs (Stahmer et al., 2005). Youth in foster care are 3 to 10 times more likely to receive a mental health diagnosis and are more likely to be hospitalized due to mental health symptoms (Harman, Childs, & Kelleher, 2000). Further, the same national study found that 47.9% of youth (ages 2 to 14) with completed child welfare investigations had clinically significant emotional or behavioral symptoms (Burns et al., 2004). Additionally, cross-sectional and logitudinal studies find that foster care youth and foster care alumni have exceptionally high rates of emotional and behavioral diagnoses when compared to the general population (Conn, Szilagyi, Alpert-Gillis, Baldwin, & Jee, 2016; Larsen, Baste, Bjorkens, Myrvold, & Lehmann, 2018; Pecora, White, Jackson, & Wiggins, 2009; Turney & Wildeman, 2016).

To that end, there is a consensus that youth in the child welfare system are in great need of mental health services. However, only one-fourth of youth in child welfare receive mental health services (Burns et al., 2004) and only 10% of youth receive mental health care that meets national standards (e.g., mental health screening when placed into foster care, mental health assessment a month after foster care placement; Raghavan, Inoue, Ettner, Hamilton, & Landsverk, 2010). Broadly, there is clear evidence of high levels of unment mental health need for youth in the child welfare system (Gudiño, Martinez, & Lau, 2012; Horwitz et al., 2012a; Horwitz et al., 2012b).

Aim 1: Examining the Role of Mental Health Need in Relation to Foster Care Placement for Black and Latinx Youth

When deciding whether youth require foster care placement, it would make sense that emotional and behavioral need would influence this appraisal. When youth are removed from the home, they are identified as being maltreated and at risk of future abuse/neglect or their caregivers are deemed unable to ensure their safety. The need for mental health services could be an important indicator of the impact of maltreatment experienced, the level of impairment youth are experiencing, and the complexities associated with ensuring their wellbeing. That is, given what is known about the impact of maltreatment on mental health, youth mental health need may influence judgements about whether foster care is necessary. Taken together, this information could factor into decisions about the need for child welfare intervention.

Youth from marginalized and oppressed racial/ethnic groups, particularly Black youth, may be scrutinized more closely when compared to non-Latinx White youth, leading to their increased representation in the child welfare system. Data show that Black youths' behaviors are viewed differently compared to non-Latinx White youth, such that they are disciplined more harshly by teachers when exhibiting the same level of problem behaviors (U.S. Department of Education, Office of Civil Rights, 2016). In examining the disproportionate preschool expulsions and suspensions of Black youth, Gilliam and colleagues (2016) found that when educators were primed to challenging behaviors, teachers gazed longer at Black youth; here, the authors suggested that underlying biases led teachers to observe youth more closely based on their race. Thus, Black youth exhibiting externalizing symptoms are more closely scrutinized and visible in educational settings. Latinx youth are also more likely to be disciplined at school than non-Latinx White youth (Mizel et al., 2016; Skiba et al., 2011), even though Latinx youth have similar levels of problem behavior compared to non-Latinx White youth (Peguero & Shekarkhar, 2011). It is possible that similar factors may influence entry into foster care. In addition, studies

have shown that externalizing symptoms are more likely to be identified than internalizing symtoms because they are more readily observable to teachers and parents (Bird, Gould, & Staghezza, 1992; Salbach-Andrae, Lenz, & Lehmkuhl, 2009; Youngstrom, Loeber & Stouthamer-Loeber, 2000). Taken thogether, these findings suggest that such differences in appraisals may carry over to foster care placement, where indicators of need for services may be scrutized differently based on child race/ethnicity and externalizing need. As suggested, youth mental health need may reflect the impact of maltreatment on the child or the need for intervention. Externalizing need in Black youth may influence the determination of risk and need for protection by caseworkers more strongly than it does for non-Latinx White children. This differential influence of externalizing need based on race/ethnicity may be one factor that drives the overrepresentation of Black youth in foster care.

In sum, mental health need may influence decisions for foster care placment. However, research demonstrates that Black and Latinx youth are subject to increased scrutiny, especially when presenting with externalizing need, which may contribute to their overrepresentation in foster care. Due to the nature of systemic biases and perceptions of race/ethnicity, mental health need may not function as an equal predictor of need for foster care placement across youth. Combining evidence of the increased scrutiny towards Black and Latinx youth and the visibility of externalizing need, the interaction of race/ethnicity and externalizing need could further explain disparities in foster care entry. Specifcially, it was hypothesized that externalizing need would moderate the relationship between race/ethnicity and foster care entry, such that the relationship would be stronger for Black and Latinx youth with externalizing need relative to non-Latinx White children with and without exteranlizing need. Examining the potential

influence of the presence of mental health need on foster care placement across racial/ethnic groups may help further explain the racial/ethnic disparities in foster care entry.

Mental Health Service Use and Foster Care Placement

Given the high mental health needs of youth in the child welfare system, an examination of mental health service use is also warranted. Youth who come into contact with the child welfare system and who are subsequently placed in foster care are more likely to receive mental health services compared to those children who remain in the home (Farmer et al., 2001; Halfon, Berkowitz, & Klee, 1992; Harman, Childs, & Kelleher, 2000; Horwitz, Hurlburt, & Zhang, 2009; Takayama, Bergman, & Connell, 1994). As such, the more heavily youth are involved in the child welfare system, the more likely they are to receive mental health services. For example, Leslie and colleagues (2005) found that youth in in-home care receiving additional child welfare services were more likely to use mental health services compared to youth who did not receive any further child welfare services after the initial investigation. The authors suggest that removal from the home is indicative that youth will be more likely to receive services, as they are more visible to more individuals and have more contact with the child welfare system, which may serve to facilitate mental health service use (Leslie et al., 2005). Further, youth under the care of kinship providers are less likely to receive mental health services than in non-kinship foster care. Authors suggest this is because kinship caregivers may be more reluctant to seek out services, may have less knowledge of the services that are available, or may have differing relationships with foster care agencies when compared to non-kinship foster care providers (James, Landsverk, & Slymen, 2004; Leslie et al., 2000; Swanke, Yampolskaya, Strozier, & Armstrong, 2016).

It is also possible that greater mental health service use of youth in foster care is explained by the fact that youth in foster care have higher rates of mental health concerns (Burns et al., 2004). However, this would only explain differences in service use between youth in foster care and youth remaining in the home while not fully explaining differences in service use rates between youth in kinship versus non-kinship foster care. As a result, there is convincing evidence that type of foster care placement significantly impacts the likelihood of youth receiving mental health services (Leslie et al., 2000; Leslie et al., 2005; Swanke et al., 2016).

Mental Health Service Use and Race/Ethnicity

Unfortunately, foster care placement does not appear to facilitate mental health service use across different groups equally, as there is evidence of racial/ethnic disparities in service use among children placed in foster care (Garcia, Kim, & DeNard, 2016; Garland et al., 2000; Stein et al., 2016). Youth from marginalized and oppressed racial/ethnic groups—specifically Black and Latinx youth— in the child welfare system are less likely to receive mental health services compared to non-Latinx White youth, when accounting for need (Garcia, Palinkas, Snowden, & Landsverk, 2013; Horwitz et al., 2012a; Kim & Garcia, 2016). A study exploring a national sample of youth in the child welfare system found that Latinx youth were 0.6 times as likely and Black youth were 0.55 times as likely as non-Latinx White youth to receive outpatient mental health services (Leslie et al., 2005). Though agencies have attempted to provide equitable services to youth, mental health service use disparities among Black and Latinx youth in child welfare persist (Stein et al., 2016).

Although there is an overall pattern where Black and Latinx youth in the child welfare system are less likely to receive mental health services, there is a subset of Black and Latinx youth who are more likely to receive services. Youth with externalizing symptoms are more

likely to receive mental health services because their symptoms are more evident and more distressing to care providers compared to youth who have internalizing symptoms (Garland et al., 1996; Gudiño, Martinez, & Lau, 2012; Wu et al., 1999). This is especially true for Black youth compared to non-Latinx White youth (Gudiño, Martinez, & Lau, 2012; Martinez, Gudiño, & Lau, 2013). As such, it is clear that factors beyond race/ethnicity also influence mental health service use. What has not been examined previously, however, is whether foster care placement – a known predictor of mental health service use for youth in child welfare – functions equally across race/ethnicity. As reviewed above, our initial aim was to examine the moderating role of mental health need on the relationship between race/ethnicity and foster care placement. Building on this, the second aim examined the potential moderating role of race/ethnicity on the relationship between type of foster care placement and mental health service use. Taken together these two aims may provide an encompassing view of the intersection of foster care and mental health services and help reconcile seemingly different patterns of disparities within the two service systems.

