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PROTECTING THE SACRED: AN ANALYSIS OF INDIGENOUS CHILDREN'S EXPERIENCES IN THE OKLAHOMA CHILD WELFARE SYSTEM

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Abstract

Introduction:

Given what is known about the historical mistreatment of Indigenous children, the current study used Oklahoma data to determine if Indigenous identity was associated with specific child welfare outcomes (e.g., substantiation, removal, and service referrals) when controlling for public assistance, caregiver substance use, domestic violence, child demographics, and maltreatment allegation types.

Methods:

Oklahoma data from federal fiscal year 2019's National Child Abuse and Neglect Data System's child file was used. A simple random sample of 1000 children was used to create a calibration sample (n = 500), and validation sample (n = 500) while the remaining population level data (n = 65,200) was used as the holdout sample. Children were classified as either non-Hispanic White, Indigenous alone, Indigenous and White, Indigenous and other ethnoracial minority, or non-Indigenous ethnoracial minority for the purpose of analysis. Except for child age and number of children within the report, covariates were coded as "Yes" (1) or "No" (0). Descriptive statistics as well as hierarchical logistic and linear regressions were conducted using STATA (18) with $p < .05$ indicating statistical significance.

Results:

When assessing for associations between identity and substantiation the addition of identity enhanced model performance across the calibration (Pseudo-R^2 for step 1 = .2562; ΔPseudo-R^2 for step 2 = .0017; $X^2(15) = 102.26$, $p = .0000$), validation (Pseudo-R^2 for step 1 = .2861; ΔPseudo-R^2 for step 2 = .0142; $X^2(14) = 104.59$, $p = .0000$), and holdout (Pseudo-R^2 for step 1 = .2475; ΔPseudo-R^2 for step 2 = .0001; $X^2(15) = 9891.41$, $p = .0000$) samples. Despite

this none of the Indigenous identity categories were statistically associated with higher odds of substantiation within the calibration and validation model findings. This changed for the holdout model where Indigenous and White children had lower odds of substantiation (AOR: .91, 95%CI: .85, .97) compared to their non-Hispanic White peers.

When assessing associations between identity and child removal, the addition of identity enhanced model performance across the calibration *(*Pseudo-R^2 for step 1 = .1397; ΔPseudo-R^2 for step 2 = .0197; $X^2(14) = 45.22$, $p = .0000$), validation (Pseudo-R^2 for step 1 = .1884; ΔPseudo-R^2 for step 2 = .032; $X^2(14) = 49.05$, $p = .0000$), and holdout (Pseudo-R^2 for step 1 = .1461.; ΔPseudo-R^2 for step 2 = .0009; $X^2(15) = 4190.31$, $p = .0000$) samples. Across both the calibration (AOR: 3.42, 95%CI: 1.03 - 11.41) and validation (AOR: 4.36, 95%CI:1.36 - 13.98) samples, children who were Indigenous alone had higher odds of removal compared to their non-Hispanic White peers. Despite the consistency across the two samples, the relationship was not observed in the holdout sample. Instead, the Indigenous and White (AOR: 1.11, 95%CI: 1.01, 1.22) and Indigenous and other ethnoracial minority (AOR: 1.35, 95%CI:1.20, 1.52) subgroups were found to be associated with higher odds of child removal compared to their non-Hispanic White peers.

Model performance assessing the relationship between Indigenous identity and service referrals was inconsistent across the calibration, validation, and holdout samples. The calibration model was not statistically significant even after the inclusion of identity (R^2 for step 1 = .0171; ΔR^2 for step 2 = .012; F(15, 469) = 1.11, $p > .05$). In comparison, the validation model was statistically significant (R^2 for step 1 = .0661; ΔR^2 for step 2 = .0106; $F(15, 458) = 2.74$, $p = .0005$); however, none of the Indigenous ethnoracial groups were associated with service referrals. When assessing the remaining population using the holdout sample (R^2 for step 1 =

.0286; ΔR^2 for step 2 = .2714; $F(15, 52{,}681) = 125.25$, $p = .0000$) – both the Indigenous and White ($p = .000$) and Indigenous and other ethnoracial minority ($p = .000$) groups were positively associated with service referrals. Despite being statistically significant the validation and holdout models accounted for low overall variance.

Conclusion:

By grouping multiracial Indigenous children in their own ethnoracial categories – a better picture of Indigenous child welfare experiences was obtained. This is critically important as multiracial White and Indigenous children were found to have lower odds of substantiation. Further, higher odds of removal were observed in population data for both the Indigenous and White and Indigenous and other ethnoracial minority groups. These findings further support the need to not only evaluate Indigenous children in child welfare research, but to consider different approaches to the use of multiracial identity, particularly for Indigenous children**.** Further research is needed to explore the percentage of multiracial Indigenous children falling outside the protections afforded to citizens of federally recognized tribes via the Indian Child Welfare Act (ICWA). Additional research is needed to determine the intersection between Indigenous identity and family/community level factors that may influence child welfare outcomes.

Introduction

The overrepresentation of minority children in the child welfare system has been a topic of concern within the academic, policy, and practice realms. Even so, little empirical research exists on the current experiences of American Indian or Alaska Native (hereafter referred to as Indigenous) children within the United States child welfare system. The study of these experiences is vitally important given the recent legal attacks against the Indian Child Welfare Act (ICWA) (Howe, 2023). As such, the purpose of this study is to determine if Indigenous identity predicts specific child welfare outcomes by utilizing tenets of critical race theory. The outcomes assessed will follow the course of a child welfare investigation for alleged maltreatment and will include case substantiation decisions, child removal, and alternative services provided to children and their families.

Critical Race Theory

Central to arguments for the use of critical race theory is the fact that studies utilizing it must focus on the impact of race or racism on the topic or population being studied (Daftary, 2020). Critical race theorists view racism as intrinsically intertwined in structures, systems, and policies within the United States (Daftary, 2020). The theory also utilizes what Delgado and Stefancic (2023) refer to as revisionist history which diverges from the majority's interpretation of events and instead seeks to tell history from marginalized perspectives. As such, the theory provides a useful framework to investigate racial disparities and disproportionality of various outcomes in communities who have endured oppression (Daftary, 2020).

Several of the theory's tenets, such as its focus on racism, its use of revisionist history from marginalized perspectives, as well as the categorization of race as a social construct, make it a practical selection for the study of Indigenous child experiences in the child welfare system

(Delgado & Stefancic, 2023). For instance, previous federal policy targeted Indigenous children as a means to assimilate Indigenous people into the dominant culture. These policies have included federal boarding schools (Ross et al., 2022c), and the Indian Adoption Project, both of which were extremely harmful to Indigenous children and their families (Mannes, 2017; National Native American Boarding School Healing Coalition, 2020; Ross et al., 2022a; Weaver, 2016). Given the pervasive influence of historical harms perpetrated against Indigenous peoples, it is vital that empirical studies ground present day experiences in historical context, which critical race theory elucidates (Delgado & Stefancic, 2023). Within this history a deeper exploration of post-colonization Indigenous identity is needed to understand the shortfalls of the research methodologies in previous child welfare studies which have led to the exclusion and incorrect categorization of Indigenous children (Dettlaff et al., 2011; Font et al., 2012; Kim & Drake, 2018).

Oklahoma

Oklahoma was an optimal location to study the experiences of Indigenous children within the child welfare system due to a convergence of factors. First, the state has the second highest population of Indigenous people in the United States, with an estimated 16.01% of the population being Indigenous alone or in combination with another race (Rezal, 2021). This is compared to a national average of only 2.9% (Rezal, 2021). Oklahoma is also home to a total of 38 federally recognized sovereign nations (*Indian Country*, 2015). In recent years the state has also found itself at a crossroads with those sovereign nations due to a governor whose legacy will be marred by his outward hostility towards tribal sovereignty (Murphy, 2023). Finally, Oklahoma has a comparatively high rate of children with a substantiated (e.g., confirmed maltreatment) or indicated (e.g., reason to suspect maltreatment but not enough evidence to

substantiate) child maltreatment report compared to other states (United Health Foundation, n.d.-e).

A recent study highlighted several concerning trends within Oklahoma related to potential disparities in child welfare outcomes (Luken et al., 2021). Interestingly, this study did not find disparate outcomes for monoracial "American Indian/Alaska Native" children within the state; however, significant disparities were noted for multiracial children (Luken et al., 2021). Since the majority of Indigenous people identify as more than one race (Sanchez et al., 2023), it is important to determine if an expanded definition of Indigenous identity yields different results related to Indigenous child welfare experiences.

The Current Study

While a small collection of literature has focused on the placement of Indigenous youth in relation to foster care (Carter, 2009; Grinnell Davis et al., 2023; Landers & Danes, 2016), little has been done to investigate Indigenous experiences within the child welfare investigation process (Atkinson et al., 2023; Luken et al., 2021; Maguire-Jack et al., 2020; Semanchin Jones, 2015). Determining if there is a link between Indigenous identity and child welfare outcomes is the first step to understanding their overrepresentation in the system in addition to correcting longstanding practices related to federal policies from the early and mid 1900s. Given the gap in existing literature related to outcomes of Indigenous children in the child welfare system, the current study utilized the National Child Abuse and Neglect Data System's (NCANDS) child file to investigate if there was an association between Indigenous identity and certain investigational outcomes for children in Oklahoma. The current study assessed if Indigenous identity was associated with substantiation, child removal, and the number of services provided to a child

while controlling for the presence of public assistance, caregiver alcohol and/or drug use, domestic violence, child demographics, and allegation types.

Literature Review

Critical Race Theory's Application for Child Welfare Research

Racial disproportionality and disparities have long been topics of concern in relation to the child welfare system (Corley & Young, 2018). Despite this, questions related to the overrepresentation of minority youth within the system, and the attention they receive within the academic literature, remain (Corley & Young, 2018). These questions, related to Indigenous children are seldom studied thus leaving a significant gap in the literature about a population who has a significantly traumatic past with the child welfare system and continues to face disproportionate rates of substantiated maltreatment (Ross et al., 2022a).

In recent years the use of critical race theory has emerged throughout several disciplines (Daftary, 2020). While this theory has been pointed to as a compelling tool to use in research related to child welfare outcomes, it requires further empirical evidence (Daftary, 2020). Daftary (2020) explains, "CRT [critical race theory] is unique in that it demands that a problem is placed in social, political, and historical context while considering issues of power, privilege, racism, and other forms of oppression" (p. 1). As a theoretical framework, critical race theory equips researchers to investigate issues related to oppression while also calling for the appropriate ways in which disparities can be addressed (Daftary, 2020). There are three key components within existing critical race theory literature which elucidate its usefulness for social justice issues (Daftary, 2020). First, the "spirit of critical race theory" must be applied to every component of the study, as such the intent of the study must focus on race/racism (Daftary, 2020). The framework is also multidisciplinary and informed by a variety of social movements and theorists

(Daftary, 2020). This is particularly important in Indigenous studies as the impact of federal policies and historical trauma are drivers of present day experiences of Indigenous peoples (Ross et al., 2022a, 2022c; Weaver, 2016). As such, this literature review is structured around several of the core tenets of critical race theory.

Racism

Critical race theory views racism as something that is embedded in all structures and policies within society (Daftary, 2020)**.** In fact, racism is inherently so interwoven within systems in the United States that its insidious nature can be difficult to recognize (Daftary, 2020). As such, previous research related to racism in the child welfare system has been lacking at best, and problematic at worst. As Boyd (2022) explains, "A fundamental flaw of mainstream child welfare research on racial disproportionality and disparity is that these problems have not been widely studied with a lens toward systemic racism and oppression." In lieu of using terms such as racism, many studies within the literature discuss the idea of bias without fully operationalizing it (Boyd, 2022). Even more troubling is the focus of bias at the individual (e.g., case worker) level which then reinforces the idea of deviant behavior from the individual, without acknowledging system level issues (Boyd, 2022). This issue is problematic for several reasons, as approaching bias in such a way minimizes racism as a rare/isolated event, disregards the present day impacts of it, and draws discourse towards the intention of the individual and not the system they are within (Boyd, 2022; Johnson-Motoyama et al., 2018). As such, more empirical research assessing the presence and impact of systemic racism within the child welfare system is necessary.

Systemic Racism and Indigenous Children. For Indigenous children, racism influences the past but is also ever-present in daily life. For example, a recent study utilizing a

representative sample of children, examined parent-reported rates of children experiencing discrimination in the United States and found that Indigenous children were experiencing discrimination at higher rates than any other group from 2018-2020 (Elenwo et al., 2023). Despite this, previous research related to child welfare disparities and bias has constantly excluded Indigenous children. For instance, many studies focus only on assessing differences in the outcomes of White and Black and/or Hispanic children (Dettlaff et al., 2011; Font et al., 2012; Kim & Drake, 2018). Many times groups such as Indigenous children are left out of these studies due to small sample sizes, despite the rate in which these children experience maltreatment (Dettlaff et al., 2011; Kim & Drake, 2018).

Problematic Themes in Existing Literature. Previous researchers have also alluded to the idea that rates of maltreatment in various racial and ethnic groups are likely to be different without discussing the historical and sociopolitical reasons that may drive disparate rates (Font et al., 2012). Broad statements such as this are particularly troubling as they can be interpreted as simply being a member of a minority group is in itself a risk factor for abuse (Austin et al., 2020; Nadan et al., 2015). Such viewpoints are driven by hundreds of years of discourse diminishing the capabilities of Indigenous parents. For example, historically there has been a long standing notion, which has been reaffirmed by biased federal policies against Indigenous parents, that they are not "fit" to have children which echoes previous sentiments expressed within the eugenics movement (Ross et al., 2022a). Similar sentiments expressing Indigenous parents as "incapable" or their parenting behaviors as "...defective, inadequate, and flawed" have also persisted across time (Ross et al., 2022a). Accompanying these sentiments have been historical harms such as the removal of children from homes with no evidence of maltreatment, in addition to violent acts such as the non-consensual sterilization of Indigenous women (Ross et al., 2022a).

A misguided narrative of poverty versus racial bias within child welfare research has also emerged leading to conclusions that race-based bias may not exist within the system (Boyd, 2022). Within previous literature the inclusion of poverty as a predictor of maltreatment has produced conflicting results (Dettlaff et al., 2011; Kim & Drake, 2018). This is problematic as poverty for minority populations is intrinsically intertwined with racist policies which led to an inability to accumulate generational wealth (Boyd, 2022). Without consideration of the systemic racism that has driven disproportionality in poverty, some researchers are making the assumption that all groups have had equal opportunities since the colonization of America (Boyd, 2022).