Aim 2: Examining the Influence of Foster Care Placement and Race/Ethnicity on Mental Health Service Use

Contact with the foster care system may serve as a bridge or gateway to mental health service use (Landsverk, Garland, & Leslie, 2002; Leslie, Hurlburt, Landsverk, Barth, & Slyment, 2004; Leslie et al. 2005). Although overall use of mental health services is higher for maltreated youth in the foster care system than the general public, placement type influences mental health service use such that non-kinship foster care placement increases the likelihood of youth receiving mental health services relative to youth remaining in the home (Horwitz et al., 2012b; Hurlburt et al., 2004; Leslie et al., 2004). Still, there is also evidence of disparities in rates of

service use as a function of race/ethnicity. What has not been examined is whether predictors of mental health service use, like foster placement, predict service use equally across race/ethnicity. As noted above, there is a main effect of race/ethnicity such that Black and Latinx youth in foster care are less likely to receive mental health services relative to non-Latinx White youth in foster care (Garcia & Courtney, 2011; Garcia, Kim, & DeNard; Garland et al., 2000). This is especially concerning since Black and Latinx youth are overrepresented in foster care (Child Welfare Information Gateway, 2016). Therefore, research suggests a main effect of race/ethnicity in foster care placement, such that youth from marginalized and oppressed racial/ethnic groups are more likely to be placed in foster care following a child welfare investigation. The discrepancy between likelihood of entry into foster care and access to mental health services for Black and Latinx youth suggests that foster care placement may serve as a stronger predictor of service use for non-Latinx White youth relative to Black and Latinx youth. The current study is the first to explore race/ethnicity as a moderator of the link between foster care placement and mental health service use. It is hypothesized that entry into foster care is not an equal predictor of receiving mental health services across races/ethnicities and that foster care placement is a particularly weak predictor of service use for Black youth when compared to non-Latinx White youth.

Reconciling Discrepancies between Foster Care Entry and Mental Health Service Use for Black and Latinx Youth

All things considered, this study aimed to reconcile the discrepancy of Black and Latinx youth being more likely to be placed into foster care, yet less likely to receive mental health services compared to non-Latinx White youth. The first aim was to examine whether mental health need moderates the relationship between race/ethnic and foster care entry. We hypothesized that the relationship between externalizing need and placement into foster care

would be stronger for Black and Latinx youth compared to non-Latinx White youth. Our second aim examined whether race/ethnicity moderated the longitudinal relationship between foster care placement type and mental health service use. We hypothesized foster care would not be an equal predictor for Black and Latinx youth than non-Latinx White youth for mental health service use. Taken together these findings may elucidate discrepancies between entry into foster care and mental health service use within the context of race and ethnicity.

Method

Participants

This study utilizes data from NSCAW II, a nationally representative longitudinal study of youth and families investigated by the child welfare system for alleged maltreatment. Participants in NSCAW II included 5,873 youth from birth to 17.5 years of age at baseline. In the overall sample, 87.3% of youth remained with their biological caregivers while 3.4% were placed in foster care. Youth were included in the sample whether or not allegations of maltreatment were eventually substantiated and regardless of whether child welfare services were provided to the family. Baseline data (Wave 1) were collected from March 2008 to September 2009; the second wave of data collection (Wave 2) was conducted from October 2009 to January 2011, approximately 18 months after the close of the child welfare investigation. In both Aims 1 and 2, this study focused on youth who were at least 6 years old at baseline, so that caregiver report of youth mental health need was assessed using the same assessment instrument. Given the focus on foster care placement and differences in predictors of mental health service use for youth in group home and residential settings, only youth who remained in the home or were placed in family-based foster care were included in the analysis sample for Aims 1 and 2. Additionally, given the focus on youth placement type in Aim 2, the analysis sample was further

restricted to youth who remained in the same placement at the end of the child welfare investigation between Wave 1 and Wave 2. Listwise deletion was used in analyses, resulting in 1,694 youth (weighted M_{age}=10.82) in the Aim 1 analysis sample and 1,057 youth (weighted M_{age}=10.43) in the Aim 2 analysis sample. For Aim 1, the weighted percentages for sex were 52% female and 48% male and weighted percentages for race/ethnicity were 20% Black, 44% Latinx, 28% non Latinx White, and 8% Other (Table 1). For Aim 2, the weighted percentages for sex were 50% female and 50% male and weighted percentages for race/ethnicity were 21% Black, 42% Latinx, 30% non-Latinx White, and 7% Other (Table 2).

Procedure

Youth and their families were eligible for the study if they came into contact with the child welfare system between February 2008 and April 2009. A two-stage, stratified sample design was used where 81 Primary Sampling Units (PSUs) in 83 counties across the United States were sampled. The PSU frame was stratified to create nine strata. Eight of the strata corresponded to the eight states with the largest child welfare populations and the ninth strata consisted of the remaining states and the District of Columbia. Thus, the sample is representative of U.S. youth who were investigated for maltreatment by child welfare agencies during the sampling period. In order to have the ability to answer questions about subgroups, some populations were oversampled (e.g., infants and youth in out-of-home placements). To account for this oversampling and to ensure that results are representative of the U.S. population of children in contact with child welfare, data were weighted to account for the varying selection probabilities and to achieve unbiased estimates of means, proportions, and regression coefficients. Sampling weights were made based on case type, receiving services vs. not receiving services, type of maltreatment, out-of-home placement, location and size of sampling

unit, and the size of agency. The sampling weights have also been adjusted for non-response and under coverage.

Research staff obtained informed consent and assent from all participants at each wave of data collection. If there were multiple caregivers, the caregiver "most knowledgeable" about the youth was selected for the study. The study design allowed for baseline face-to-face interviews and/or assessments with youth, their caregivers, teachers (if applicable), and child welfare caseworkers. Field representatives scheduled a time for an in-home visit with the caregiver and upon arrival provided the family a photo ID badge, project authorization letter, a confidentiality agreement, and an NSCAW II certificate of confidentiality. Both interviews and self-report assessments were conducted in-home and in a private setting. It is important to note that case worker assessments differed across counties and among different case workers, as these assessments were conducted in the same manner that they would have been in the real-world setting. NSCAW II procedures were approved by the Research Triangle Institute's Institutional Review Board (IRB) and from IRBs from four states and five additional NSCAW II consortium institutions. The use of secondary data for this study was approved by the University of Kansas Human Research Protection Program (HRPP).

Measures

Youth Demographics. Youth age, sex, and race/ethnicity are available from self-report, caregiver-report, and administrative data at Wave 1. Youth age was measured in years and youth sex was coded as a dichotomous variable, with females coded as 1 and males coded as 0. Gender identity was not assessed. Youth race/ethnicity categories were obtained and then dummy coded with variables created for Black youth, Latinx youth, and youth in an "other" category, with non-Latinx White as the reference group. Youth in the "other" category included Native North

American, Alaska Native, Hawaiian Native, Pacific Islander, Asian American, and other racial or ethnic categories. Due to small sample sizes, youth within these racial/ethnic groups were not examined separately in this study.

Prior Child Welfare Contact. Contact with the child welfare system prior to the investigation that resulted in eligibility for this study was obtained through child welfare agency records during caseworker assessment. Prior contact with the child welfare system included categories of prior reports of maltreatment, prior investigation of abuse or neglect, prior substantiated incidents of abuse or neglect, and prior child welfare service history. Youth in any of these four categories were coded as having had prior child welfare contact (1) and the remainder were coded as having no prior child welfare contact (0).

Maltreatment and Substantiation. The Modified Maltreatment Classification System (MMCS; English & the LONGSCAN Investigators, 1997) was completed by caseworkers at Wave 1 to report the specific nature of the alleged abuse or neglect investigated, including a procedure for determining the most severe maltreatment type experienced. Categories included physical abuse, sexual abuse, emotional abuse, physical neglect (failure to provide), neglect (lack of supervision), abandonment, moral/legal maltreatment, education maltreatment, exploitation, other, prematurity or low birth weight, substance exposure, domestic violence, substance abusing parent, voluntary relinquishment, child in need of services, and investigation as a means to get services. Physical neglect (failure to provide), neglect (lack of supervision), and abandonment were all grouped into the neglect category. Due to low numbers within each classification, the following categories were coded as “Other”: moral/legal maltreatment, education maltreatment, exploitation, other, prematurity or low birth weight, substance exposure, domestic violence,

substance abusing parent, voluntary relinquishment, child in need of services, and investigation as a means to get services.