The History of the Colonization of Indigenous People

To fully understand the significant present-day concerns related to the overrepresentation of Indigenous children in the child welfare system, one must first understand the expansive history of harms committed against Indigenous people by the federal government. When discussing the success of colonialism, Terry Cross, an Indigenous researcher and member of the National Indian Child Welfare Association, outlined several steps which have also turned into present-day maltreatment risk factors for Indigenous youth (Ross et al., 2022b). He explained, "Take territory – land; take natural resources – energy/food; take sovereignty – disrupt leadership and governance; take away the legitimacy of thought – worldview, language, spirituality, healing; take the children" (Cross 2020, as cited in Ross et al. 2022). These steps have been the basis of federal policy which has aimed to assimilate Indigenous peoples (Ross et al., 2022b). They are also consistent with material determinism which has been used throughout history by conquering nations to take resources, whether it be land, labor, or children, for their own benefit (Delgado & Stefancic, 2023).

As Brayboy (2005) notes, “Colonization is endemic to society” (cited in (Ross et al., 2022b). Each federal policy from the Indian Removal Act of 1830 (*Indian Removal Act: Primary Documents in American History*, n.d.) to present day legal challenges to the ICWA (Hamm, 2021b) have been acts of colonization with a goal of assimilation (Brayboy, 2005; Ross et al., 2022a). As such, consideration of Indigenous experiences in the child welfare system outside of historical context can lead to false or misleading results (Boyd, 2022; Daftary, 2020). Given this, the narrative must shift to topics including historical trauma, systemic racism, and how federal policies have exacerbated present-day disparities for Indigenous populations for a complete understanding of present-day Indigenous experiences (Ross et al., 2022c).

Forced Removal. As mentioned previously, a common tactic employed in colonization is the taking of resources, including land (Cross 2020, as cited in Ross et al. 2022). While a full accounting of the history of forced removal is not possible within the context of a single study, it is an incredibly important topic for discussion as it sets the course for future federal policy. As such, the focus of this section will primarily be the experiences of the Cherokee, Choctaw, Chickasaw, Muscogee (Creek), and Seminole nations. In 1829, White settler interest in land belonging to the Cherokee Nation increased due to the Georgia Gold Rush (*Cherokee Removal*, n.d.). This interest resulted in increasing pressure on Congress to allow for state control of tribal property (Pauls, 2023). By 1830, Congress had responded to this growing interest by passing the Indian Removal Act which gave then-President Andrew Jackson the power to ‘negotiate’ removal of tribal nations from their ancestral homelands to lands west of the Mississippi river (*Indian Removal Act*, n.d.; Pauls, 2023).

The Cherokee Nation contested its removal through a series of court cases which set the stage for future federal Indian policy. This included *Cherokee Nation v. Georgia* in 1831 which

reached the Supreme Court of the United States (Duthu, 2014; Marshall, 1831). This case was significant as it defined specific power roles related to the federal government and sovereign nations (Duthu, 2014; Marshall, 1831). Perhaps most importantly, it also acknowledged the federal government's continued involvement in "Indian" affairs (Duthu, 2014; Marshall, 1831). The second case, *Worcester v. Georgia* (1832) reaffirmed the sovereignty of tribes making it clear that states could not impose regulations on tribal land; however, within its ruling the Supreme Court defined the Cherokee Nation as a "weak" state and the United States as its protector (King, 1999). While this case was considered a potential win for the Cherokee Nation, it created a framework for "domestic dependent nations" that would shape future federal Indian policies, and ultimately did not prevent the Cherokee people from being forcibly removed from their lands (King, 1999; The Editors of Encyclopedia Britannica, 2023).

Between 1832 and 1842, a series of treaties were signed by the Chickasaw, Muscogee (Creek), Choctaw, Seminole, and Cherokee. Some of these treaties were signed by minority groups within the respective nations, not the established leaders (1830 The Treaty of Dancing Rabbit Creek Treaty With The Choctaw, 1831; *1831: The Removal Act Affects Choctaw First*, n.d.; Pauls, 2023). While the Chickasaw self-financed their move, other tribes relied on assurances by the federal government resulting in significant death and suffering (Pauls, 2023). These forced relocations caused significant disruption to familial and community structures due to the substantial number of deaths that they caused. Further, these massive displacements disrupted traditional lifeways leading to issues such as food insecurity (Maillacheruvu, 2022), and health disparities which persist today (Farrell et al., 2021). Thus, these events eroded vital safety nets for Indigenous families and exacerbated social and health issues and became a significant source of trauma for generations (Brave Heart et al., 2011). This is important to

consider from a child welfare perspective given the unique interplay that community and family level factors have on maltreatment.

Indigenous Children, Federal Policies, and Child Welfare. While the post-removal period saw significant detrimental policies targeted at Indigenous communities, the policies focused on children were the most egregious, and relevant to the topic at hand. It was during this policy period, which ranged from the late 1800s to the late 1970s, that children were removed from homes as a tactic to assimilate Indigenous peoples and erode their sovereign rights (Mannes, 2017; Ross et al., 2022c). It is also during this time that a troublesome foundation for future child welfare policies was initially built.

Boarding School Era. Beginning in the late 1800s, policies shifted away from the acquisition of natural resources such as land to the "education" of Indigenous children as a way to further assimilate Indigenous peoples (Ross et al., 2022c). This era marked the first federally supported policy to remove Indigenous children from their family which opened a door for Indigenous child welfare disparities that has never fully closed. Ross et al. (2022) explains this time as being, "... associated with institutional racism, trauma, and colonization." During this time, boarding schools run by both religious institutions and the federal government were formed (Ross et al., 2022c). Ross et al. (2022) explains this move as "... a calculated peccadillo aimed at destroying the Native family through destroying the family structure by detaching children from their parents and culture" (p. 31). As such, the boarding school period marked a shift away from the physical genocide experienced during the removal period to a period of cultural genocide (referred to as ethnocide) which

> ...refers to acts that contribute to the disappearance of a culture, even though its bearers are not physically destroyed. Acts of ethnocide include denying a group its right to speak

> its language, practice its religion, teach its traditions and customs, create art, maintain social institutions, or preserve its memories and histories. (*Genocide and Ethnocide*, n.d.)

The practice was far reaching with over an estimated 80% of Indigenous children attending one of these schools by 1926 (*US Indian Boarding School History*, n.d.). In Oklahoma, an estimated 98 American Indian Boarding Schools were operational, more than any other state (The National Native American Boarding School Healing Coalition, 2025). As a part of these policies, families who resisted sending their children to these schools were faced with cruelties such as imprisonment, child removal, and withholding of government rations (Ross et al., 2022c). Further, the schools relied on propaganda to show the way they could "civilize" Indigenous children which reinforced the message that Indigenous parents were not effective caregivers (Ross et al., 2022a).

All forms of child maltreatment were widespread at these institutions with accounts ranging from experimental surgeries to sexual and physical abuse; the extremes of which constituted torture (Ross et al., 2022c). The trauma endured by these children during pivotal times of development as well as the destruction of traditional Indigenous family structures led to not only a loss of identity but also impaired parenting skills for those who survived (Jacobs & Saus, 2012; Ross et al., 2022c). This era in Indigenous history has contributed to a cycle of violence which has perpetuated violence within the home such as domestic violence and child maltreatment (Ross et al., 2022c). Further, this trauma has manifested in ways that harm Indigenous communities such as increased rates of suicide, depression, and substance use (Ross et al., 2022c).

Indian Adoption Project. In the late 1950s the Indian Adoption Project was started by the Child Welfare League, U.S. Children's Bureau and Bureau of Indian Affairs (Mannes, 2017;

National Native American Boarding School Healing Coalition, 2020; Ross et al., 2022a; Weaver, 2016). As the boarding school era began to fade, this new era of policy carried the same fundamental principles– to remove children from their homes and further erode Indigenous culture and sovereignty. This project sought to provide "suitable" homes for Indigenous children if their parents were unable to do so (Mannes, 2017). What followed was a practice where children were removed from their homes and placed with predominantly White families far removed both culturally and physically from their communities (Mannes, 2017). Commonly listed reasons for removal included poverty and its various effects (e.g., inadequate clothing and nutrition, and inadequate housing) as well as alcohol use (Jacobs & Saus, 2012). Jacobs and Saus (2012) explain "...drinking in AI [American Indian] families was judged much more stringently than in non-Indian families" (p. 297). It was common practice for removals to be pushed forward without appropriate processes being adhered to such as legal representation for families, information disclosure, and explanation of various processes (Jacobs & Saus, 2012).

The Indian Child Welfare Act (ICWA). By the late 1960s it was estimated that 25-35% of Indigenous children had been removed from their families, many times with no evidence of maltreatment (Mannes, 2017; Udall, 1978). The problem was deemed so widespread and concerning that it resulted in a congressional hearing which led to the creation of the Indian Child Welfare Act (ICWA) (Udall, 1978). The ICWA was the federal government's attempt to mitigate the extensive systemic racism within the child welfare system (Udall, 1978). The act bolstered tribal sovereignty related to child welfare issues for children who were citizens or eligible to become citizens of federally recognized tribes (Jacobs & Saus, 2012). The act outlined the right of sovereign nations to share jurisdiction or assume jurisdiction of cases involving Indigenous children from state agencies (Jacobs & Saus, 2012). Additional stipulations require

state agencies to prove they are making active efforts to either keep children in the home or reunify children with their families (Jacobs & Saus, 2012; U.S. Department of the Interior, Bureau of Indian Affairs, n.d.). The ICWA also lists the preferences for placement for these children when removal is needed (Jacobs & Saus, 2012). The act dictates a hierarchy of placement preferences beginning with a primary placement with an extended family member, followed by citizens of the child's nation, followed by any Indigenous family, and finally a non-Indigenous family (Jacobs & Saus, 2012). Despite the ICWA, which was created to address harmful policies and practices in child welfare, Indigenous children are still overrepresented in the child welfare system (U.S. Department of Health & Human Services, 2021). Unfortunately, the act has never had an adequate mechanism to determine adherence and the use of sanctions against non-compliance are underutilized (van Straateen & Buchbinder, 2011). Additionally, high blood quantum requirements for specific tribal nations, coupled with an increasingly diverse Indigenous population will result in the ICWA serving less children over time due to its tribal membership specifications (Jacobs & Saus, 2012).

Despite evidence indicating that children who are adopted under the ICWA fare as well or better than their White peers, the act has been contested many times since its enactment (Ross et al., 2022a). Most recently this has included the Goldwater Institute trying and failing to challenge the act in Arizona in 2013 by arguing that the "...ICWA violated the Constitution regarding adoptions of Native children" (Ross et al., 2022a). This was followed by a 2018 challenge, *Brackeen v. Bernhard,* in Texas where a judge sided with the challenging party; however, the act was once again upheld in 2019 (Hamm, 2021a; Ross et al., 2022a). Most recently, the act was challenged yet again, this time at the Supreme Court of the United States level in *Brackeen v. Haaland (Hamm, 2021a)*. The argument in this case once again centered

around what the petitioners determined to be unfair treatment of non-Indigenous adoptive/foster parents; however, the Supreme Court upheld the act (Hamm, 2021a). The primary drivers of these challenges are either a fundamental lack of knowledge related to tribal sovereignty, or the outright refusal to accept and honor the treaties between the United States and sovereign nations.

Present Day Perspectives. As mentioned previously, research related to the present-day child welfare experiences of Indigenous children is lacking. Despite significant maltreatment substantiation rates, Indigenous children are rarely the primary focus of research related to racial disparities within the child welfare system (U.S. Department of Health & Human Services, 2021). According to existing national level research, Indigenous children have 20% higher odds of substantiation and 23% higher odds of out-of-home placement compared to their White peers (Maguire-Jack et al., 2020). When comparing child welfare outcomes of Indigenous and White children, a recent study by Luken et al. (2021) found variable results by state, regardless of Indigenous population size. These findings potentially point to the impact local policies may have on child welfare outcomes (Luken et al., 2021). Perhaps most disturbing are previous findings related to alternative child welfare responses to maltreatment (e.g., non-court involved/non-child removal) which found Indigenous children to be less likely to be assigned an alternative pathway compared to their White peers (Semanchin Jones, 2015). These findings suggest the need for further research, at the state level, to determine if specific state policies drive disparities in child welfare outcomes in Indigenous communities (Luken et al., 2021). Further, additional inquiry is needed focusing specifically on Indigenous children to determine if, consistent with critical race theory, systemic racism influences disparate outcomes related to child maltreatment substantiation, and out-of-home placement.

Historical Trauma and Its Impact on Child Maltreatment Risk Factors: National and Oklahoma Perspectives

In discussing the historical experiences of Indigenous peoples, it's also important to discuss how those experiences have manifested in present day concerns through the lens of historical trauma. Historical trauma is a result of the violent colonization Indigenous peoples have endured since the first Europeans arrived in what is present-day North America (*Trauma*, n.d.). Historical trauma is defined as "... multigenerational trauma experienced by a specific cultural, racial or ethnic group… related to major events that oppressed a particular group of people because of their status as oppressed…" (*Trauma*, n.d.). The impact of historical trauma on health and wellbeing cannot be understated. While some descendants will not be impacted by its negative effects, others may experience many of the same symptoms that survivors of primary trauma experience such as mental health disorders, behavior concerns, and increased risk for chronic illness (Brave Heart, 2003; *Trauma*, n.d.).

Many of the individual and community level outcomes from historical trauma have been considered potential risk factors for maltreatment (Brave Heart, 2003; Ross et al., 2022d; Weaver, 2016). To determine if Indigenous identity predicts specific child welfare outcomes it is critical to account for other elements within a child's life that may influence various decision points throughout a Child Protective Services' (CPS) investigation. Currently, empirical evidence exists for several potential predictors for maltreatment including poverty (Eckenrode et al., 2014; Hunter & Flores, 2021; Rebbe et al., 2022; Slack et al., 2017; Younas & Gutman, 2022), substance use (Brook & McDonald, 2009; Dube et al., 2001; Fix & Nair, 2020; Kepple, 2017; Younas & Gutman, 2022), and domestic violence (Appel & Holden, 1998; Austin et al.,

2020; Edleson, 1999; Fix & Nair, 2020; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022).

Poverty. Poverty and financial hardship have been extensively studied as potential risk factors for CPS referrals and child maltreatment (Eckenrode et al., 2014; Hunter & Flores, 2021; Rebbe et al., 2022; Slack et al., 2017; Younas & Gutman, 2022). Debate related to this factor exists as some scholars argue that individuals experiencing poverty who interact with services are more likely to already be under some level of surveillance that increases the likelihood of a CPS referral (Fong, 2020; Luken et al., 2021). As mentioned previously, this factor has also led to conflicting findings related to race based bias within previous child maltreatment literature (Boyd, 2022; Dettlaff et al., 2011; Kim & Drake, 2018).

In Oklahoma, an estimated 19.9% of children in the general population live in poverty compared to an estimated 22.8% of non-Hispanic American Indian/Alaska Native children (United Health Foundation, n.d.-d). Modern poverty experienced by Indigenous peoples is intrinsically intertwined with the federal policies mentioned previously (Ross et al., 2022d). As Ross et al. (2022) explain, Indigenous peoples, "... have historically been concentrated in remote, rural locations (as reservations were purposely established away from the mainstream of American society)" (p. 25-26). The profound rates of poverty experienced by Indigenous peoples have been used against Indigenous parents by the child welfare system (Jacobs & Saus, 2012; Ross et al., 2022d). Ross et al. (2022) explains that poverty and its effects have been "... construed as child neglect and often fester amongst professionals who make false assumptions and egregious decisions…" (26).