The substantiation status of investigated maltreatment was obtained from caseworker report during the investigation. Caseworkers were asked to determine whether the allegation of maltreatment was supported or founded by state law or policy under the following categories: substantiated, indicated or reason to suspect, or unsubstantiated (neither substantiated nor indicated or unfounded or rule out). At agencies that did not classify maltreatment as substantiated or not, case workers were asked to classify the case as high, medium, or low risk. In the current study, cases determined to be substantiated, indicated or reason to suspect, high risk, and medium risk were coded as "substantiated/indicated". Cases determined to be unsubstantiated or low risk were coded as "unsubstantiated". The grouping of substantiated and indicated cases together was done because some level of risk was indicated by the case worker; this type of classification is consistent with other studies (Casanueva, Dolan, Smith, & Ringeisen, 2012). However, it should be noted that utility, practicality, and grouping of substantiation classifications has been called into question (Ben-David, Jonson-Reid, Drake & Kohl, 2015; Drake, Jonson-Reid, & Chung, 2003; Kohl, Jonson-Reid, & Drake, 2009). Dummy codes were created for "substantiated/indicated maltreatment" type: (1) substantiated/indicated physical abuse, (2) substantiated/indicated sexual abuse, (3) substantiated/indicated sexual abuse, (4) substantiated/indicated neglect, (5) other substantiated/indicated maltreatment, with "unsubstantiated" cases serving as the reference group (0).

Internalizing and Externalizing Youth Mental Health Need. Borderline or clinical levels of youth's internalizing and/or externalizing need were assessed using current caregiver and youth reports. Current caregiver reports of youth's internalizing and externalizing need were

measured using Wave 1 reports on the Child Behavior Checklist (CBCL; Achenbach, 1991). Previous research has demonstrated that the CBCL is a reliable and valid measure of mental health symptoms in youth involved with the child welfare system (Rosanbalm et al., 2016). The CBCL includes 120 items on which caregivers rated youth symptoms from the previous six months on a three-point Likert scale where 0 = "not true", 1 = "somewhat or sometimes true", and 2 = "very true or often true". The Youth Self-Report (YSR; Achenbach & Rescorla, 2001) was used as a self-report measure of internalizing and externalizing need for youth age 11 and older at Wave 1. The YSR includes 112 questions where youth rated their internalizing and externalizing symptoms over the past 6 months where 0 = "not true", 1 = "somewhat or sometimes true", and 2 = "very true or often true". Youth and caregiver reports on the CBCL or YSR, respectively, were coded so that *T*-scores of 64 or higher were coded as being clinically significant (1) and those 63 or below were considered not clinically significant (0). Youth internalizing and externalizing mental health need was considered present if clinically significant scores were indicated by either the caregiver or the youth.

Foster Care Placement. Administrative data from Wave 1 were used to code for foster care placement following the close of the current child welfare investigation. Original NSCAW II categories included in-home: biological parent, in-home: adoptive parent, informal kinship care, formal kinship care, non-kinship foster care, group home/residential program, and other out-of-home arrangement. For this study, formal kinship care and non-kinship foster care were categorized as foster care and youth in group homes/residential programs were excluded. For Aim 1, a foster care dummy coded variable was created with youth in formal kinship care and non-kinship foster care included in the foster care category (1), with youth remaining in-home with a biological parent, in-home with an adoptive parent, or in an informal kinship care

arrangement included in the reference category (referred as in-home care in this study). To examine the difference in service use patterns among the two different foster care placement types for Aim 2, two separate dummy codes were created for formal kinship care and non-kinship foster care, with youth in in-home care serving as the reference group similar to Aim 1.

Mental Health Service Use. The Child and Adolescent Services Assessment (CASA; Burns, Angold, Magruder-Habib, Costello, & Patrick, 1996) was completed by caregivers at Wave 2 to assess youth outpatient specialty mental health service use in the past 12 months (1 = "yes"; 0 = "no"). The CASA is a widely used measure, particularly in research on mental health service use in child welfare (Ringeisen, Casanueva, Urato, & Stambaugh, 2009). The complete CASA assesses use of inpatient, outpatient, crisis services and other forms of services for emotional, behavioral, substance abuse, and learning problems. The measure demonstrated good to very good test-retest reliability for parent reports of outpatient mental health services (Ascher, Farmer, Burns, & Angold, 1996; Horwitz et al., 2001). Outpatient specialty mental health service use was consider present if youth received services in any of the following settings during the past year: Day treatment for emotional/behavioral/learning/substance use concerns, outpatient drug or alcohol clinic, mental health or community mental health center, a private professional (psychiatrist, psychologist, social worker, or psychiatric nurse), in-home counseling or in-home crises services, or from a family doctor or medical doctor for emotional/behavioral/learning/substance use concerns. This categorization is consistent with previous studies that have examined outpatient mental health service use for youth in the child welfare system (Bellamy, Gopalan & Traube, 2011; Horwitz et al., 2012a).

Data Analysis

Data analyses accounted for the complex survey design (stratification and clustering of data). Sampling weights were used to calculate estimates that are nationally representative of youth investigated by the child welfare system. Descriptive statistics included correlations, ANOVA, and Chi-Square tests, with a focus on examining associations between the primary outcomes – foster care placement and mental health service use – and other study variables. Since this study examines foster care entry and mental health service use while considering multiple predictors, listwise deletion was used for missing data rather than pairwise deletion. Missing data was not predicted by any study variables, where results demonstrated there were no significant correlations at the $p \leq 0.05$ level. All analyses were conducted using StataMP 15.1 (StataCorp, 2017) to account for complex survey design.

To test Aim 1, hierarchical logistic regression models were used to predict foster care placement. The model served as a cross-sectional examination of factors associated with placement in foster care. In the first step of this model, youth age, sex, prior child welfare involvement, and maltreatment type were entered as predictors. In the second step, race/ethnicity and internalizing and externalizing need were added. In the third step, interactions between race/ethnicity and internalizing as well as externalizing need were added separately to the model (e.g., race/ethnicity X internalizing need, race/ethnicity X externalizing need). Testing of Aim 1 focused on examining whether interaction terms included in Step 3 were statistically significant ($p \leq 0.05$).

To test Aim 2, a hierarchical logistic regression model was used to predict specialty outpatient mental health service use between Wave 1 and Wave 2. This model served as a longitudinal examination of factors associated with specialty outpatient mental health service

use. In Step 1, youth age, sex, maltreatment type, internalizing and externalizing need were included in the model. In the second step of the model, type of foster care placement and youth race/ethnicity were added as predictors. Finally, the interactions between youth race/ethnicity and type of foster care placement were added separately in the third step of each model (e.g. race/ethnicity X non-kinship foster care, race/ethnicity X formal kinship care). Testing of Aim 2 hypotheses focused on examining the statistical significance of the interaction terms ($p \leq 0.05$).

Results

Aim 1

Descriptive statistics for Aim 1 study variables predicting foster care placement are presented in Table 1. Overall rates of foster care placement (non-kinship foster care and formal kinship care) by race and ethnicity were as follows: 36% of youth were Black, 20% were Latinx, 37% were non-Latinx White, and 7% were in the Other category. Chi-square tests examined associations between race/ethnicity and foster care placement. Presented in Table 3, Non-Latinx White youth were less likely to be placed in foster care (4.10%) compared to Black youth (8.70%), $\chi^2(1) = 44.9355$, $p < 0.01$. There were no significant differences across racial/ethnic groups regarding internalizing and externalizing need.

Results from logistic regression analyses predicting foster care placement are presented in Table 4. Here, our hypothesis was that there would be a significant interaction between mental health need and race/ethnicity, such that externalizing need would be a stronger predictor of foster care placement for Black and Latinx youth relative to non-Latinx White youth. Hierarchical logistic regression examined child age, sex, prior child welfare involvement, and maltreatment type as predictors for foster care placement. In terms of prior child welfare involvement, youth who previously received child welfare services prior to the current

investigation were more likely to be placed into foster care (*OR*: 3.14; 95% *CI*: 1.92-5.15). Youth with substantiated/indicated physical abuse were more likely to be placed into foster care compared to youth with unsubstantiated reports (*OR*: 3.46, 95% *CI*: 1.69-7.09). This was also the case for youth with substantiated/indicated reports of sexual abuse (*OR*: 3.25, 95% *CI*: 1.63-6.44), emotional abuse (*OR*: 4.81, 95% *CI*: 1.54-15.02), neglect (*OR*: 7.93, 95% *CI*: 4.76-13.23), and the other category (*OR*: 4.89, 95% *CI*: 2.53-9.41) as well. In the second step of the model, clinically significant externalizing need, clinically significant internalizing need, and race dummy codes were added. Here, Black youth were more likely to be placed into foster care relative to non-Latinx White youth (*OR*: 2.42, 95% *CI*: 1.31-4.48).

To examine racial/ethnic disparities in foster care placement based on mental health need type, interaction terms between race/ethnicity and clinically significant internalizing and externalizing need were added to the third step of the model. Contrary to our hypotheses, the only significant interaction was for Latinx youth and internalizing need (*OR*: 2.50, 95% *CI*: 1.04-6.03). Figure 1 presents the predicted probability of foster care placement as a function of internalizing need and race/ethnicity (non-Latinx White vs. Latinx), after controlling for age, sex, prior child welfare involvement, maltreatment type, and externalizing need. Internalizing need was associated with a decreased likelihood of foster care placement for non-Latinx White youth (2.31% of non-Latinx White youth with internalizing need in foster care vs. 1.07% of non-Latinx White youth without internalizing need in foster care). Conversely, internalizing need was associated with a slight increase in the likelihood of being placed in foster care for Latinx youth (2.86% Latinx youth with internalizing need in foster care vs. 3.27% Latinx youth without internalizing need in foster care).

Aim 2

Descriptive statistics for Aim 2 study variables predicting mental health service use are presented in Table 2. Rates of outpatient specialty mental health service use differed across race and ethnicity, where of the proportion of youth who received mental health services, 58% were non-Latinx White, 15% were Black, 18% were Latinx, 8% were in the Other category, $\chi^2(3) = 263.83$, $p < 0.001$. Presented in Table 3, Non-Latinx White youth were more likely to receive mental health services (37.27%) compared to Black youth (19.51%), $\chi^2(1) = 176.17$, $p < 0.01$. Similarly, non-Latinx White youth were also more likely to receive mental health services (37.27%) compared to Latinx youth (16.60%), $\chi^2(1) = 274.36$, $p < 0.001$; results presented in Table 3. Youth in non-kinship foster care were more likely to receive mental health services (64.67%) compared to youth in in-home care (26.42%), $\chi^2(1) = 34.47$, $p < 0.0001$.

Results from logistic regression analyses predicting mental health service use are presented in Table 5. Here, our hypothesis was that there would be a significant interaction between foster care placement type and race/ethnicity, such that Black and Latinx youth in foster care would be less likely to receive services compared to non-Latinx White youth. Hierarchical logistic regression examined child age, sex, maltreatment type, and symptom type as predictors for mental health service use. Youth with substantiated/indicated sexual abuse were more likely to receive mental health services compared to youth with unsubstantiated reports (*OR*: 3.61, 95% *CI*: 1.18-11.03). Further, youth with clinically significant externalizing need (*OR*: 3.13, 95% *CI*: 1.91-5.11) and youth with clinically significant internalizing need (*OR*: 1.95, 95% *CI*: 1.00-3.80) were more likely to receive mental health services than those without need. In the second step of the model, type of foster care placement (non-kinship foster care and formal kinship care, relative to in-home care) and race/ethnicity dummy codes were added to the model. Youth in

non-kinship foster care were more likely to receive mental health services than youth remaining in the home (*OR*: 3.89, 95% *CI*: 1.67-9.07). Further, Latinx youth were less likely to receive mental health services than non-Latinx White youth (*OR*: 0.35, 95% *CI*: 0.20-0.60). To examine racial/ethnic disparities in mental health service use based on type of foster care placement, interaction terms between race/ethnicity and type of foster care placement were added to the third step of the model. Contrary to our hypotheses, race/ethnicity did not moderate the relationship between foster care placement and mental health service use.

To further reconcile the differences in foster care placement and mental health service use for Black and Latinx youth, predicted probabilities of mental health service use as a function of race/ethnicity and type of foster care placement were calculated (Figure 2). Across all races and ethnicities, youth in non-kinship foster care (41.08% - 66.88%) were more likely to receive mental health services as opposed to youth in in-home care (15.21%-34.19%) and youth in formal kinship care (16.73%-36.78%). Non-Latinx White (34.19%-66.88%) youth were more likely to receive mental health services compared to Black (19.77%-48.93%), Latinx (15.21%-41.09%), and Other categorized (21.79%-51.99%) youth regardless of type of placement. Mental health service use was consistently higher for youth in non-kinship foster care compared to those in-home care across all racial/ethnic groups. However, there was an indication that this effect was greater for youth from marginalized racial/ethnic groups. Specifically, Latinx youth had a 2.7 fold increase in likelihood of receiving services, followed by a 2.5 fold increase for Black youth, and a 2.4 fold increase youth in the Other category. Non-Latinx White youth in in-home care had a relatively higher baseline rate of mental health services use (34.1%) and had the lowest increase in likelihood for mental health service use when placed in non-kinship foster care (2.0 fold increase). This predicted probability model integrates predictors between the two aims

to reconcile disparities in mental health service use for youth in different foster care placements across race/ethnicity. These probabilities indicate that non-Latinx White youth are overall likely to receive mental health services regardless of placement compared to Black and Latinx youth. Black and Latinx youth, however, are particularly unlikely to receive mental health services when placed in formal kinship care or when they remain in the home. Once in non-kinship foster care, Black (48.9%) and Latinx (41.09%) youth receive services at much higher rates, although they still have a lower probability of receiving mental health services compared to non-Latinx White (66.88%) youth.

Discussion

The current study examined pathways for foster care entry and mental health service use for Black and Latinx youth within the child welfare system and aimed to reconcile patterns of racial/ethnic disparities between the two systems. This is the first study to examine type of mental health need, foster care placement type, and mental health service use while accounting for key child welfare system indicators (e.g., investigated maltreatment, previous child welfare history) when examining racial/ethnic disparities in service systems. As such, results provide a comprehensive view of entry into foster care and mental health service use.

In the first aim, foster care placement was examined within the context of mental health need and race/ethnicity. It was hypothesized that placement into foster care and externalizing need would have the strongest relationship among Black and Latinx youth compared to non-Latinx White youth. Consistent with previous findings, there were main effects for prior child welfare contact and substantiated maltreatment (physical abuse, sexual abuse, emotional abuse, neglect, and other) in predicting foster care entry (Courtney, 1995; Detlaff, 2011; Shaw, 2006). There was also a main effect such that Black youth were more likely to be placed into foster care

relative to non-Latinx White youth. There was not a main effect for Latinx youth and foster care placement. However, results suggested a different pattern of interactions than what was hypothesized, where internalizing symptoms moderated the relationship between ethnicity and foster care placement. The relationship between internalizing need and foster care placement was moderated by race/ethnicity such that internalizing need influenced the relationship between foster care placement for Latinx and non-Latinx White youth. That is, internalizing need made more of difference for non-Latinx White youth compared to Latinx youth in regards to foster care placement. Non-Latinx White youth with internalizing need were less likely to be placed into foster care compared to non-Latinx White youth without internalizing need. On the other hand, for Latinx youth, internalizing need was associated with higher likelihood of foster care placement compared to no internalizing need. There are several possible explanations for this finding. For non-Latinx White youth, mental health need may not be deemed as an indicator of risk within the home, which would decrease their probability of needing to be removed from the home. It is possible that the relationship between mental health services and foster care is not as strong for non-Latinx White youth, so it may be that non-Latinx White youth have more of a direct connection to mental health services compared to foster care. This will be further discussed when examining the predicted probabilities from Aim 2. Our pattern of findings suggest that non-Latinx White youth may be more likely to receive mental health services upfront rather than needing to go through the added step of being placed into foster care to receive mental health services.