Alcohol & Drug Use. Substance use has been identified in previous literature as a risk factor for family violence including domestic violence and child maltreatment (Brook &

McDonald, 2009; Dube et al., 2001; Fix & Nair, 2020; Kepple, 2017; Younas & Gutman, 2022). For Oklahoma specifically, a study conducted by Brook and McDonald in 2009, indicated that polysubstance use (e.g., alcohol and drug use), led to significantly higher re-entry rates into the foster care system (Brook & McDonald, 2009).

Substance use has been linked to historical trauma as a way of coping (Brave Heart, 2003). While problematic stereotypes of drunkenness are still attributed to Indigenous populations, recent research has indicated a potential shift in substance use behaviors (Ross et al., 2022b). This includes indications of greater alcohol abstinence by Indigenous peoples (Cunningham et al., 2016) as well as seeking help for substance use problems (Beals et al., 2006). Even so, previous research by Fix & Nair (2020), indicated that caregiver substance use was predictive of later substantiation of child physical abuse for Indigenous children. Historically, substance use was included as a reason for child removal during the Indian Adoption Project era (Jacobs & Saus, 2012).

An estimated 9.8% of children in Oklahoma have lived with someone with substance use problems (United Health Foundation, n.d.-c). An estimated 21.5% of adults from the general population in Oklahoma reported non-medical drug use in the last twelve months compared to 30.7% of non-Hispanic American Indian/Alaska Native residents (United Health Foundation, n.d.-b). The percent of adults reporting excessive drinking was lower at 12.9% for the general population and 15.5% for non-Hispanic American Indian/Alaska Native residents (United Health Foundation, n.d.-a).

Domestic Violence. Domestic violence is defined as

> ... assaultive or coercive behaviors, such as physical, sexual, and

> psychological attacks; economic coercion against another adult, emancipated minor, or minor child who is family, a household member, domestic partner, or who is or was in a dating relationship. (Definitions and Substantiation Protocol, n.d.)

Previous research has shown that the presence of domestic violence is a risk factor for maltreatment (Appel & Holden, 1998; Austin et al., 2020; Edleson, 1999; Fix & Nair, 2020; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022) and continued contact with CPS (Casanueva et al., 2009). In fact, many experts and some state laws consider exposure to domestic violence as its own form of maltreatment (Child Welfare Information Gateway, 2021).

For hundreds of years Indigenous peoples have faced significant violence at the hands of the federal government. Weaver (2016) points to the violence which was levied strategically at Indigenous peoples throughout America's history as the stage in which violence today manifests (Weaver, 2016). Weaver (2016) further explains

> Domestic violence typically involves intimidation, subjugation, isolation, and maintenance of control through threats of violence. These are the same dynamics at work through colonization. Minimizing, denying, and blaming others are common defense mechanisms that perpetuate both individualized and societal violence. (p. 158-159)

Previous research has found family domestic violence to be a predictor of substantiation of physical abuse for Indigenous children (Fix & Nair, 2020).

Oklahoma has significant problems with domestic violence. According to the Oklahoma State Bureau of Investigation 26,290 domestic violence crimes happened in the state during 2019 (Office of the Attorney General, 2023). During the same year, 96 individuals died as a result of a domestic violence homicide, 15% of which were classified as "Native American" (Office of the

Attorney General, 2020). Recent reports indicate that an estimated 6.9% of children in the state have witnessed domestic violence (United Health Foundation, n.d.-c). While further state level statistics are lacking related to Indigenous domestic violence experiences, at a national level Indigenous populations have been shown to face significant levels of violence, including intimate partner violence, a form of domestic violence (Petrosky et al., 2021).

The Creation of Race & Problems with the Labeling of Indigenous Identity

As mentioned previously, the social construct of race is a central tenet of critical race theory (Delgado & Stefancic, 2023). This issue converges into one of identity and political status for many Indigenous people in the United States. As Ross et al (2022) note, "At the core of federal Indian policy are the issues of sovereignty, blood quantum, genetic proof, and termination, with which other ethnic groups do not have to contend" (p. 41-42). As such, Indigenous children are likely to become hyper aware of their identity (Ross et al., 2022c). This issue is further compounded with the federal government's methodology concerning the collection of Indigenous identity. Currently, most major federal data collection systems collect American Indian/Alaska Native as a race (Management and Budget Office, n.d.). This is inherently problematic as traditionally Indigenous identity wasn't viewed as a race. With the creation of blood quantum, Indigenous identity became quantifiable according to the federal government. Today, someone can identify as Indigenous according to race but that does not mean they qualify to be a citizen of a sovereign nation.

Indigenous Identity and Research. Child welfare related studies often denote that groups such as Indigenous children were excluded due to their small sample sizes despite their high rates of substantiated maltreatment (Dettlaff et al., 2011; Font et al., 2012; Kim & Drake, 2018). For studies utilizing large data sets, it's difficult to fathom the exclusion of Indigenous

children (U.S. Department of Health & Human Services, 2021). Central to the issue may be the way in which race is categorized both during the recording of maltreatment events and the way in which it is used for analysis. A recent report has shown the way in which the federal government collects and categorizes data related to race is oftentimes problematic for Indigenous populations (Sanchez et al., 2023). Current federal standards, which have the potential to influence data and methodology of large population research, typically result in individuals with one or more races being categorized in catch all categories such as "multiracial" (Sanchez et al., 2023). According to 2020 census data, 61% of Indigenous peoples self-reported as belonging to one or more racial categories, which is higher than any other group (Sanchez et al., 2023). In addition to this, almost three million Indigenous peoples also reported an ethnicity of Hispanic or Latino (Sanchez et al., 2023). Due to this, and the way in which data are typically handled, Indigenous population numbers become diminished as many Indigenous people are relegated to catch all categories which do not sufficiently represent Indigenous experience (Gatewood et al., 2024). This type of data erasure is particularly important in the context of the colonization and subsequent historical trauma faced by Indigenous peoples.

Present Day Child Welfare in Oklahoma

While federal mandates drive policies related to child welfare, operations are typically handled at the individual state and/or county level, and consist of multiple units which provide different services (Berger & Slack, 2020). Typically, front-end services such as responding to abuse and neglect allegations fall under the purview of the child protective services (CPS) unit whereas other service units may be distinguished by the services they provide (e.g., Adoption Services) (Berger & Slack, 2020; *Child Welfare Services*, n.d.). It is important to note that given the structure of child welfare, most families first come into contact with the agency when they

are under suspicion for maltreatment which is consistent with the state of Oklahoma's child welfare mission statement (Berger & Slack, 2020; *Child Welfare Services Mission, Purpose, Scope, and Legal Base*, n.d.).

A recent study by Luken et al. (2021) highlighted several concerning trends within the state related to potential disparities in child welfare outcomes. While this was a national study, overall disparity ratios were given for physical abuse, sexual abuse, and emotional/psychological abuse by monoracial as well as Hispanic ethnicity categories (Luken et al., 2021). While Indigenous children did not demonstrate disparities for outcomes within the state, multiracial children (defined as children with more than one race reported) had significant disparity ratios for all three abuse types (Luken et al., 2021). As mentioned previously, Indigenous peoples report more than one race at a greater percentage than any other group in the United States (Sanchez et al., 2023), thus it is likely that the disparities of Indigenous children were masked due to racial categorization within Luken et al.'s study (2021). As such, further investigation into the child welfare experiences of Indigenous children in Oklahoma is warranted.

Assessments and Investigations

As mentioned previously, Oklahoma's CPS unit is the agency responsible for responding to allegations of child maltreatment (Child Protective Services Purpose, Philosophy, Legal Authority, and Scope, 2013). Child maltreatment is a term that is generally defined as either an act of commission (such as physical abuse/sexual abuse) or omission (such as neglect) which puts a child in serious harm, or at-risk for serious harm (*Definitions of Child Abuse & Neglect*, n.d.). CPS follows guidance from the federal and state level to seek family preservation and reunification as long as doing so will not jeopardize a child's safety (Child Protective Services Purpose, Philosophy, Legal Authority, and Scope, 2013).

Following a child maltreatment report, either an assessment or investigation is conducted by CPS (Children and Juvenile Code, n.d.). Assessments are considered the first phase of the response process (Assessment Protocol, 2013). The purpose of an assessment is to determine if the child's safety is under threat (Assessment Protocol, 2013). During the assessment if it is determined that a safety concern is present the assessment may be upgraded to an investigation (Assessment Protocol, 2013). Investigations follow a systematic protocol related to the interviewing of all persons involved including but not limited to the child, siblings, and individuals responsible for the care of the child, among others (Investigation Protocol, 2013). These interviews are for the purpose of collecting information to determine if maltreatment took place, and to determine the child's safety (Investigation Protocol, 2013). Information is also collected related to risk factors including poverty, health issues, family violence, and substance use as well as the capacity of the caregiver to protect the child (Investigation Protocol, 2013).

Outcomes

Substantiation Determination. Each decision point in a child welfare investigation can be influenced by various levels of bias resulting in the potential for disparities and disproportionality at multiple points in an investigation (Johnson-Motoyama et al., 2018; Luken et al., 2021; Miller et al., 2013). This includes the determination to substantiate a maltreatment allegation which indicates that maltreatment occurred according to state law (Fix & Nair, 2020). Specifically, racial disparities have been found regarding substantiation determinations for Black children in the presence and absence of other factors such as poverty and caseworker assessments (Dettlaff et al., 2011; Font et al., 2012). However, recent studies have yielded mixed results for Indigenous children with some finding no relationship between Indigenous identity and substantiation (Fix & Nair, 2020) while others have found disparities in some states (Luken

et al., 2021). However, these previous studies use monoracial categories which diminishes Indigenous experiences. Thus, it is likely that Indigenous identity, when accounting for individuals who are Indigenous in addition to another race/ethnicity, will predict substantiation even when controlling for various factors related to maltreatment.

In Oklahoma, the factors leading to substantiation are different according to the type of maltreatment (Definitions and Substantiation Protocol, n.d.). For instance, when substantiating physical abuse, several factors are considered including if an injury occurred, the severity of said injury, and the mechanism behind the injury (Definitions and Substantiation Protocol, n.d.). Substantiating sexual abuse requires consideration of several factors including the behavior and statements of the child in addition to witness and child disclosures along with any additional information (either written or electronic) that indicate sexual abuse took place (Definitions and Substantiation Protocol, n.d.). Substantiating neglect requires the consideration of if a caregiver failed to provide basic needs to the child either intentionally or "...through exceptional lack of attention…" resulting in the child being harmed (Definitions and Substantiation Protocol, n.d.). This is in addition to determining if the neglect is chronic in nature as well as its impact on the child's life and its level of severity (Definitions and Substantiation Protocol, n.d.). While Oklahoma's child welfare policy includes a poverty clause, intent related to a caregiver's ability to access resources must be determined (Definitions and Substantiation Protocol, n.d.). Finally, should there be insufficient evidence to determine if maltreatment took place, a case may result in an unsubstantiated outcome (*Definitions*, n.d.). Families with unsubstantiated cases may still be referred to preventative or interventional services (*Definitions*, n.d.).

Other Outcomes and Interventions. As mentioned previously, a case is substantiated when credible evidence has been obtained which indicates that maltreatment took place

(*Definitions*, n.d.). Substantiation may be accompanied with various outcomes (Child Protective Services Investigation Findings, n.d.). Speaking in broad terms, one of the two primary outcomes includes the caregiver(s) entering into an agreement (e.g., safety plan) with the caseworker to engage in family-centered services (Child Protective Services Investigation Findings, n.d.). As part of this process, the case remains open to allow CPS to monitor the caregiver's adherence to the plan including their ability to protect the child from potential safety threats (Child Protective Services Investigation Findings, n.d.). The second potential outcome is requesting a deprived petition to initiate court involvement for removal of the child in addition to recommendations related to prevention and intervention services for the family (Child Protective Services Investigation Findings, n.d.; *Definitions*, n.d.).

Family-Centered Services. Family-centered services are offered as an alternative to court involvement (*Family-Centered Services*, n.d.). These services allow CPS to work with families to improve family safety capacity while allowing the family to retain custody of the child (*Family-Centered Services*, n.d.). As part of family-centered services caregivers enter into an agreement called a safety plan (*Family-Centered Services*, n.d.). This agreement takes the form of either an in-home or out-of-home plan that details how perceived safety threats should be managed (*Family-Centered Services*, n.d.). Where an in-home plan allows for the child to remain within the home with a designated safety monitor, an out-of-home plan places the child with either a friend or family member who is approved to care for the child until safety concerns within the home have been resolved (*Family-Centered Services*, n.d.). The length of these plans varies; however, plans do not last for longer than six months (*Family-Centered Services*, n.d.). At the end of the plan, if safety concerns are still present the family may be required to

participate in another plan, or the child may be taken into state custody (*Family-Centered Services*, n.d.).

As mentioned previously, programs like family-centered services allow for an alternative non-court response track for child maltreatment allegations (*Family-Centered Services*, n.d.; Semanchin Jones, 2015). When families are not provided appropriate service referrals, the lack of access to resources may exacerbate negative child welfare outcomes for the family such as child removal (Lovato-Hermann et al., 2017). Previous research related to racial disparities in alternative responses and service referrals has yielded conflicting results (Lovato-Hermann et al., 2017; Semanchin Jones, 2015). For instance, a 2015 study found race based disparities in the use of alternative responses (Semanchin Jones, 2015) while a 2017 study found no connection between race and service referrals (Lovato-Hermann et al., 2017). Semanchin Jones (2015) specifically found disparities for Minnesota's Indigenous children which included a lower likelihood of receiving alternative responses compared to their White peers, a disparity which persisted for several years.

Child Removal. Child removal can be an outcome of substantiation; however, it can also be initiated during the course of an assessment/investigation, if it is determined that a child is at-risk for harm (Children and Juvenile Code, n.d.). As mentioned previously, if removal from the home is determined to be necessary, a deprived petition is filed (Child Protective Services Investigation Findings, n.d.; *Definitions*, n.d.). Court orders may include either continued CPS supervision within the home, a temporary removal of the child from the home while CPS works with parents to address safety concerns, or termination of parental rights and permanent removal (Legal System Related to Child Welfare Services, n.d.). As detailed previously, during the Indian Adoption Project many Indigenous children were removed from their homes without just cause,

and processes to inform parents were frequently not followed (Jacobs & Saus, 2012). Even after the implementation of the ICWA, Indigenous children are still overrepresented in the foster care system which raises concerns that alternative pathways such as family-centered services are not being offered to Indigenous families (Grinnell Davis et al., 2023).