There were main effects of prior child welfare contact and abuse type, where prior contact and substantiated abuse were predictors of foster care placement. This demonstrates that appropriate factors regarding the youth's case are contributing to foster care decisions. However,

it is concerning that there were racial and ethnic differences in foster care placement, with bi-variate analyses demonstrating that Black and Latinx youth were more likely to be placed into foster care compare to non-Latinx White youth. In multivariate analyses, Black youth continue to have an increased probability of foster care after accounting for risk-assessment factors (i.e. prior child welfare contact, substantiation). Interestingly, mental health need did not moderate the relationship between race (i.e. Black vs. White) and foster care placement. This suggests that mental health need type is not a significant contributor to disparities in foster care placement for Black youth. To this end, there are still decision-making factors that target Black and Latinx youth for increased representation in foster care placement, which is where system change must be targeted.

In Aim 2, the interaction of race/ethnicity with foster care placement to predict mental health service use was tested. It was predicted that compared to non-Latinx White youth in foster care, Black and Latinx youth in foster care would be less likely to receive mental health services. Here, there were main effects of externalizing need and internalizing need on mental health service use, which is consistent with previous findings (Burns et al., 2004). Youth with substantiated sexual abuse reports were also more likely to receive mental health services, also consistent with previous findings (Garland et al., 1996). Further, there were main effects of non-kinship foster care placement, relative to remaining in the home, and of Latinx ethnicity, relative to non-Latinx White youth, on mental health service use. Contrary to hypotheses, race/ethnicity did not moderate the relationship between foster care placement type and mental health services use. Thus, foster care placement was an equal predictor for mental health service use across race/ethnicity.

To obtain an overall perspective of predictors of mental health service use, predicted probabilities accounting for factors such as age, sex, prior child welfare contact, maltreatment type, mental health need, and foster care placement were calculated. Here, we focused on considering the contributions of race/ethnicity and foster care placement type when estimating the likelihood of mental health service use, after controlling for other relevant variables. This approach depicted a trend where differences in mental health service use were greater for Black and Latinx youth compared to non-Latinx White youth across placement settings. Black and Latinx youth were more likely youth to be placed into foster care (Aim 1), and the predicted probabilities (Aim 2) showed that Black and Latinx youth in foster care see a higher effect of their placement type given the greater increase in likelihood for mental health service use compared to non-Latinx White youth. Conversely, non-Latinx White youth were more likely to receive mental health services without being placed into foster care. The predicted probabilities suggest that the pathways to care for non-Latinx White youth may be more direct compared to Black and Latinx youth, as they do not have to be funneled through foster care to receive services

These predicted probabilities confirmed findings from other studies where youth in formal kinship care were less likely to receive services compared to youth in non-kinship foster care (Horwitz et al., 2012b; Hurlburt et al., 2004; Leslie et al., 2004). At a lower level of contact with the child welfare system, non-Latinx White youth have a higher likelihood of receiving mental health services compared to their Black and Latinx counterparts. As such, Black and Latinx youth face an additional barrier to mental health service use because placement into foster care increases their chance in receiving services compared to non-Latinx White youth. These predicted probabilities indicate that Black and Latinx youth mental health needs are more likely

to be met while in foster care; in other words, Black and Latinx youth are less likely to receive services outside of foster care compared to non-Latinx White youth. It would therefore seem important that youth mental health needs should be assessed regardless of placement to reduce mental health disparities. Further, it is necessary to note the complexities within the child welfare system such that there are multiple decisions and sequences of decisions that must occur for youth to receive services. The differences in decision makers across in-home care, foster care, and residential settings may also contribute to mental health service use disparities. As such, the child welfare system must consider how to provide support to decision makers when a child has significant mental health need, which may reduce the cumulative risk of effects over time and provide multiple opportunities for corrective action.

Disproportionality in the child welfare system is a complex phenomenon and a single factor cannot explain all disparities (Detlaff et al., 2011). This study attempts to fill this gap in the literature by incorporating many previously studied factors into a single approach. As such, we attempt to create a holistic picture of foster care and mental health service use across racial/ethnic groups. However, there is still much more to be done in the field. For example, Kim and Garcia (2016) examined different approaches to measuring racial/ethnic disparities in mental health service use and found that various studies produced different magnitudes of disparities. That is, there is not a consensus about how disparities are measured, which may not produce comparable results regarding the magnitude of these disparities.

Though the current study adds to the literature regarding disparities in foster care placement and mental health service use, it is not without limitations. First, this study was not able to examine broader systemic factors that may contribute to disproportionality and disparities. Such factors include specific biases regarding decision making (e.g., case worker

perception of maltreatment or child need), caregiver or caseworker mental health need, and decision-making points that led to the retrieval of mental health services. Further, we assessed mental health need based on clinically significant *t*-scores on the CBCL and YSR. Although this method is consistent with previous studies (Gudiño et al., 2012; Horwtiz et al., 2012a), we were not able to assess level of impairment—a key variable, given that impairment may be an important predictor in addition to need. Finally, youth identifying as Native North American, Alaska Native, Hawaiian Native, Pacific Islander, Asian American were not included in this study due to small sample sizes; however, the lack of visibility of these youth within child welfare research studies should not be disregarded.

This study is not the first nor will it be the last to establish that youth from marginalized and oppressed racial/ethnic groups face inequities within the child welfare system. Black and Latinx youth are operating within a system that often deems racial/ethnic status as a "risk factor" in needing to remove youth from their homes. When deciding to remove youth from their home or provide mental health services, their situation as a whole must be examined. As such, the child welfare system requires reform that is more responsive to the actual needs of youth, where safety and mental health need are predictors of who receives services, not their race or ethnicity. The child welfare system must be decolonized especially considering that the child welfare system's roots stem from forcibly removing youth from their home due to their racial/ethnic status. Nonetheless, it is clear that there are disparities in mental health service use outside of placement into foster care. Thus, consistent quality assessment and better responses to child mental health need and impairment during the initial investigation may be a critical next step to mitigate inequities in the treatment of Black and Latinx youth in the child welfare system. Future research is needed to identify how systemic racism infiltrates decision-making of individual

gatekeepers and broader barriers and facilitators driving youth services; these complicated chains of decisions and circumstances result in a cumulative risk for disparities. This is a critical next step, especially as non-Latinx White youth in foster care are being provided services at a higher rate compared to Black and Latinx youth in the *same* system. If the child welfare system aims to promote youth well-being, there must be a focus on equity and justice, where operations that uphold disproportionality and disparities are targeted; otherwise, the child welfare system will perpetuate harm. As such, assessing child mental health need is necessary in the fight to promote equitable services and reduce disparities. Our study provides evidence that distribution of mental health services outside of foster care must be improved as racial and ethnic disparities are more pronounced for youth in in-home care.

Conclusion

Consistent with the extant literature, our results show the differential treatment of Black and Latinx youth within the child welfare system. Although the child welfare system is intended to promote the well-being of youth through the equitable allocation of resources, our findings suggest that services are not distributed equally across groups. This is especially true for Black and Latinx youth in the child welfare system who are in out-of-home placement. Findings from the current study demonstrate that pathways to care differ across race and ethnicity and more barriers are placed for Black and Latinx youth, specifically in terms of receiving mental health services once in foster care. Yet Black and Latinx youth should not have to be removed from their home in order to have a greater chance of receiving quality mental health services. Even with the acknowledgement of systemic racism, mobilizations for justice have fallen short, greater systemic change has not been attained, and the child welfare system has yet to be de-colonized.

Results from this study may inform policy changes to promote equity and justice within the child welfare system for youth in need of and seeking mental health services.

References

Achenbach, T.M. (1991). *Manual for the Child Behavior Checklist/ 4-18 and 1991 profile*. Burlington: University of Vermont, Department of Psychiatry.

Achenbach, T.M., & Rescorla, L.A. (2001). *Manual for the ASEBA school-age forms & profiles.* Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Ards, S. D., Myers, S. L., Jr, Ray, P., Kim, H. E., Monroe, K., & Arteaga, I. (2012). Racialized perceptions and child neglect. *Children and youth services review*, *34*(8), 1480–1491.

Ascher, B. H., Farmer, E. M. Z., Burns, B. J., & Angold, A. (1996). The Child and Adolescent Services Assessment (CASA): Description and psychometrics. *Journal of Emotional and Behavioral Disorders, 4*(1), 12-20.

Bellamy, J.L., Gopalan, G., Traube, D.E. (2010) A national study of the impact of outpatient mental health services for children in long-term foster care. *Clinical Child Psychology and Psychiatry, 1*5(4), 467-479.

Ben-David, V., Jonson-Reid, M., Drake, B., & Kohl, P. L. (2015). The association between childhood maltreatment experiences and the onset of maltreatment perpetration in young adulthood controlling for proximal and distal risk factors. *Child Abuse & Neglect, 46*, 132–141.

Bird, H.R., Gould, M.S., & Staghezza, B. (1992). Aggregating data from multiple informants in child psychiatry epidemiological research. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(1); 78-85.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Bronsard, G., Alessandrini, M., Fond, G., Loundou, A., Auquier, P., Tordjman, S., & Boyer, L. (2016). The Prevalence of Mental Disorders Among Children and Adolescents in the Child Welfare System: A Systematic Review and Meta-Analysis. *Medicine, 95*(7), e2622.

Burns, B.J., Angold, A., Magruder-Habib, K., Costello, E.J., & Patrick, M.K. (1996). *The Child and Adolescent Services Assessment (CASA) parent interview.* Durham, NC: Developmental Epidemiology Program, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center.

Burns, B.J., Phillips, S.D., Wagner, H.R., Barth, R.P., Kolko, D.J., Campbell, Y., & Landsverk, J. (2004). Mental health need and access to mental health services for youths involved with child welfare: A national survey. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(8), 960-970.

Casanueva, C., Dolan, M., Smith, K., Ringeisen, H., & Dowd, K. (2012). Indicators of well-being among children in the United States child welfare system. *Child Indicators Research, 5*(3), 547-565

Child Welfare Information Gateway. (2013). *How the child welfare system works.* Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

Child Welfare Information Gateway. (2016). *Racial disproportionality and disparity in child welfare.* Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

Child Welfare League (2013). *The CWLA national blueprint for excellence in child welfare.* Child Welfare League.

Conn, A.M., Szilagyi M.A., Alpert-Gillis L., Baldwin, C.D., & Jee S.H. (2016). Mental health

problems that mediate treatment utilization among children in foster care. *Journal of Child and Family Studies, 25*(3), 969-978.

Courtney, M. E. (1995). Reentry to foster care of children returned to their families. *The Social Service Review, 69*(2), 226-241.

Dettlaff, A., Rivaux, S., Baumann, D., Fluke, J., Rycraft, J., & James, J. (2011). Disentangling substantiation: The influence of race, income, and risk on the substantiation decision in child welfare. *Children and Youth Services Review, 33*(9), 1630–1637.

Drake, B., Jonson-Reid, M., Way, I., Chung, S. (2003) Substantiation and recidivism. *Child Maltreatment, 8*(4), 248-260.

Drake, B., Jolley, J.M., Lanier, P., Fluke, J., Barth, R.P., & Jonson-Reid, M (2011). Racial bias in child protection? A comparison of competing explanations using national data. *Pediatrics, 127*(3), 471-478.

English, D. J. & the LONGSCAN Investigators. (1997). *Modified Maltreatment Classification System (MMCS)*.

Farmer, E.M., Burns, B.J., Chapman, M.V., Philips, S.D., Angold, A., & Costello, E.J. (2001) Use of mental health services by youth in contact with social services. *Social Service Review, 75*(4). 605–735

Fluke, J. D., Yuan, Y.Y. T., Hedderson, J., & Curtis, P. A. (2003). Disproportionate representation of race and ethnicity in child maltreatment: Investigation and victimization. *Children and Youth Services Review, 25*(5-6), 359-373.

Garcia, A., & Courtney, M. (2011). Prevalence and predictors of service utilization among racially and ethnically diverse adolescents in foster care diagnosed with mental health and substance abuse disorders. *Journal of Public Child Welfare*, 5(5), 521–545.

Garcia, A.R., Kim, M., & DeNard, C. (2016). Context matters: The state of racial disparities in mental health services among youth reported to child welfare in 1999 and 2009. *Children and Youth Services Review, 66*, 101-108.

Garcia, A.R., Palinkas, L.A., Snowden, L., & Landsverk, J. (2013). Looking beneath and in-between the hidden surfaces: A critical review of defining, measuring and contextualizing mental health service disparities in the child welfare system. *Children and Youth Services Review, 35*(10), 1727–1733.

Garland, A. F., Hough, R. L., Landsverk, J. A., McCabe, K. M., Yeh, M., Ganger, W. C., & Reynolds, B. J. (2000). Racial and ethnic variations in mental health care utilization among children in foster care. *Children's Services: Social Policy, Research, & Practice, 3*(3), 133-146.

Garland, A. F., Landsverk, J. L., Hough, R. L., & Ellis-Macleod, E. (1996). Type of maltreatment as a predictor of mental health service use for children in foster care. *Child Abuse & Neglect, 20*(8), 675-688.

Gilliam, W. S., Maupin, A. N., Reyes, C. R., Accavitti, M., & Shic, F. (2016). Do early educators' implicit biases regarding sex and race relate to behavior expectations and recommendations of preschool expulsions and suspensions? New Haven, CT: Yale University, Child Study Center. Retrieved from https://medicine.yale.edu/childstudy/zigler/publications/Preschool%20Implicit%20Bias%20Policy%20Brief_final_9_26_276766_5379_v1.pdf.

Gudiño, O.G., Liu, L.L., & Lau, A.S. (2006). Race matters: Maltreatment identification and impact among high-risk adolescents. In S.M. Sturt (Ed.), *Child Abuse: New Research* (pp. 115-132). New York: Nova Science Publishers.

Gudiño, O.G., Martinez, J.I., & Lau, A.S. (2012). Mental health service use by youths in contact with child welfare: racial disparities by problem type. *Psychiatric Services, 63*(10), 1004-1010.

Halfon, N., Berkowitz, & Klee, L. (1992). Mental health service utilization by children in foster care in California. *Pediatrics, 89(*6 Pt 2). 1238-1244.

Harman, J., Childs, G.E., & Kelleher, K. (2000). Mental health care utilization and expenditures by children in foster care. *Archives of Pediatrics and Adolescent Medicine, 154*(11), 1114-1117.

Hill, R.B. (2006). *Synthesis of research on disproportionality in child welfare: An update.* Washington, D.C.: Casey Center for the Study of Social Policy.

Hill, R.B. (2007). *An analysis of racial/ethnic disproportionality and disparity at the national, state and county levels*. Washington, D.C.: Casey Center for the Study of Social Policy.

Hines, A. M., Lemon, K., Wyatt, P., & Merdinger, J. (2004). Factors related to the disproportionate involvement of children of color in the child welfare system: A review and emerging themes. *Children and Youth Services Review, 26*(6), 507-527.

Horwitz S.M., Hoagwood, K., Stiffman, A.R., Summerfield, T., Weisz, J.R., Costello, E.J., … Norguist, G. (2001). Reliability of the services assessment for children and adolescents. *Psychiatric Services 52*(8),1088–1094

Horwitz, S. M., Hurlburt, M. S., Goldhaber-Fiebert, J. D., Heneghan, A. M., Zhang, J., Rolls-Reutz, J., … Stein, R. E. (2012a). Mental health services use by children investigated by child welfare agencies. *Pediatrics, 130*(5). 861-896.

Horwitz, S.M., Hurlburt, M. S., Heneghan, A., Zhang, J., Rolls-Reutz, J., Fisher, E., …Stein, R.

E. (2012b). Mental health problems in young children investigated by U.S. child welfare agencies. *Journal of the American Academy of Child and Adolescent Psychiatry, 51*(6), 572–581.

Horwitz, S.M., Hurlburt, M.S., & Zhang, J. (2009). The patterns and predictors of mental health services use by children in contact with the child welfare system. In M. B. Webb, K. Dowd, B. Jones Harden, J. Landsverk & M. F. Testa (Eds.), *Child welfare and child well-being: New perspectives from the National Survey of Child and Adolescent Well-Being.* New York: Oxford University Press.

Hurlburt, M. S., Leslie, L. K., Landsverk, J., Barth, R. P., Burns, B. J., Gibbons, R. D., … Zhang, J. (2004). Contextual predictors of mental health service use among children open to child welfare. *Archives of General Psychiatry, 61*(12), 1217–1224.

James, S., Landsverk, J., & Slymen, D. J. (2004). Placement movement in out-of-home care: Patterns and predictors. *Children and Youth Services Review, 26*(2), 185–206

Kim H., Chenot D., & Ji, J. (2011). Racial/ethnic disparity in child welfare systems: A longitudinal study utilizing the Disparity Index (DI). *Children and Youth Services Review, 33*(7), 1234–1244.

Kim, M., & Garcia, A. R. (2016). Measuring racial/ethnic disparities in mental health service use among children referred to the child welfare system. *Child Maltreatment, 21*(3), 218-227.