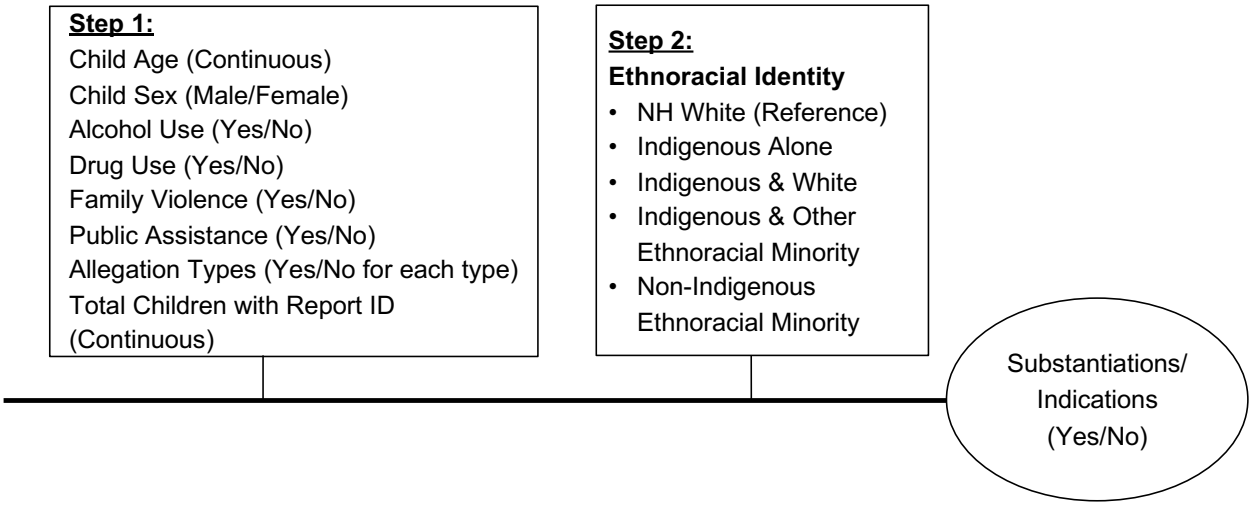
Current Study

The current study utilized data from the National Child Abuse and Neglect Data System (NCANDS) for federal fiscal year 2019 to investigate if Indigenous identity was associated with specific child welfare outcomes. The intent of this study was to build on the work of Luken et al. (2021) which found significant disparate child welfare outcomes for multiracial children in Oklahoma. Utilizing critical race theory, Indigenous identity was re-defined and expanded to include any child with a race of "American Indian/Alaska Native" regardless of other reported races/ethnicities. The study included all maltreatment types (e.g., physical, neglect, sexual, and emotional), and followed the course of an investigation from substantiation decisions, to child removal decisions, and finally to the number of services offered to a family as part of the investigation (Johnson-Motoyama et al., 2018). Established risk factors such as receiving public assistance, domestic violence, parental substance use (e.g., alcohol or drug use), child demographics (e.g., age and sex), as well as maltreatment allegation types were included as covariates given their potential influence on case decisions. By controlling for these particular risk factors, the findings of the following research questions will allow for a better understanding of the presence of systemic racism in child welfare cases. As such, the current study sought to answer the following questions:

Question 1: Is Indigenous identity associated with substantiation when controlling for public assistance, caregiver substance use (e.g. alcohol use, or substance use), domestic

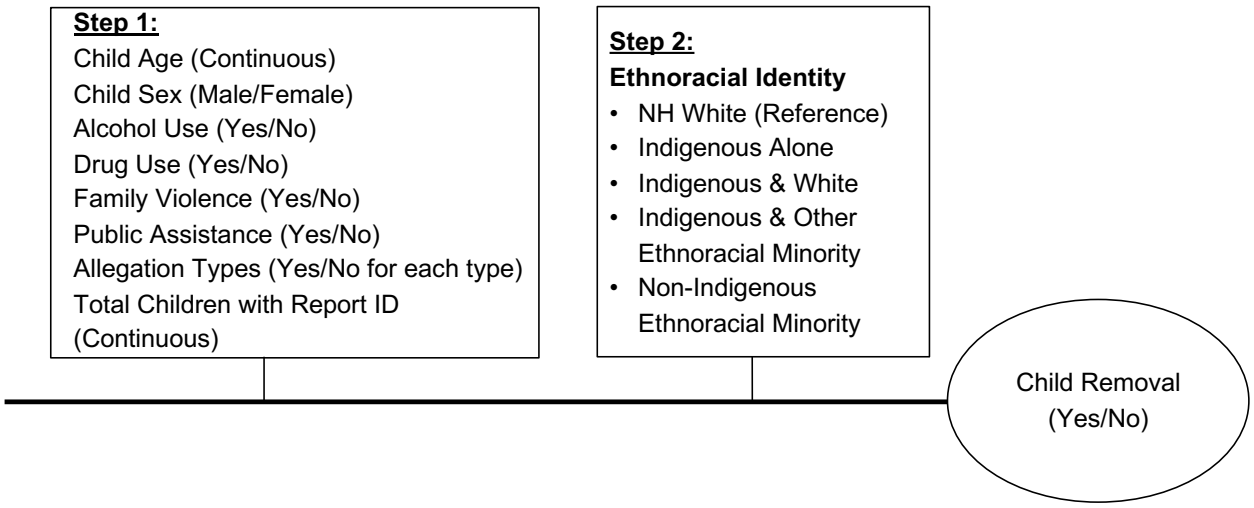
violence, number of children associated with the report, child demographics (e.g., age, and sex), and maltreatment allegation type (e.g., physical abuse, neglect, sexual abuse, and psychological/emotional abuse)?

Figure 1. Research question one model



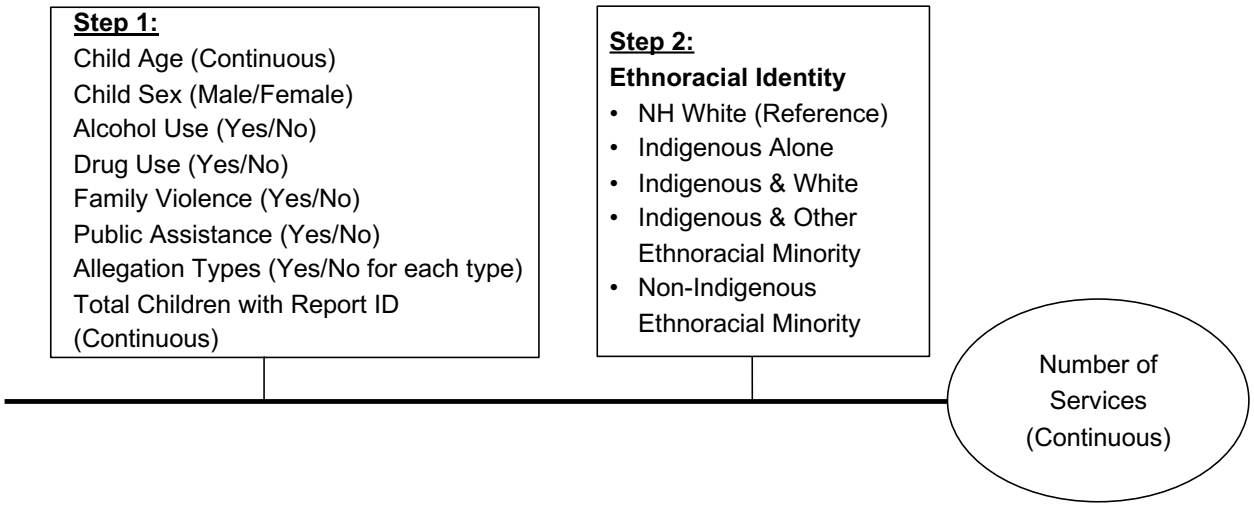
Question 2: Is Indigenous identity associated with child removal when controlling for public assistance, caregiver substance use (e.g. alcohol use, or substance use), domestic violence, number of children associated with the report, child demographics (e.g., age, and sex), and maltreatment allegation type (e.g., physical abuse, neglect, sexual abuse, and psychological/emotional abuse)?

Figure 2. Research question two model



Question 3: Is Indigenous identity associated with the number of services provided to a child when controlling for public assistance, caregiver substance use (e.g., alcohol use, or substance use), domestic violence, number of children associated with the report, child demographics (e.g., age, and sex), and maltreatment allegation type (e.g., physical abuse, neglect, sexual abuse, and psychological/emotional abuse)?

Figure 3. Proposed model for research question three



Methods

A retrospective study of Oklahoma's child maltreatment investigations during federal fiscal year 2019 (October 1, 2018 - September 30, 2019) was conducted. Data were from the National Child Abuse and Neglect Data System's (NCANDS) child file which includes child level data related to the child maltreatment investigations in all 50 states as well as Washington D.C., and Puerto Rico (*NCANDS Child File Codebook*, 2019). Due to the length in which investigations may take, cases may have an allegation report date prior to the federal fiscal year in which they are reported (*NCANDS Child File Codebook*, 2019). However, cases are only included in the annual report period in which a disposition/finding are recorded (U.S. Department of Health & Human Services, 2021). Given the breadth of data collected and its rigorous reporting and monitoring standards, the NCANDS' child file is a robust data set which has been used successfully for state and national level research in the past (*NCANDS Child File Codebook*, 2019).

Limitations of the Data

While the NCANDS' child file is robust, it is not without limitations. Screened-out allegations are not included within the data since the child file is limited to CPS involvement; therefore, it is not possible to determine if this initial decision point may influence the findings of other decision points. Data related to caseworkers are also not included within the child file which limits the ability to determine the influence caseworkers may have on case outcomes. Finally, the child file is reliant on appropriate data recording at the process level which allows for the possibility of individual or system level error (*NCANDS Child File Codebook*, 2019). Data recording issues are specifically seen in the use of screening variables such as domestic violence, caregiver substance use, etc. as all cases may not warrant such screening to take place.

Due to the secondary nature of the data – it can be difficult to determine when data are truly missing due to lack of appropriate recording versus when data are missing due to appropriate case processing taking place.

Exclusion Criteria

Children were excluded from analysis if their case was labeled as a 'child death.' This is due to NCANDS' intentionally providing limited information on these cases due to confidentiality concerns (*NCANDS Child File Codebook*, 2019). Further, children were excluded if their age was classified as 'unborn' since this specific population is difficult to compare to those who are born. Similarly, individuals were excluded if they were adults (18 or older).

Sampling

An a priori power analysis was conducted utilizing G*Power 3.1 for a logistic regression within the z-test family. For an odds ratio of 1.35 and an effect size of 0.8 it was determined that a sample size of at least 346 children was needed. Due to missingness of data the sample size was increased to 500 per sample. Once children who did not meet inclusion criteria were removed from the population, STATA was used to pull a simple random sample of 1,000 children from the population and divided into two samples of 500 (Bujang et al., 2018; Elfil & Negida, 2017; Noor et al., 2022). The purpose of drawing 1000 children was to be able to partition the data into two sets of 500 children. Simple random sampling was used since the NCANDS child file included all screened-in CPS cases in Oklahoma for the given study time frame. Given concerns related to missingness of data in large data sets, records with missing data were not excluded prior to the sample being drawn so children with missing data could be assessed statistically. This was an important step to determine if there were patterns related to

missing data that would skew study results. The remaining population data was retained as the holdout sample for the study.

Measures & Materials

Dependent Variables

Case Substantiation. The outcome variable for the first research question was case substantiation. For this analysis, the "Maltreatment 1-4 Disposition Level" variables were used. A binary variable (Was Substantiated) was created where children were classified as having at least one allegation substantiated (1) or having no allegations substantiated (0). Children were coded as having substantiated (1) maltreatment if their disposition outcome(s) included the "01-substantiated" code. While the NCANDS' codebook does mention "02-Indicated or reason to suspect" as a code for what NCANDS' considers children who have experienced abuse, review of Oklahoma guidelines indicated OK CPS does not use this outcome (Child Protective Services Investigation Findings, n.d.; *NCANDS Child File Codebook*, 2019). Data was reviewed to confirm this policy prior to analysis. A child's case outcome was considered not substantiated (0) if any of the following codes were indicated "03 - alternative response victim," "04 - alternative response nonvictim," "05 - unsubstantiated," "06 - unsubstantiated due to intentionally false reporting," "07 - closed - no finding," or "88 - other" (*NCANDS Child File Codebook*, 2019).

Child Removal. The outcome variable for the second research question was child removal. The "foster care services" variable in the NCANDS' data was utilized to create this variable. The "foster care services" variable was only provided for children who were removed from their homes for greater or equal to 24 hours either before the current report date (as the result of another allegation) or within 90 days after the disposition date of the current report (*NCANDS Child File Codebook*, 2019). Given the purpose of this study, which was to look at

potential systemic bias, children removed from the home, regardless of timing, were coded as "removed," (1) while all other children were coded as "not removed" (0).

Services. The child file includes an extensive list of services to which a family may be referred to as a result of the child's CPS case. In the event they were initiated prior to the current report, services were recorded when they were continued after the report's disposition (*NCANDS Child File Codebook*, 2019). Services were also recorded if they were delivered "... up to 90 days after the disposition date" of the current report (*NCANDS Child File Codebook*, 2019). Instead of looking at each of the services independently, the total number of service referrals was tallied for each child thus creating a continuous dependent variable (0-23). Table 1 provides a list of services with the reason for their inclusion/exclusion. Justification for those services that were excluded is also provided. Generally, services were excluded if they were not consistent with family preservation. As such a higher number of services was considered supportive of family preservation.

Table 1. Services provided to families

Services	Inclusion/Exclusion
Post-Investigation Services	Included
Family Support Services	Included
Family Preservation Services	Included
Foster Care Services	Excluded*
Removal Date	Excluded**
Juvenile Court Petition	Excluded**
Court-Appointed Representative	Excluded**
Adoption Services	Excluded**
Case Management Services	Included
Counseling Services	Included
Daycare Services - Child	Included
Educational and Training Services	Included
Employment Services	Included
Family Planning Services	Included
Health-Related and Home Health Services	Included
Home Based Services	Included
Housing Services	Included

Independent and Transitional Living Services	Included
Information and Referral Services	Included
Legal Services	Included***
Mental Health Services	Included
Pregnancy and Parenting Services for Young Parents	Included
Respite Care Services	Included
Special Services - Disabilities	Included
Special Services - Juvenile Delinquent	Included
Substance Abuse Services	Included
Transportation Services	Included
Other Services	Included

*This is an outcome variable, and is not consistent with family preservation (e.g., to prevent child removal).
**Service is not consistent with services provided for family preservation
***Unlike other court related services this is to help with various types of services including separation, guardianship, child support, etc.

Covariates

Number of Children. Given that multiple children may be attached to the same report, the Report ID was utilized to identify multi-child cases. A continuous variable called number of children was created to control for multi-children reports within each sample. This variable was used to control for cases in which there were multiple children as part of a single investigation.

Public Assistance. Public assistance was defined as the child's family receiving social services such as Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), Medicaid, and Temporary Assistance for Needy Families (TANF), among other programs (*NCANDS Child File Codebook*, 2019). Public assistance was used as a proxy variable for poverty since the NCANDS' child file lacks a 'poverty' variable. Public assistance was used as a control within the various models. It was a binary variable coded as 'Yes' (1) or 'No' (0).