Kohl, P.L., Jonson-Reid, M., Drake, B. (2009) Time to leave substantiation behind: findings from a national probability study. *Child Maltreatment, 14*(1), 17-26.

Landsverk, J., Garland, A. F., & Leslie, L.K. (2002). Mental health services for children reported to child protective services. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, C.

Jenny, & T.A. Reid (Eds.), *The APSAC handbook on child maltreatment* (2nd ed., pp. 487–507). Thousand Oaks: Sage.

Larsen, M., Baste, V., Bjørknes, R., Myrvold, T., Lehman, S. (2018). Services according to mental health needs for youth in foster care? A multi-informant study. *BMC Health Service Research, 18*(634).

Lau, A. S., McCabe, K. M., Yeh, M., Garland, A. F., Hough, R. L., & Landsverk, J. (2003). Race/ethnicity and rates of self-reported maltreatment among high-risk youth in public sectors of care. *Child Maltreatment, 8*(3), 183–194

Leslie, L. K., Hurlburt, M. S., James, S., Landsverk, J., Slymen, D. J., & Zhang, J. (2005). Relationship between entry into child welfare and mental health service use. *Psychiatric Services (Washington, D.C.), 56*(8), 981–987.

Leslie, L.K., Hurlburt, M.S., Landsverk, J., Barth, R., & Slymen, D.J. (2004). Outpatient mental health services for children in foster care: a national perspective. *Child Abuse & Neglect, 28*(6). 699-714.

Leslie, L.K., Landsverk, J., Ezzet-Lofstrom, R., Tschann, J.M., Slymen, D.J., & Garland, A.F. (2000). Children in foster care: factors influencing outpatient mental health service use. *Child Abuse & Neglect, 24*(4), 465-576.

Maguire-Jack, K., Lanier, P., Johnson-Motoyama, M., Welch, H., & Dineen, M. (2015). Geographic variation in racial disparities in child maltreatment: The influence of county poverty and population density. *Child Abuse & Neglect, 47*, 1-13.

Martinez, J. I., Gudiño, O. G., & Lau, A. S. (2013). Problem-specific racial/ethnic disparities in pathways from maltreatment exposure to specialty mental health service use for youth in child welfare. *Child Maltreatment, 18*(2), 98–107.

Minoff, E. (2018). *Entangled roots: The role of race in policies that separate families.* Washington, D.C.: Center for the Study of Social Policy.

Mizel, M.L., Miles, J.N.V., Pedersen, E.R., Tucker, J.S., Ewing, B.A., D'Amico, E.J. (2016). To educate or to incarcerate: Factors in disproportionality in school discipline. *Children and Youth Services Review, 70*, 102-111.

Morton, T.D. (1999). The increasing colorization of America's child welfare system: The overrepresentation of African-American children. *Journal of Policy and Practice of Public Human Services, 57*, 23-30.

National Council of Juvenile and Family Court Judges (2017). *Disproportionality rates for children of color in foster care (fiscal year 2015).* Reno, Nevada: Ganasarajah, S., Siegel, G., Sickmund, M.

Ortega, R. M., Grogan-Kaylor, A., Ruffolo, M., Clarke, J., & Karb, R. (2010). Racial and ethnic diversity in the initial child welfare experience: Exploring areas of convergence and divergence. In M. B. Webb, K. Dowd, B. Jones Harden, J. Landsverk & M. F. Testa (Eds.), *Child Welfare and Child Well-Being: New perspectives from the National Survey of Child and Adolescent Well-Being.* New York: Oxford University Press.

Oswald, S.H., Heil, K., & Goldbeck, L. (2010). History of maltreatment and mental health problems in foster children: a review of the literature, *Journal of Pediatric Psychology, 35*(5) 462–472.

Pecora, P. J., White, C. R., Jackson, L. J., & Wiggins, T. (2009). Mental health of current and former recipients of foster care: A review of recent studies in the USA. *Child & Family Social Work, 14*(2), 132-146.

Peguero, A.A. & Shekarkhar, Z. (2011). Latino/a student misbehavior and school punishment.

Hispanic Journal of Behavioral Sciences, 33(1), 54-70.

Putnam-Hornstein, E., Needell, B., King, B., Johnson-Motoyama, M. (2013). Racial and ethnic disparities: A population-based examination of risk factors for involvement with child protective services. *Child Abuse & Neglect, 37*(1), 33-46.

Raghavan, R., Inoue, M., Ettner, S. L., Hamilton, B. H., & Landsverk, J. (2010). A preliminary analysis of the receipt of mental health services consistent with national standards among children in the child welfare system. American Journal of Public Health, 100(4), 742-749.

Ringeisen, H., Casanueva, C., Urato, M., & Stambaugh, L. (2009). Mental health service use during the transition to adulthood for adolescents reported to the child welfare system. *Psychiatric Services, 60*(8), 1084-1091.

Roberts, D.E. (2002). *Racial disproportionality in the U.S. Child Welfare System: Documentation, research on causes, and promising practices*. Prepared for the Annie E. Casey Foundation. Northwestern. University School of Law: Institute for Policy Research.

Rosanbalm, K. D., Snyder, E. H., Lawrence, C. N., Coleman, K., Frey, J. J., van den Ende, J. B., & Dodge, K. A. (2016). *Child wellbeing assessment in child welfare: A review of four measures. Children and Youth Services Review, 68,* 1-16.

Salbach-Andrae, H., Lenz, K., Lehmkuhl, U. (2009). Patterns of agreement among parent, teacher, and youth ratings in a referred sample. *European Psychiatry, 24*(5), 345-351.

Shaw, T. (2006). Reentry into the foster care system after reunification. *Children and Youth Services Review, 28*(11), 1375-1390.

Skiba, R.J., Horner, R.H., Chung, C., Raush, M.K., May, S.L., & Tobin, T. (2011). Race is not

neutral: A national investigation of African American and Latino disproportionality in school discipline. *School Psychology Review, 40*(1), 85-107.

Stahmer, A. C., Leslie, L. K., Hurlburt, M., Barth, R. P., Webb, M. B., Landsverk, J., & Zhang, J. (2005). Developmental and behavioral needs and service use for young children in child welfare. *Pediatrics, 116*(4), 891–900.

StataCorp. (2017). Stata Statistical Software: Release 15. College Station, TX: StataCorp LLC.

Stein, R. E., Hurlburt, M. S., Heneghan, A. M., Zhang, J., Kerker, B., Landsverk, J., & Horwitz, S. M. (2016). For better or worse? Change in service use by children investigated by child welfare over a decade. *Academic Pediatrics, 16*(3), 240–246.

Swanke, J.R., Yampolskaya, S., Strozier, A., & Armstrong, M.I. (2016). Mental health service utilization and time to care: A comparison of children in traditional foster care and children in kinship care. *Children and Youth Services Review, 68*, 154-158.

Takayama, J. I., Bergman, A. B., & Connell, F. A. (1994). Children in foster care in the state of Washington: Health care utilization and expenditures. *Journal of the American Medical Association, 271*, 1850 –1855.

Tilbury, C. & Thoburn, J., (2009). Using racial disproportionality and disparity indicators to measure child welfare outcomes. *Children and Youth Services Review, 31*(10). 1101-1106.

Turney, K. & Wildeman, C. (2016). Mental and physical health of children in foster care. *Pediatrics, 138*(5), e20161118.

U.S. Department of Education, Office of Civil Rights. (2016). *2013-2014 Civil rights data collection: Key data highlights on equity and opportunity gaps in our nation's public*

schools. Retrieved from http://www2.ed.gov/about/offices/list/ocr/docs/crdc-2013-14.html

Wu, P., Hoven, C.W., Bird, H.R., Moore, R.E., Cohen, P., Alegria, M., … Roper, M.T. (1999) Depressive and disruptive disorders and mental health service utilization in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry 38*(9). 1081–1092.

Wulczyn, F. & Lery, B. (2007). *Racial disparity in foster care admissions.* Chicago: Chapin Hall Center for Children, University of Chicago.

Youngstrom, E., Loeber, R., & Stouthamer-Loeber, M. (2000). Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology, 68*(6), 1038-1050.