Alcohol Use. The "Alcohol Abuse-Caregivers" variable was used to determine the presence of compulsive and long term alcohol use within the home (*NCANDS Child File Codebook*, 2019). It will be referred to hereafter as 'alcohol use' given the stigmatizing nature of

'abuse.' The variable was used as a control within the various models and was coded as 'Yes' (1) or 'No' (0).

Drug Use. The "Drug Abuse-Caregivers" variable was used to determine the presence of compulsive and long term drug use within the home (*NCANDS Child File Codebook*, 2019). Like the alcohol variable, it will be referred to as 'drug use' due to the stigmatizing nature of 'abuse.' The variable was utilized as a control within the various models and was coded as 'Yes' (1) or 'No' (0).

Domestic Violence. Similar to Oklahoma's definition of domestic violence, NCANDS defines domestic violence as, "Any abusive, violent, coercive, forceful, or threatening act or word inflicted by one member of a family or household on another" (*NCANDS Child File Codebook*, 2019). The NCANDS' child file does not differentiate between if the caregiver is experiencing domestic violence or perpetrating it, it only indicates that violence is present within the home (*NCANDS Child File Codebook*, 2019). This was also used as a control within the various models and was similarly coded as 'Yes' (1) or 'No' (0).

Child Age. Given existing literature indicating the relationship between younger age and maltreatment risk, child age was utilized as a control variable (Austin et al., 2020; CDC, 2024b). NCANDS provides child age in a variable that includes categorical and continuous options (*NCANDS Child File Codebook*, 2019). To convert the variable into a true continuous variable children who were 'less than one year of age' were coded as 0 years since the data provided did not allow for the calculation of age in months.

Child Sex. Abuse rates vary according to child sex (National Children's Alliance, 2024). As such, it was included within the model with female children coded as '1' and male children coded as '0.'

Physical Abuse Allegation. Physical abuse is defined by Oklahoma law as,

> ... harm or threatened harm to the health, safety, or welfare of a child by a person responsible for the child's health, safety, or welfare, including, but not limited to, nonaccidental physical or mental injury, sexual abuse, or sexual exploitation. (*10A OK Stat § 1-1-105*, 2022)

According to the state statute, 'serious bodily injury' can include injuries such as fractures, other injuries to the body, and torture, among others (*10A OK Stat § 1-1-105*, 2022). During state fiscal year 2019, physical abuse accounted for 8.4% (2,599) of substantiations in Oklahoma (Oklahoma Human Services, 2020). All four 'Maltreatment Type' fields were assessed for each child to determine the presence of a physical abuse allegation. Any child with physical abuse allegations indicated was coded as '1' whereas any child without physical abuse allegations was coded as '0.'

Neglect Allegation. Neglect is defined by Oklahoma law as an act of omission (*10A OK Stat § 1-1-105*, 2022). Neglect can include inadequate care, clothing, shelter, food, or education, among other resources that should be provided to a child (*10A OK Stat § 1-1-105*, 2022). Failure to seek medical care is also considered neglect as is failure to provide supervision that may put a child at risk for harm (*10A OK Stat § 1-1-105*, 2022). In addition to this, Oklahoma's neglect definition also includes allowing children to be exposed to acts involving illegal drugs, other illegal activities, "... sexual acts or materials that are not age appropriate" as well as abandonment (*10A OK Stat § 1-1-105*, 2022). Given its broad definition, neglect is the most common form of child maltreatment both nationally (U.S. Department of Health & Human Services, 2021), and in Oklahoma where in state fiscal year 2019 it contributed to 88.4% (27,307) of substantiations (Oklahoma Human Services, 2020). All four 'Maltreatment Type'

fields were assessed for each child to determine the presence of neglect allegations. Any child with neglect allegations indicated was coded as '1' whereas any child without neglect allegations was coded as '0.'

Sexual Abuse Allegations. Oklahoma law defines sexual abuse as including "... but not limited to rape, incest, and lewd or indecent acts or proposals made to a child, … by a person responsible for the child's health, safety, or welfare" (*10A OK Stat § 1-1-105*, 2022). Sexual exploitation is combined under the same definition and includes acts such as knowing or forcing a child into prostitution, and/or the knowledge or production of child sexual abuse material (*10A OK Stat § 1-1-105*, 2022). Trafficking is also embedded into the state's definition of sexual abuse and is defined as "... the recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person for the purpose of a commercial sex act" (*10A OK Stat § 1-1-105*, 2022). During state fiscal year 2019, only 3.2% (991) of substantiated reports in the state were related to sexual abuse (Oklahoma Human Services, 2020). All four 'Maltreatment Type' fields were assessed for each child to determine the presence of sexual abuse allegations. Any child with sexual abuse allegations indicated was coded as '1' whereas any child without sexual abuse allegations was coded as '0.'

Emotional/Psychological Abuse Allegations. Oklahoma law defines emotional abuse as, "Harm or threatened harm to a child's health or safety includ[ing] mental injury" (*10A OK Stat § 1-1-105*, 2022). This type of abuse is not reported within the state's annual statistical report on maltreatment, and its definition is seemingly underdeveloped when compared to other definitions within state law. All four 'Maltreatment Type' fields were assessed for each child to determine the presence of emotional/psychological abuse allegations. Any child with

emotional/psychological abuse allegations indicated was coded as '1' whereas any child without emotional/psychological abuse allegations was coded as '0.'

Independent Variables

Ethnoracial Identity Grouping. To allow for comparisons against the same group (non-Hispanic White children), an ethnoracial identity variable was created. The NCANDS' child file provides each race and ethnicity as its own distinct variable, allowing for more flexibility related to child race.

Non-Hispanic White. Children who were indicated as 'White' and 'Non-Hispanic' with no other race indicated were included in this ethnoracial group. This group acted as the reference group for all models.

Indigenous Alone. Children who were indicated only as 'American Indian or Alaska Native' with no other race or ethnicity were included in this grouping. If a child had "unable to determine" or "unknown or missing" for races other than American Indian or Alaska Native and it was the only race indicated, they were included within this ethnoracial group.

Indigenous and White. Children who were indicated as 'American Indian or Alaska Native' in addition to 'White' were included in this ethnoracial group.

Indigenous and Other Ethnoracial Minority. Children who were indicated as 'American Indian or Alaska Native' in addition to another race/ethnicity (apart from White) were included in this ethnoracial group.

Non-Indigenous Ethnoracial Minority. Children who were from other ethnoracial minority groups but not 'American Indian or Alaska Native' were included in this ethnoracial grouping.

Analysis

Missing Data

As mentioned previously, missing data is a concern for big data sets. Given this concern, several analyses were conducted to determine if there were patterns in missing data that may impact the validity of the final models. Before the sample of 1000 was split, missingness of data was assessed across the ethnoracial groups. Missingness was assessed on child age, caregiver alcohol and drug use, and domestic violence. Child sex, family public assistance use, and maltreatment allegation types as well as all outcome variables of interest did not have any missing data. For the remaining variables, expected counts were assessed to determine if tests met the Chi-square test's statistical assumptions. When expected frequencies were less than five – Fisher's Exact tests were conducted. Missing data were further assessed manually to determine if missingness could be linked to standard operating procedures (such as cases being closed, etc.). For the purpose of the final models, missing data were coded as 'missing' and case wise deletions were employed.

Statistics

First, descriptive statistics (e.g., frequencies, percentages, etc.) were performed to assess the general distribution of the data for each ethnoracial group. Then data from the calibration sample were utilized to determine associations between individual variables and ethnoracial identity. Finally, hierarchical logistic and linear regressions with clustering were utilized to answer each of the study questions, as appropriate. This statistical methodology was selected to allow for the controlling of variables that are likely to influence child maltreatment outcomes (e.g., covariates). By controlling for these specific variables, the proposed models allowed for an investigation into the influence of Indigenous identity on the outcomes assessed. Clustering was

utilized to account for children with more than one case during the study time frame to avoid violating statistical assumptions for linear and logistic regressions. This approach allowed for all data to remain for individuals with more than one case while accounting for intra-cluster (e.g., individual child) correlations (Desai & Begg, 2008). Cases were clustered by 'child id' which is a unique value given to each child. Covariates were also assessed for multicollinearity as part of the regression process.

Sampling Procedures for Analysis

As mentioned previously, a random sample of 1,000 children with child welfare cases in Oklahoma was utilized for the creation of the calibration and validation samples prior to final models using the remaining population data (e.g., holdout sample). This was in part due to concerns related to the use of big data sets and their potential to provide results that are not truly representative of actual relationships rather statistical artifacts due to the amount of data being analyzed (Lin et al., 2013; Pharris et al., 2023). As such, the following sampling procedures were utilized for the regression analyses.

Calibration Sample. A calibration sample of 500 children was pulled from the 1,000 children selected from the total Oklahoma cohort. This sample was used to create each of the proposed models initially (Pharris et al., 2023). Analyses were first conducted with this sample (Pharris et al., 2023).

Validation Sample. The remaining 500 children (e.g., validation sample) were used to validate findings from the calibration sample (Pharris et al., 2023)**.** Similar findings within the validation sample were intended to strengthen the study's findings (Pharris et al., 2023).

Holdout Sample. Since population level data was available for these analyses, a final, third model, was created for each research question using the remaining population data. This

was done to determine if relationships (or lack thereof) within the samples held when utilizing a much larger data set.

Chi-Square, Fisher's Exact, and Point Bi-serial Correlations

Data from the calibration sample were used to test associations between covariates as well as dependent variables and Indigenous ethnoracial subgroups. This was done to determine if associations existed between ethnoracial identity and these variables when isolated. Expected counts were assessed to determine if tests met the Chi-square test's statistical assumptions. When expected frequencies were less than five – Fisher's Exact tests were conducted.

Research Question 1: Indigenous Identity and Case Substantiation

The first analysis was to determine if Indigenous identity was associated with a child receiving a substantiation outcome when controlling for public assistance, caregiver substance use (e.g. alcohol use, or drug use), domestic violence, number of children associated with the report, child demographics (e.g., age, and sex), and maltreatment allegation types (e.g., physical abuse, neglect, sexual abuse, and psychological/emotional abuse). Given the dichotomous nature of the dependent variable, a hierarchical logistic regression with clustering was utilized. Logistic regression allows for determining the probability of a given binary outcome (Stoltzfus, 2011). Cases were clustered by 'child ID' to account for children with more than one child welfare investigation within the study time frame. All covariates were entered into step one of the model. Prior to entering the ethnoracial grouping variable into step two, model performance statistics were assessed. Multicollinearity and performance of individual covariates were assessed, and models were adjusted as needed. Any changes to models due to these concerns are reported within the results. If performance concerns were not noted the following covariates were included in the first step of the model: number of children (continuous), child age (continuous),

child sex (Male/Female), public assistance (Yes/No), caregiver substance use (e.g., alcohol (Yes/No) and/or drug use (Yes/No)), domestic violence (Yes/No), and maltreatment allegation types (e.g., physical abuse (Yes/No), neglect (Yes/No), sexual abuse (Yes/No), emotional/psychological abuse (Yes/No). This approach was due to the substantial literature indicating that poverty, substance use, and domestic violence are predictors for maltreatment. Number of children was added to control for the influence multi-child reports may have on findings for specific groups. The threshold for statistical significance was $p < .05$. Model performance statistics were assessed for each step in conjunction with the final model's adjusted odds ratios, and corresponding 95% confidence intervals (Stoltzfus, 2011).

Research Question 2: Indigenous Identity and Child Removal

The second analysis was to determine if Indigenous identity was associated with child removal when controlling for public assistance, caregiver substance use (e.g. alcohol use, or drug use), domestic violence, number of children associated with the report, child demographics (e.g., age, and sex), and maltreatment allegation type (e.g., physical abuse, neglect, sexual abuse, and psychological/emotional abuse). Given the dichotomous nature of the dependent variable, hierarchical logistic regression with clustering was utilized. Cases were clustered by 'child ID' to account for children with more than one child welfare investigation within the study time frame. Child removal (Yes/No) was the dependent variable. All covariates were entered into step one of the model. Prior to entering the ethnoracial grouping variable into step two, model performance statistics were assessed. Multicollinearity and performance of individual covariates were assessed. Any changes to the model due to these concerns are reported within the results. If no concerns related to multicollinearity of covariates arose - number of children (continuous), child age (continuous), child sex (Male/Female), public assistance (Yes/No), caregiver substance use

(e.g., alcohol (Yes/No) and/or drug use (Yes/No)), domestic violence (Yes/No), and maltreatment allegation types (e.g., physical abuse (Yes/No), neglect (Yes/No), sexual abuse (Yes/No), emotional/psychological abuse (Yes/No) were entered into step one of the model. This approach was due to the substantial literature indicating that poverty, substance use, and domestic violence are predictors for maltreatment. The threshold for statistical significance was $p < .05$. Model performance statistics were assessed for each step in conjunction with the final model's adjusted odds ratios, and corresponding 95% confidence intervals (Stoltzfus, 2011).

Research Question 3: Indigenous Identity and Number of Services

The final analysis was to determine if Indigenous identity was associated with the number of services provided to a child when controlling for the number of children in a report, public assistance, caregiver substance use (e.g., alcohol use, or substance use), domestic violence, child demographic factors, and allegation types. Since the dependent (outcome) variable was the number of services, which was a continuous variable, hierarchical linear regression with clustering was used. Like the other models, cases were clustered by child ID if the child had more than one child welfare investigation within the study time frame. Covariates were entered into step one of the model. Before entering the ethnoracial grouping variables in step two of the model, performance statistics were assessed. Multicollinearity and performance of individual covariates were assessed, and models were adjusted as needed. Any changes to models due to these concerns are reported within the results. In the absence of multicollinearity or performance concerns – covariates including number of children (continuous), child age (continuous), child sex (Male/Female), public assistance (Yes/No), caregiver substance use (e.g., alcohol (Yes/No) and/or drug use (Yes/No)), domestic violence (Yes/No), and maltreatment allegation types (e.g., physical abuse (Yes/No), neglect (Yes/No), sexual abuse (Yes/No),

emotional/psychological abuse (Yes/No) were entered into step one of the model. This approach is due to the substantial literature indicating that poverty, substance use, and domestic violence are predictors for maltreatment. The threshold for statistical significance was $p < .05$. Model performance statistics were assessed for each step in conjunction with the final model's regression coefficients and corresponding 95% confidence intervals were reported (Stoltzfus, 2011).

Results

As previously discussed, a random sample of 1,000 individuals was drawn from the full population (N = 66,200). Prior to the 1,000 individuals being split into two samples, the missingness of data was assessed utilizing Fisher's Exact tests due to low expected counts (Table 2). Due to low n's data are masked for each subgroup with only corresponding p-values being reported to comply with the study's data use agreement. Within each group – missing data did not exceed 10%.