Appendix: Tables and Figures

Table 1.
Descriptive Statistics Aim 1: Foster Care Placement

	M	SE
Age	10.82	0.10
	%	SE
Sex		
Female	52%	0.02
Male	48%	0.02
Race		
Black	20%	0.03
Latinx	28%	0.04
Non-Latinx White	44%	0.04
Other	8%	0.01
Foster Care Placement	5%	0.01
Prior Child Welfare Contact	66%	0.02
Maltreatment Type		
Unsubstantiated Maltreatment	73%	0.02
Substantiated Physical Abuse	6%	0.01
Substantiated Sexual Abuse	3%	0.01
Substantiated Emotional Abuse	2%	0.01
Substantiated Neglect	7%	0.01
Substantiated Other Maltreatment	9%	0.01
Clinically Significant Externalizing Need	33%	0.02
Clinically Significant Internalizing Need	25%	0.02

Note. Numbers reflect weighted percentages and means

Table 2.
Descriptive Statistics Aim 2: Mental Health Service Use

	M	SE
Age	10.43	0.13
	%	SE
Sex		
Female	50%	0.03
Male	50%	0.03
Race		
Black	21%	0.03
Latinx	30%	0.04
Non-Latinx White	42%	0.05
Other	7%	0.01
Maltreatment Type		
Unsubstantiated Maltreatment	77%	0.02
Substantiated Physical Abuse	6%	0.01
Substantiated Sexual Abuse	3%	0.01
Substantiated Emotional Abuse	1%	0.01
Substantiated Neglect	6%	0.01
Substantiated Other Maltreatment	7%	0.01
Placement Type		
In-Home Care	98%	0.004
Non-Kinship Foster Care	2%	0.003
Formal Kinship Care	1%	0.001
Clinically Significant Externalizing Need	33%	0.02
Clinically Significant Internalizing Need	25%	0.02

Note. Numbers reflect weighted percentages and means

Table 3.
Weighted Percentage of Foster Care Placement and Mental Health Service Use Within Race/Ethnicity (Yes/No)

	Black	non-Latinx White	Latinx	non-Latinx White
Foster Care				
Yes	8.70%	4.10%	3.54%	4.10%
No	91.30%	95.90%	96.46%	95.90%
Analysis	$\chi^2(1) = 44.94$, $p < 0.01$		$\chi^2(1) = 1.01$, $p = 0.58$	
Mental Health Service Use				
Yes	19.51%	37.27%	16.60%	37.27%
No	80.49%	62.73%	83.40%	62.73%
Analysis	$\chi^2(1) = 176.17$, $p < 0.01$		$\chi^2(1) = 274.36$, $p < 0.001$	

Table 4.
Logistic Regression Analyses Predicting Foster Care Placement (Yes/No)

	Odds Ratio	Coeff.	*S.E.*	*p*	95% CI
	Step 1				
Age	1.07	0.06	0.04	0.152	0.98-1.16
Sex (Female = 1)	0.67	-0.41	0.22	0.072	0.43-1.04
Prior Child Welfare Contact	3.14***	1.14	0.25	0.000	1.92-5.15
Maltreatment Type					
Substantiated Physical Abuse	3.46**	1.24	0.36	0.001	1.69-7.09
Substantiated Sexual Abuse	3.25**	1.18	0.34	0.001	1.63-6.44
Substantiated Emotional Abuse	4.81**	1.57	0.57	0.008	1.54-15.02
Substantiated Neglect	7.93***	2.07	0.26	0.000	4.76-13.23
Substantiated Other Maltreatment	4.89***	1.59	0.33	0.000	2.53-9.41
	Step 2				
Black	2.42**	0.88	0.31	0.005	1.31-4.48
Latinx	0.98	-0.02	0.34	0.957	0.50-1.94
Other	0.98	-0.02	0.31	0.955	0.53-1.84
Externalizing	1.03	0.03	0.17	0.839	0.74-1.44
Internalizing	0.94	-0.06	0.24	0.793	0.59-1.50
	Step 3				
Black X Externalizing	1.28	0.24	0.53	0.645	0.45-3.66
Black X Internalizing	1.47	0.38	0.57	0.502	0.47-4.55
Latinx X Externalizing	0.83	-0.18	0.42	0.669	0.36-1.94
Latinx X Internalizing	2.50*	0.92	0.44	0.041	1.04-6.03

Note. Interactions were examined in separate models
*p≤ 0.05, **p<0.01, ***p<0.001

Table 5.
Logistic Regression Analyses Predicting Mental Health Service Use (Yes/No)

	Odds Ratio	Coeff.	*S.E.*	*p*	95% CI
	Step 1				
Age	0.93	-0.07	0.04	0.115	0.86-1.02
Gender	0.88	-0.13	0.28	0.657	0.50-1.55
Maltreatment Type					
Substantiated Physical abuse	1.00	0.00	0.37	0.999	0.48-2.09
Substantiated Sexual Abuse	3.61*	1.28	0.56	0.025	1.18-11.03
Substantiated Emotional Abuse	1.88	0.63	0.40	0.121	0.84-4.18
Substantiated Neglect	1.66	0.50	0.31	0.108	0.89-3.07
Substantiated Other	0.64				0.34-1.21
Maltreatment		-0.45	0.32	0.167	
Externalizing	3.13***	1.14	0.25	0.000	1.91-5.11
Internalizing	1.95*	0.67	0.34	0.050	1.00-3.80
	Step 2				
Non-Kin Foster Care	3.89**	1.36	0.43	0.002	1.67-9.07
Formal Kin Foster Care	1.12	0.11	0.47	0.812	0.44-2.88
Black	0.47	-0.75	0.41	0.071	0.21-1.07
Latinx	0.35***	-1.06	0.28	0.0000	0.20-0.60
Other	0.54	-0.62	0.39	0.115	0.25-1.17
	Step 3				
Black X Non-Kin Foster Care	0.18	-1.70	1.14	0.141	0.02-1.78
Black X Kin Foster Care	2.02	0.70	0.77	0.367	0.43-9.41
Latinx X Non-Kin Foster Care	0.59	-0.53	0.71	0.460	0.14-2.43
Latinx X Kin Foster Care	0.46	-0.78	0.97	0.424	0.07-3.18

Note. Interactions were examined in separate models
* p<0.05, **p<.01, ***p<.001

Figure 1.
Predicted Probabilities of Foster Care Placement as a Function of Internalizing Need and Race/Ethnicity.

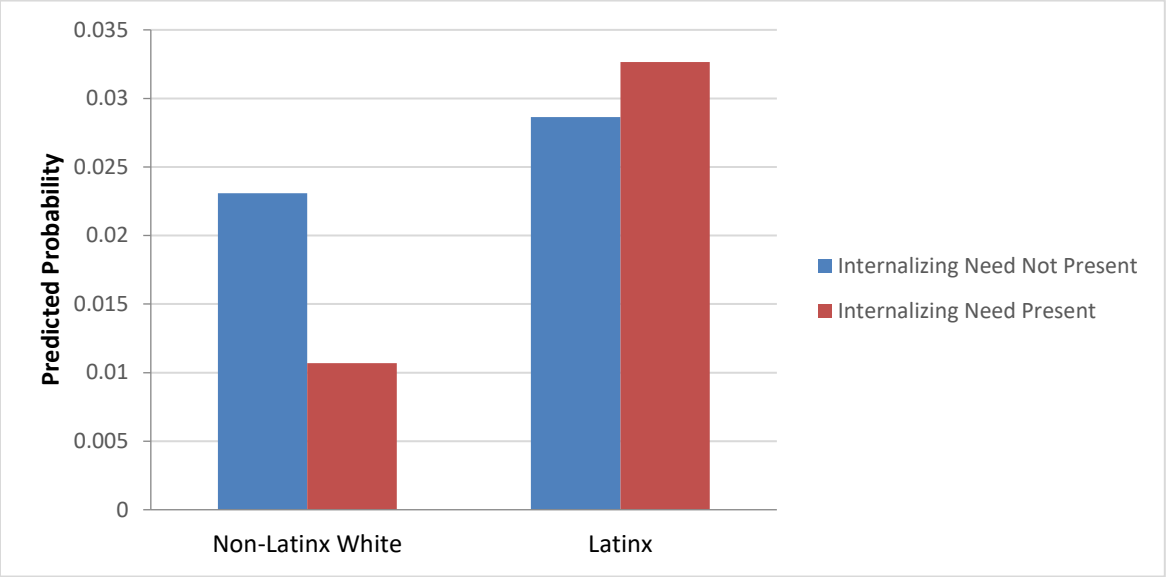

Figure 2.
Predicted Probabilities of Mental Health Service use as a Function of Race/Ethnicity and Foster Care Placement.