Table 2. Missing data by ethnoracial group and results of Fisher's exact tests for missingness of data within random sample of 1000 children*

Variable	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority	*p*
Child Age	-	-	-	-	-	.396
Caregiver Alcohol Use	-	-	-	-	-	.042
Caregiver Drug Use	-	-	-	-	-	.042
Domestic Violence	-	-	-	-	-	.029

*Total number of kids, maltreatment types, substantiation, child removal, child sex, public assistance, and number of services did not have missing data.

While missingness of data for caregiver alcohol use, caregiver substance use, and domestic violence were all statistically significant, all but one child with missing data had a report

disposition as “closed without a finding.” Per the NCANDs’ glossary this type of disposition is “… because the investigation could not be completed for such reasons as: the family moved out of jurisdiction, the family could not be located, or necessary diagnostic or other reports were not received within required time limits” (National Child Abuse and Neglect Data System, 2000). This is indicative of CPS processes, and as such, exclusion of these cases from the final models was appropriate. These cases were still coded as “no” for if the case received a substantiation since an investigation was initiated.

Descriptive Statistics

Calibration Sample

Descriptive statistics were conducted for each of the samples. Children in the calibration sample were mostly non-Hispanic White (n = 208, 41.60%) with a slight female majority (n = 263, 52.60%, Figure 4). The median age of children in the calibration sample was 7 (Interquartile Range (IQR): 3 - 12) years. The majority of children in the calibration sample had neglect allegations listed as part of their case (n = 388, 77.60%) followed by physical abuse allegations (n = 113, 22.60%, Figure 5, Table 3).

Figure 4. Percentage of children in each ethnoracial group in the calibration sample

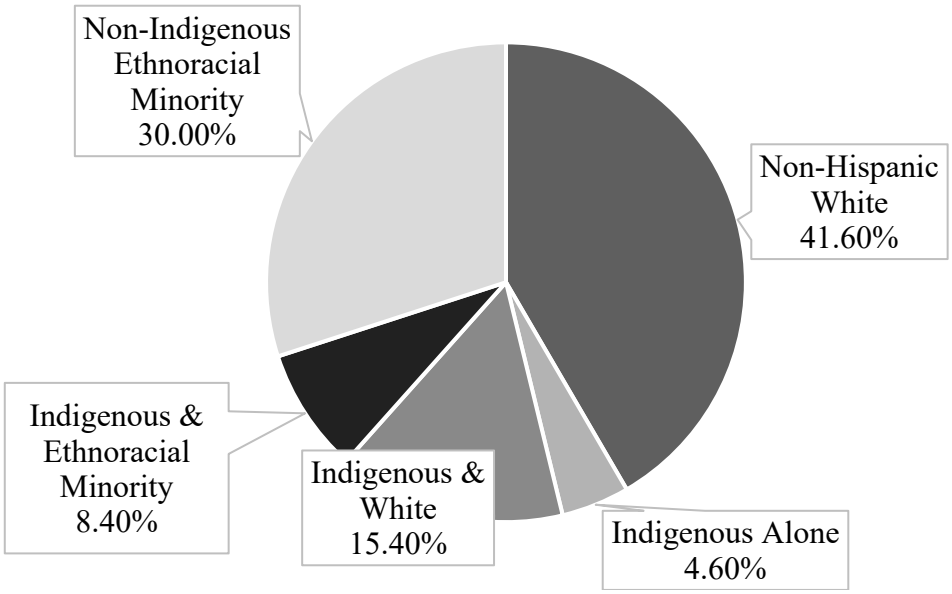
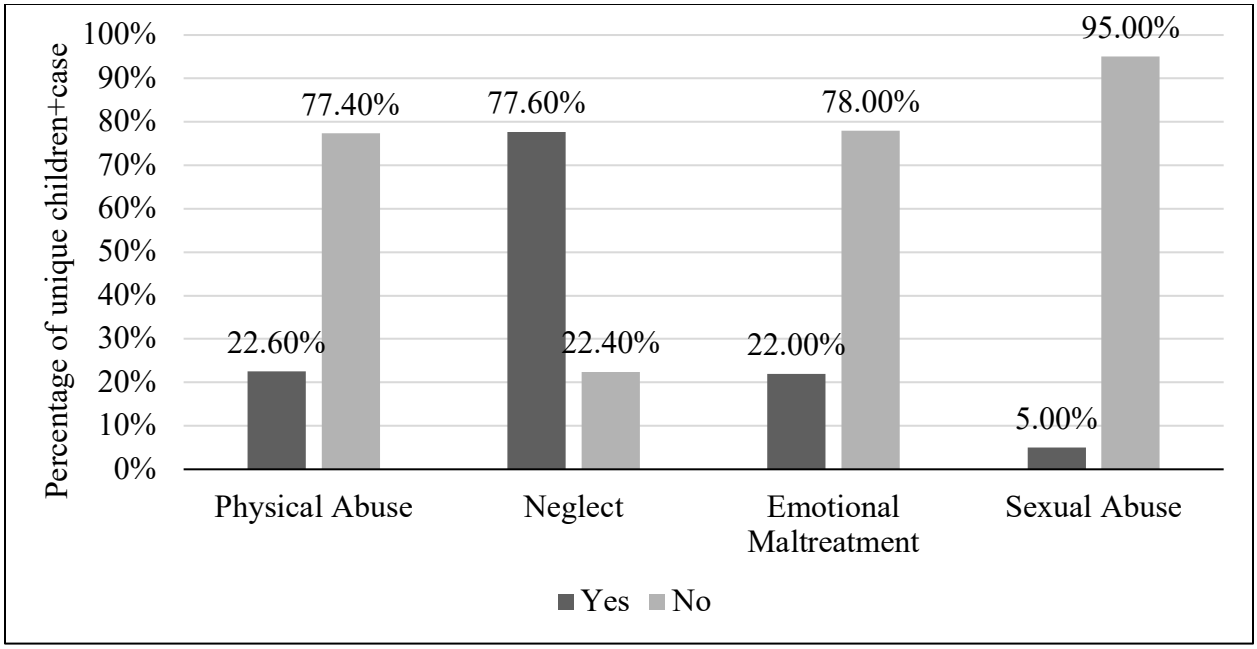


Figure 5. Percentage of maltreatment allegation types in the calibration sample



When assessing reported maltreatment-risk factors only 7.13% (n = 34) of children in the calibration sample had caregiver alcohol use noted whereas 18.24% (n = 87) had caregiver drug

use noted. Within the calibration sample 32.20% (n = 161) of children were part of a family receiving public assistance. Finally, 13.77% (n = 65) had domestic violence recorded.

Figure 6. Percentage of risk factors in the calibration sample

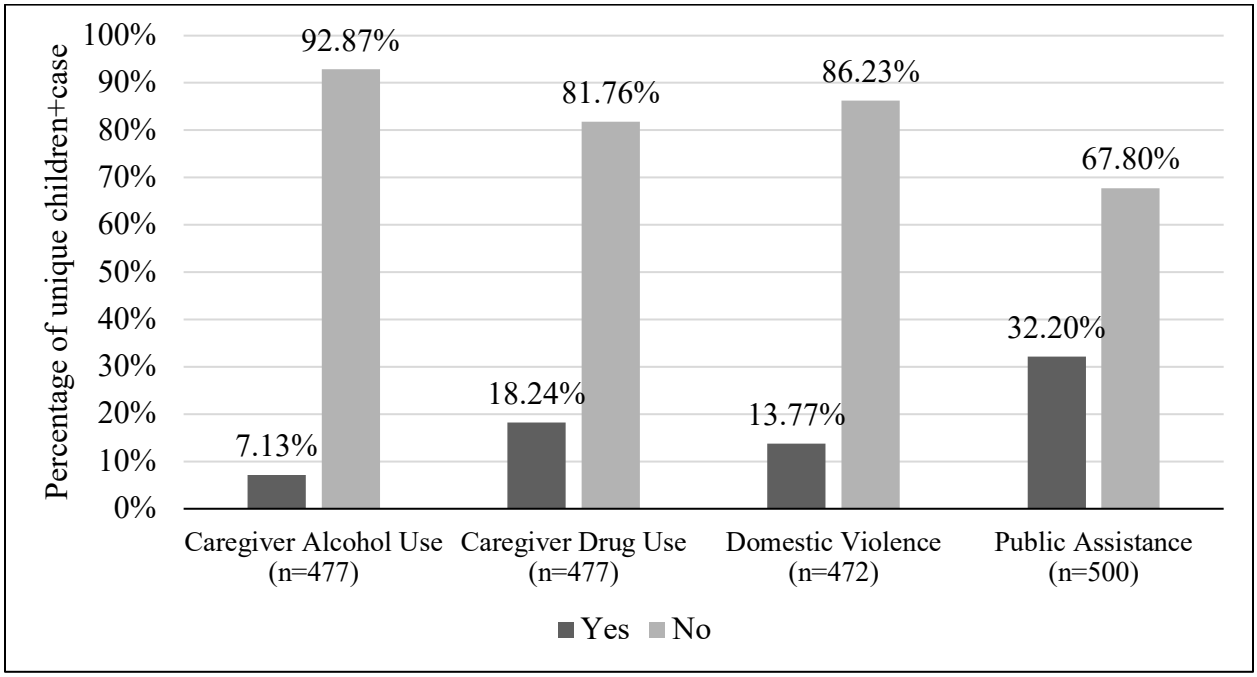


Table 3. Descriptive statistics of covariates of interest in calibration sample by ethnoracial grouping

Variable	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Child Sex (n = 500)					
Female	112 (53.85)	10 (43.48)	41 (53.25)	23 (54.76)	77 (51.33)
Male	96 (46.15)	13 (56.52)	36 (46.75)	19 (45.24)	73 (48.67)
Caregiver Alcohol Use (n = 477)					
Yes	16 (8.08)	3 (13.04)	5 (6.85)	1 (2.44)	9 (6.34)
No	182 (91.92)	20 (86.96)	68 (93.15)	40 (97.56)	133 (93.66)
Caregiver Drug Use (n = 477)					
Yes	34 (17.17)	9 (39.13)	21 (28.77)	7 (17.07)	16 (11.27)
No	164 (82.83)	14 (60.87)	52 (71.23)	34 (82.93)	126 (88.73)
Domestic Violence (n = 472)					
Yes	25 (12.89)	7 (31.82)	9 (12.16)	4 (10.00)	20 (14.08)
No	169 (87.11)	15 (68.18)	65 (87.84)	36 (90.00)	122 (85.92)

Public Assistance (n = 500)					
Yes	61 (29.33)	6 (26.09)	25 (32.47)	16 (38.1)	53 (35.33)
No	147 (70.67)	17 (73.91)	52 (67.53)	26 (61.9)	97 (64.67)
Physical Abuse (n = 500)					
Yes	50 (24.04)	7 (30.43)	13 (16.88)	8 (19.05)	35 (23.33)
No	158 (75.96)	16 (69.57)	64 (83.12)	34 (80.95)	115 (76.67)
Neglect (n = 500)					
Yes	159 (76.44)	18 (78.26)	65 (84.42)	33 (78.57)	113 (75.33)
No	49 (23.56)	5 (21.74)	12 (15.58)	9 (21.43)	37 (24.67)
Sexual Abuse (n = 500)					
Yes	11 (5.29)	1 (4.35)	6 (7.79)	3 (7.14)	4 (2.67)
No	197 (94.71)	22 (95.65)	71 (92.21)	39 (92.86)	146 (97.33)
Emotional Maltreatment (n = 500)					
Yes	48 (23.08)	4 (17.39)	10 (12.99)	6 (14.29)	42 (28)
No	160 (76.92)	19 (82.61)	67 (87.01)	36 (85.71)	108 (72)
Child Age (n = 498)					
Mean (SD)	7.47 (5.11)	6.70 (5.16)	7.78 (5.30)	8.19 (4.65)	7.01 (4.77)
Median (IQR)	7 (3 - 12)	6 (1 - 11)	7 (3 - 12)	9 (4 - 12)	6 (3 - 11)
Range	0 - 17	0 - 17	0 - 17	0 - 16	0 - 17
Total Children* (n = 500)					
Mean (SD)	1.01 (.10)	1 (0)	1.03 (.16)	1 (0)	1.01 (.12)
Median (IQR)	1 (1-1)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)
Range	1 - 2	1	1 - 2	1	1 - 2

*Refers to total children in the sample with the same report id.
SD: Standard Deviation
IQR: Interquartile Range

The majority of children (n = 375, 75.00%) did not have a substantiation listed as an investigation outcome (Table 4). When assessing child removal for the calibration sample only 8.60% (n = 43) were removed from their home. When assessing the total number of services each child received, 31.20% (n = 156) received three services followed by 30.40% (n = 152)

receiving two services and 22.60% (n = 113) receiving no services. Table 4 highlights the frequencies and in-group percentages for the calibration sample based on the child's reported ethnoracial identity.

Table 4. Descriptive statistics of outcomes of interest in the calibration sample by ethnoracial grouping

	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Case Substantiated					
Yes	52 (25)	8 (34.78)	21 (27.27)	11 (26.19)	33 (22)
No	156 (75)	15 (65.22)	56 (72.73)	31 (73.81)	117 (78)
Child Removed					
Yes	12 (5.77)	5 (21.74)	8 (10.39)	6 (14.29)	12 (8)
No	196 (94.23)	18 (78.26)	69 (89.61)	36 (85.71)	138 (92)
Total Services					
Mean (SD)	2.22 (1.43)	2.04 (1.49)	2.29 (1.54)	2.67 (1.39)	2.17 (1.58)
Median (IQR)	2 (2 - 3)	2 (0 - 3)	2 (2 - 3)	3 (2 - 3)	2 (0 -3)
Range	0 - 6	0 - 5	0 - 6	0 - 6	0 - 6

Validation Sample

Children in the validation sample were mostly non-Hispanic White (n = 180, 36.00%, Figure 7) with a slight female majority (n = 264, 52.80%). The median age of children in the validation sample was 7 (IQR: 3 - 11) years. The majority of children in the validation sample had neglect allegations listed as part of their case (n = 381, 76.20%) followed by psychological/emotional maltreatment allegations (n =143, 28.60% Figure 8, Table 5).

Figure 7. Percentage of children in each ethnoracial group in the validation sample

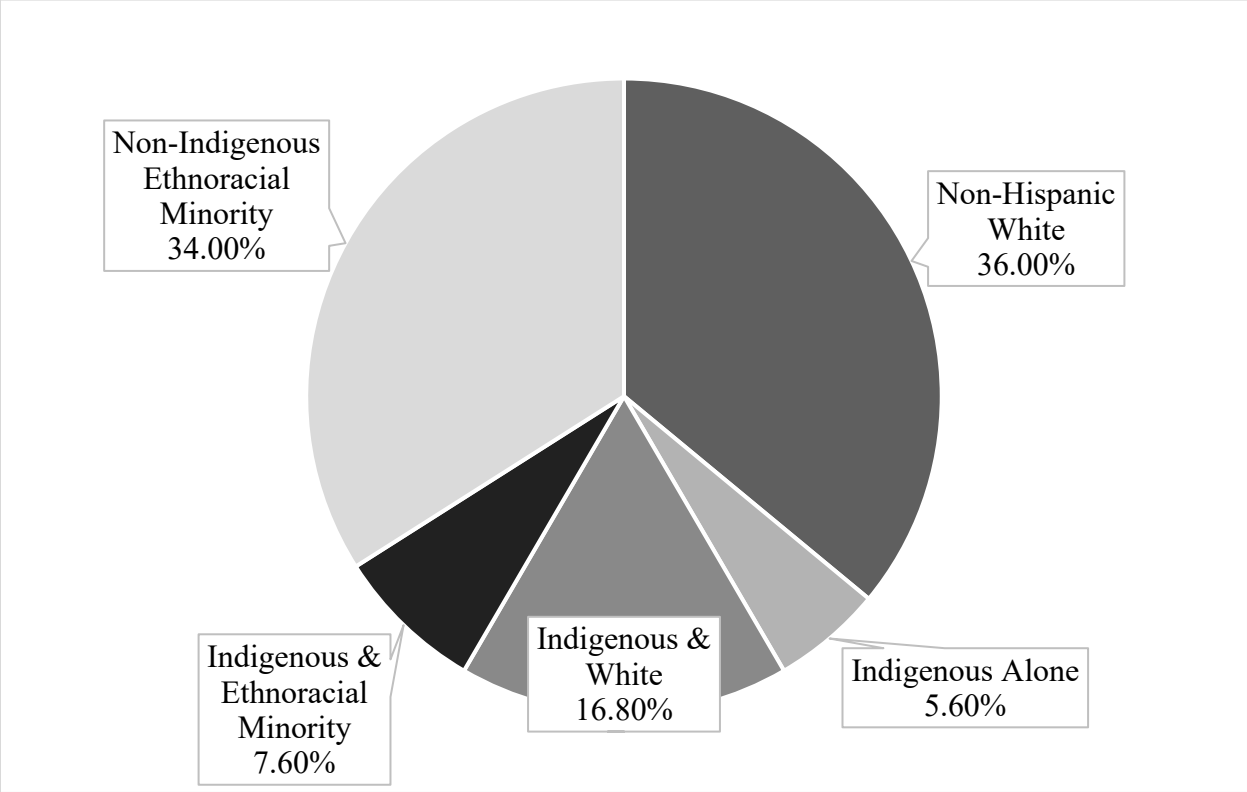
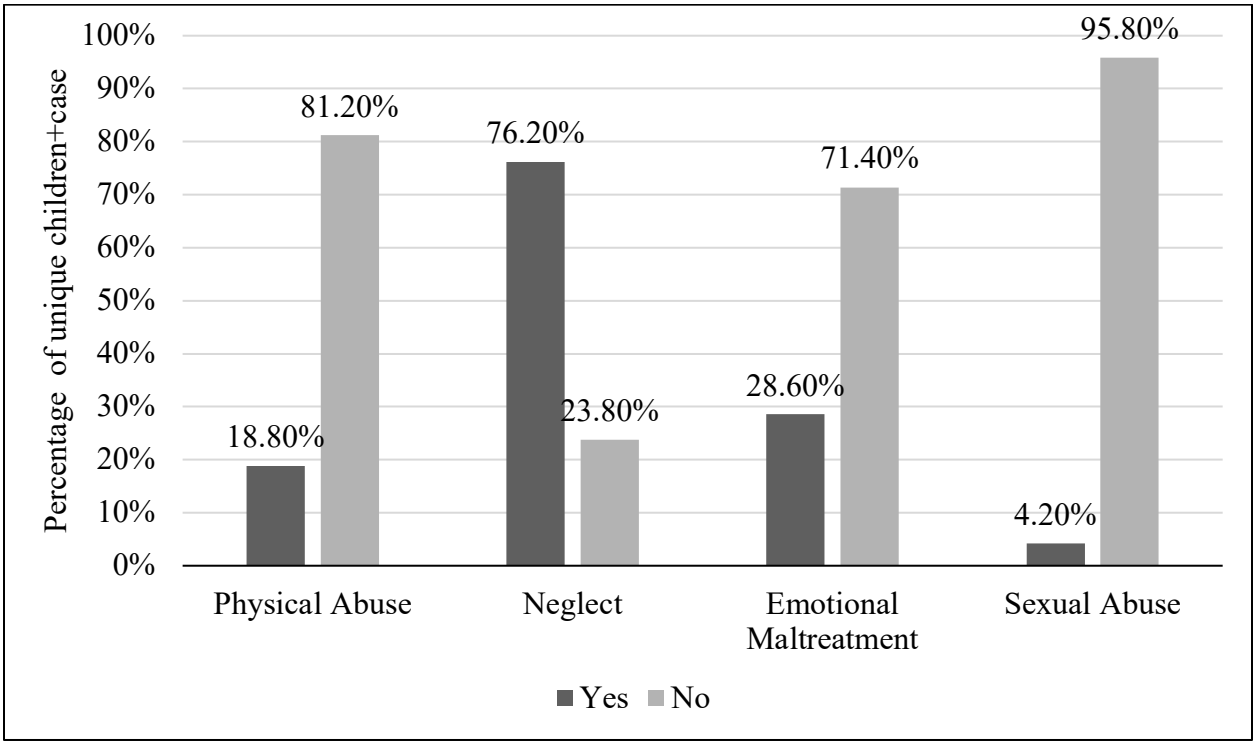


Figure 8. Percentage of maltreatment allegation types in the validation sample



Like the calibration sample, when assessing reported maltreatment risk factors only 7.01% (n = 33) of children in the validation sample had caregiver alcohol use noted whereas 16.99% (n = 80) had caregiver drug use noted. Within the validation sample 37.60% (n = 188) of children were part of a family receiving public assistance. Finally, 18.66% (n = 86) had domestic violence recorded.

Figure 9. Percentage of risk factors in the validation sample

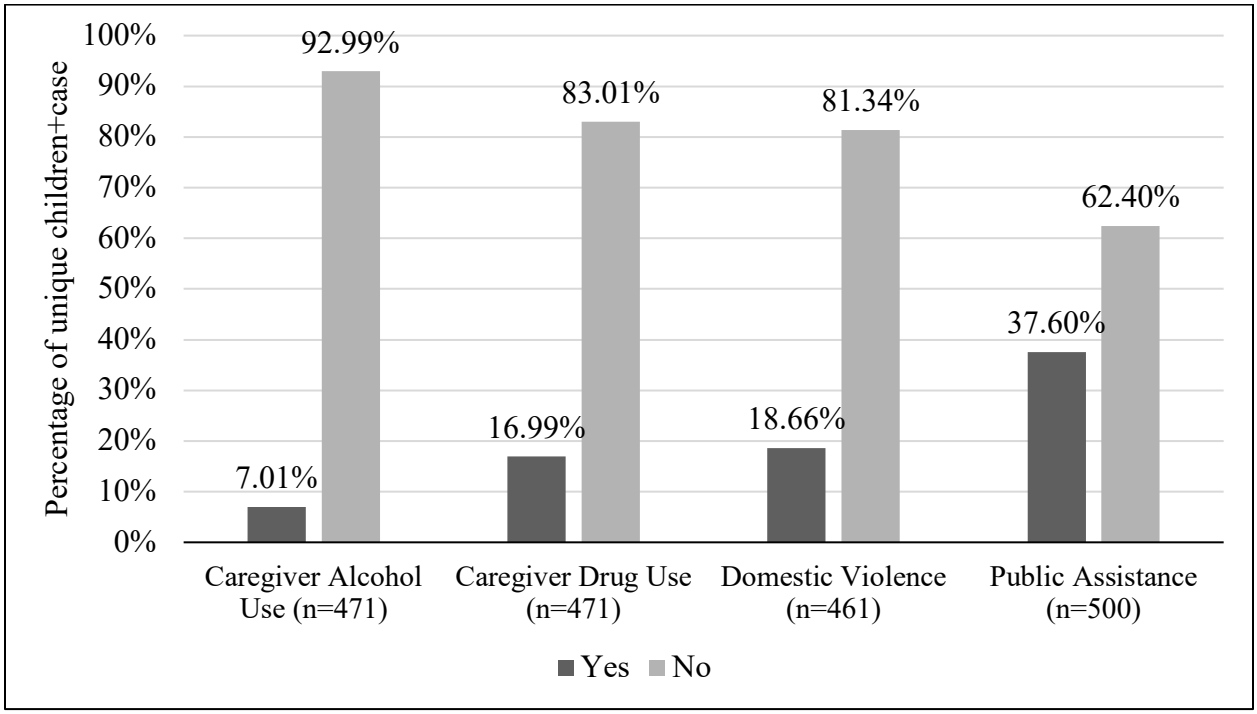


Table 5. Descriptive statistics of covariates of interest in the validation sample by ethnoracial grouping

	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Child Sex (n = 500)					
Female	85 (47.22)	17 (60.71)	45 (53.57)	19 (50)	98 (57.65)
Male	95 (52.78)	11 (39.29)	39 (46.43)	19 (50)	72 (42.35)
Caregiver Alcohol Use (n = 471)					

Yes	11 (6.32)	0 (0)	9 (11.25)	3 (8.11)	10 (6.58)
No	163 (93.68)	28 (100)	71 (88.75)	34 (91.89)	142 (93.42)
Caregiver Drug Use (n = 471)					
Yes	30 (17.24)	7 (25.00)	18 (22.50)	4 (10.81)	21 (13.82)
No	144 (82.76)	21 (75.00)	62 (77.50)	33 (89.19)	131 (86.18)
Domestic Violence (n = 461)					
Yes	26 (15.20)	4 (14.29)	16 (20.51)	3 (8.57)	37 (24.83)
No	145 (84.80)	24 (85.71)	62 (79.49)	32 (91.43)	112 (75.17)
Public Assistance (n = 500)					
Yes	58 (32.22)	8 (28.57)	33 (39.29)	20 (52.63)	69 (40.59)
No	122 (67.78)	20 (71.43)	51 (60.71)	18 (47.37)	101 (59.41)
Physical Abuse Allegation (n = 500)					
Yes	38 (21.11)	7 (25)	14 (16.67)	8 (21.05)	27 (15.88)
No	142 (78.89)	21 (75)	70 (83.33)	30 (78.95)	143 (84.12)
Neglect Allegation (n = 500)					
Yes	134 (74.44)	21 (75)	68 (80.95)	29 (76.32)	129 (75.88)
No	46 (25.56)	7 (25)	16 (19.05)	9 (23.68)	41 (24.12)
Sexual Abuse Allegation (n = 500)					
Yes	7 (3.89)	2 (7.14)	3 (3.57)	1 (2.63)	8 (4.71)
No	173 (96.11)	26 (92.86)	81 (96.43)	37 (97.37)	162 (95.29)
Emotional Maltreatment Allegation (n = 500)					
Yes	46 (25.56)	6 (21.43)	24 (28.57)	12 (31.58)	55 (32.35)
No	134 (74.44)	22 (78.57)	60 (71.43)	26 (68.42)	115 (67.65)
Child Age (n = 495)					
Mean (SD)	7.83 (4.82)	4.96 (5.19)	6.93 (4.87)	7.92 (4.59)	7.01 (4.92)
Median (IQR)	8 (4 - 12)	3 (1- 8)	6.5 (3 - 10.5)	7 (4 - 11)	7 (3 - 11)
Range	0 - 17	0 - 17	0 - 17	1 - 17	0 - 17
Total Children* (n = 500)					
Mean (SD)	1.02 (.13)	1 (0)	1 (0)	1 (0)	1.02 (.13)
Median (IQR)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)
Range	1 - 2	1	1	1	1 - 2

*Refers to total children in the sample with the same report id.

SD: Standard Deviation
IQR: Interquartile Range

The majority of children in the validation sample (n = 370, 74.00%) did not have a substantiation listed as an investigation outcome. When assessing child removal only 8.60% (n = 43) were removed from their home. When assessing the total number of services each child received, 31.00% (n = 155) received three services followed by 26.40% (n = 132) receiving no services and 26.00% (n = 130) receiving two services. Table 6 highlights the frequencies and ingroup percentages for the validation sample based on the child's reported ethnoracial identity.

Table 6. Descriptive statistics of outcomes of interest in the validation sample by ethnoracial grouping

	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Case Substantiated					
Yes	44 (24.44)	6 (21.43)	23 (27.38)	5 (13.16)	52 (30.59)
No	136 (75.56)	22 (78.57)	61 (72.62)	33 (86.84)	118 (69.41)
Child Removed					
Yes	12 (6.67)	6 (21.43)	7 (8.33)	3 (7.89)	15 (8.82)
No	168 (93.33)	22 (78.57)	77 (91.67)	35 (92.11)	155 (91.18)
Total Services					
Mean (SD)	2.13 (1.51)	2.29 (1.61)	2.44 (1.35)	2.76 (1.24)	1.97 (1.68)
Median (IQR)	2 (0 - 3)	2.5 (1 - 3)	3 (2 - 3)	3 (2 - 3)	2 (0 - 3)
Range	0 - 7	0 - 5	0 - 5	0 - 5	0 - 6

SD: Standard Deviation
IQR: Interquartile Range

Hold Out Sample

Descriptive statistics were also conducted on the remaining population (n = 65,200) also referred to as the holdout sample. Children in this sample were mostly non-Hispanic White (n =

25,671, 39.37%, Figure 10) with a slight female majority (n=32,986, 50.65%). The median age of children was 7 (IQR: 3 - 11) years. The majority of children had neglect listed as part of their case (n = 50,581, 77.58%) followed by psychological/emotional maltreatment (n = 16,012, 24.56% Figure 11, Table 7).

Figure 10. Percentage of children in each ethnoracial group in remaining population

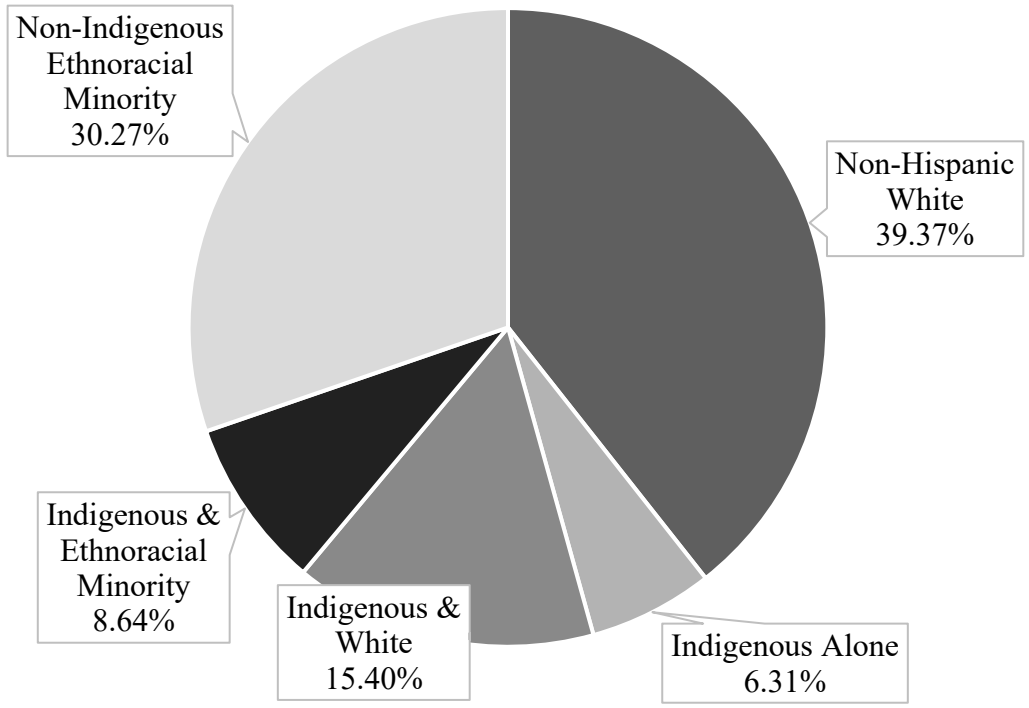
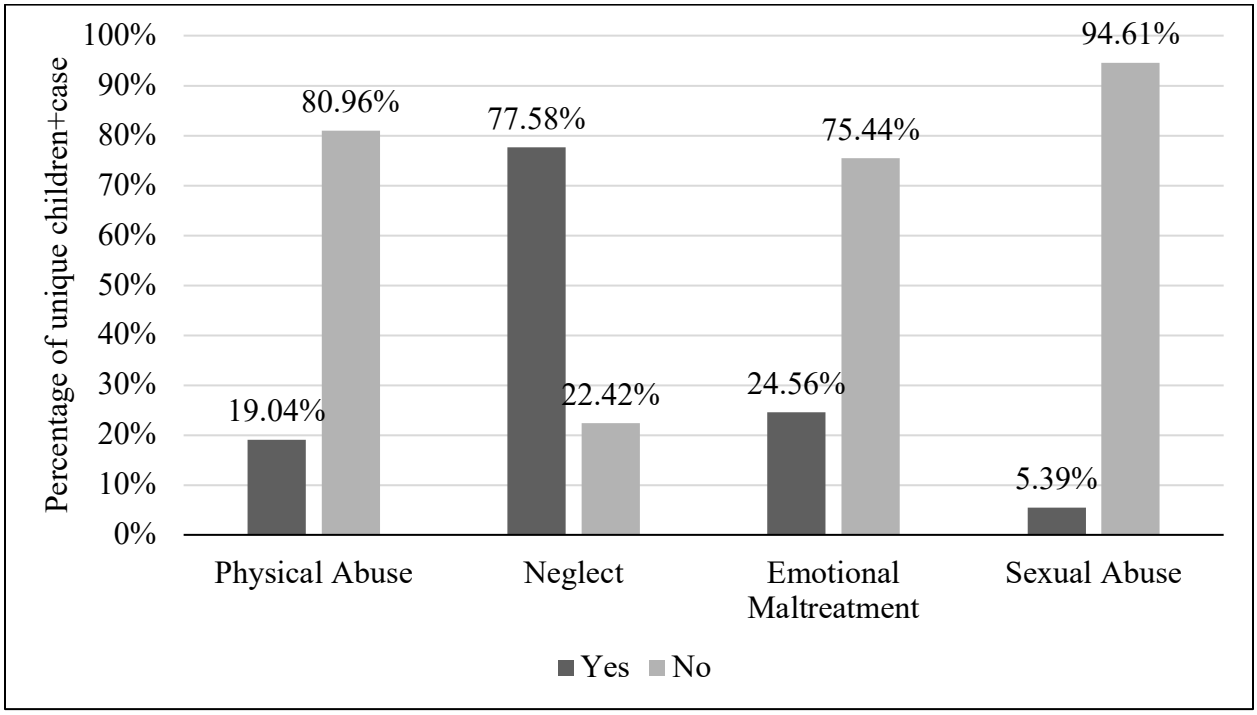


Figure 11. Percentage of maltreatment allegation types in remaining population



When assessing reported maltreatment-risk factors only 6.67% (n = 4,132) of children in the remaining population had caregiver alcohol use noted whereas 17.70% (n = 10,958) had caregiver drug use noted. Within the remaining population 35.27% (n = 22,995) of children were part of a family receiving public assistance. Finally, 14.75% (n = 8,910) had domestic violence recorded.

Figure 12. Percentage of risk factors in remaining population

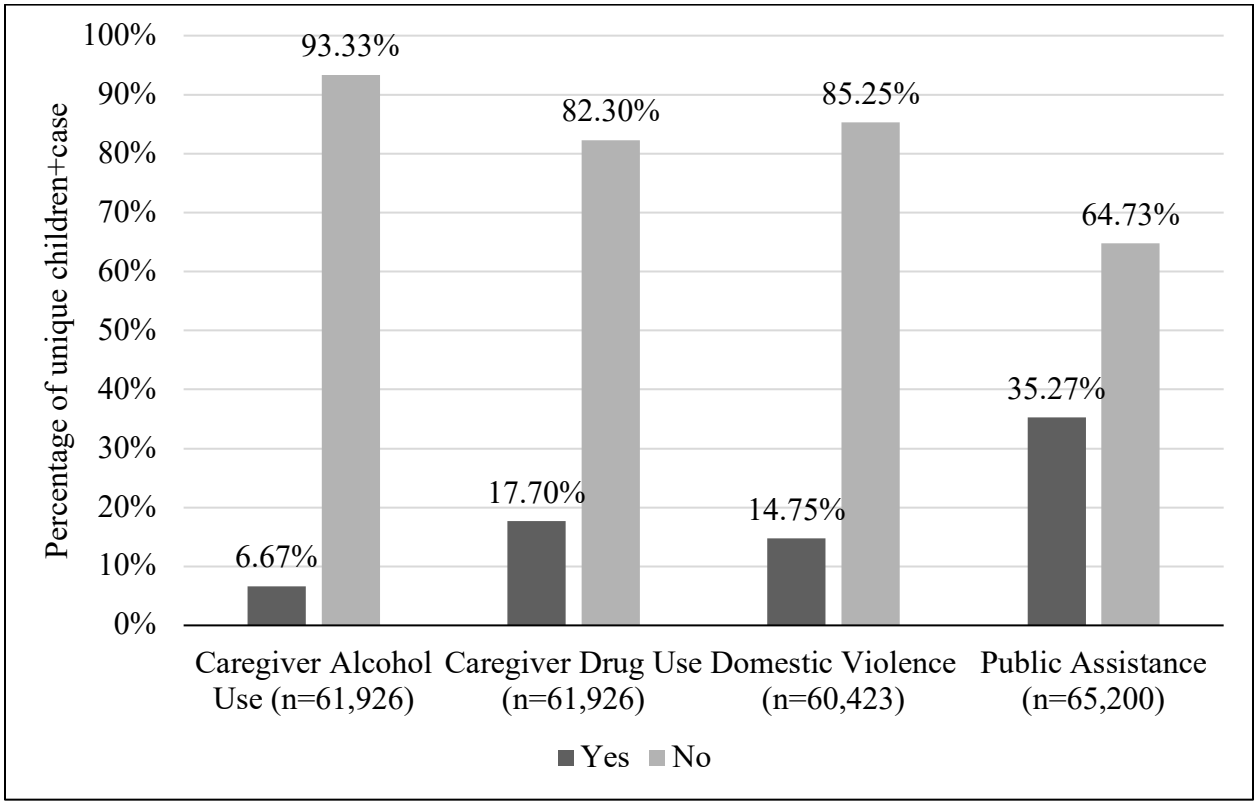


Table 7. Descriptive statistics of covariates of interest in remaining population by ethnoracial grouping

	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Child Sex (n = 65,119)					
Female	12,794 (49.89)	2,098 (51.07)	5,182 (51.61)	2,895 (51.37)	10,017 (50.87)
Male	12,849 (50.11)	2,010 (48.93)	4,858 (48.39)	2,741 (48.63)	9,675 (49.13)
Caregiver Alcohol Use (n = 61,926)					
Yes	1,608 (6.53)	393 (9.88)	740 (7.67)	406 (7.66)	985 (5.36)
No	23,008 (93.47)	3,584 (90.12)	8,902 (92.33)	4,894 (92.34)	17,406 (94.64)
Caregiver Drug Use (n = 61,926)					
Yes	4,266 (17.33)	1,046 (26.30)	1,772 (18.38)	1,009 (19.04)	2,865 (15.58)
No	20,350 (82.67)	2,931 (73.70)	7,870 (81.62)	4,291 (80.96)	15,526 (84.42)

Domestic Violence (n = 60,423)					
Yes	3,184 (13.29)	587 (14.97)	1,299 (13.64)	895 (17.14)	2,945 (16.54)
No	20,771 (86.71)	3,333 (85.03)	8,224 (86.36)	4,328 (82.86)	14,857 (83.46)
Public Assistance (n = 65,200)					
Yes	8,290 (32.29)	1,273 (30.94)	3,837 (38.22)	2,366 (41.98)	7,229 (36.62)
No	17,381 (67.71)	2,841 (69.06)	6,203 (61.78)	3,270 (58.02)	12,510 (63.38)
Physical Abuse Allegation (n = 65,200)					
Yes	5,025 (19.57)	526 (12.79)	1,876 (18.69)	1,047 (18.58)	3,940 (19.96)
No	20,646 (80.43)	3,588 (87.21)	8,164 (81.31)	4,589 (81.42)	15,799 (80.04)
Neglect Allegation (n = 65,200)					
Yes	20,066 (78.17)	3,372 (81.96)	8,035 (80.03)	4,519 (80.18)	14,589 (73.91)
No	5,605 (21.83)	742 (18.04)	2,005 (19.97)	1,117 (19.82)	5,150 (26.09)
Sexual Abuse Allegation (n = 65,200)					
Yes	1,471 (5.73)	195 (4.74)	570 (5.68)	269 (4.77)	1,010 (5.12)
No	24,200 (94.27)	3,919 (95.26)	9,470 (94.32)	5,367 (95.23)	18,729 (94.88)
Emotional Maltreatment Allegation (n = 65,200)					
Yes	5,809 (22.63)	928 (22.56)	2,376 (23.67)	1,496 (26.54)	5,403 (27.37)
No	19,862 (77.37)	3,186 (77.44)	7,664 (76.33)	4,140 (73.46)	14,336 (72.63)
Child Age (n = 64,710)					
Mean (SD)	7.17 (5.06)	6.06 (5.16)	7.42 (4.88)	7.40 (4.84)	6.95 (4.98)
Median (IQR)	7 (3 - 11)	5 (1 - 10)	7 (3 - 11)	7 (3 - 11)	6 (3 - 11)
Range	0 - 17	0 - 17	0 - 17	0 - 17	0 - 17
Total Children* (n = 65,200)					
Mean (SD)	2.49 (2.16)	2.43 (1.93)	2.53 (1.51)	2.75 (1.60)	2.75 (2.43)
Median (IQR)	2 (1 - 3)	2 (1 - 3)	2 (1 - 3)	3 (1 - 4)	2 (1 - 4)
Range	1 - 44	1 - 44	1 - 21	1 - 19	1 - 44

*Refers to total children in the sample with the same report id.
SD: Standard Deviation
IQR: Interquartile Range

The majority of children in the remaining population (n = 49,537, 75.98%) did not have a substantiation listed as an investigation outcome. When assessing child removal only 8.69% (n = 5,668) were removed from their home. When assessing the total number of services each child

received, 30.07% (n = 19,607) received three services followed by 28.09% (n = 18,316) receiving two services and 26.18% (n = 17,069) receiving no services. Table 8 highlights the frequencies and ingroup percentages of outcomes of interest for the remaining population based on the child's reported ethnoracial identity.

Table 8. Descriptive statistics of outcomes of interest in remaining population by ethnoracial grouping

	Non-Hispanic White	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority	Non-Indigenous Ethnoracial Minority
Case Substantiated					
Yes	6,111 (23.81)	1,134 (27.56)	2,392 (23.82)	1,418 (25.16)	4,608 (23.34)
No	19,560 (76.19)	2,980 (72.44)	7,648 (76.18)	4,218 (74.84)	15,131 (76.66)
Child Removed					
Yes	2,059 (8.02)	386 (9.38)	924 (9.2)	634 (11.25)	1,665 (8.44)
No	23,612 (91.98)	3,728 (90.62)	9,116 (90.8)	5,002 (88.75)	18,074 (91.56)
Total Services					
Mean (SD)	2.12 (1.52)	2.23 (1.41)	2.28 (1.44)	2.30 (1.52)	2.07 (1.57)
Median (IQR)	2 (0 - 3)	2 (2- 3)	2 (2 - 3)	3 (2 - 3)	2 (0 - 3)
Range	0 - 8	0 - 7	0 - 8	0 - 7	0 - 9

Testing Associations Between Variables in the Calibration Sample

To better understand potential findings within the regressions, a series of chi-square tests, Fisher's Exact tests, and biserial correlations were conducted using the calibration sample to determine potential associations between each of the ethnoracial groupings and variables (Tables 9 - 12). While some of the chi-square and Fisher's exact analyses indicated statistically significant associations as referenced in the tables – none of the point-biserial correlations were statistically significant.

Table 9. Findings of chi-square and Fisher's exact tests with Indigenous alone subgroup

Variable	Yes	No	Total	X^2	*p*
Substantiation (n = 500)					
Yes	8	117	125	1.2305	0.267
No	15	360	375		
Child Removal* (n = 500)					
Yes	5	38	43		0.039
No	18	439	457		
Child Sex (n = 500)					
Female	10	253	263	0.8046	0.37
Male	13	224	237		
Caregiver Alcohol Use* (n = 477)					
Yes	3	31	34		0.220
No	20	423	443		
Caregiver Drug Use* (n = 477)					
Yes	9	78	87		0.022
No	14	376	14		
Domestic Violence (n = 472)					
Yes	7	58	472	6.329	0.012
No	15	392	407		
Public Assistance (n = 500)					
Yes	6	155	161	0.4127	0.521
No	17	322	339		
Physical Abuse Allegation (n = 500)					
Yes	7	106	113	0.846	0.358
No	16	371	387		
Neglect Allegation (n = 500)					
Yes	18	370	388	0.0061	0.938
No	5	107	112		
Sexual Abuse Allegation* (n = 500)					
Yes	1	24	25		1.000
No	22	453	475		
Emotional Maltreatment Allegation (n = 500)					
Yes	4	106	110	0.2984	0.585
No	19	371	390		

*Chi-square test statistics could not be reported due to expected frequencies <5 which violated statistical assumptions. As such, the Fisher's Exact test was used.

Table 10. Findings of chi-square and Fisher's exact tests with Indigenous and White subgroup

Variable	Yes	No	Total	X^2	*p*
Substantiation (n = 500)					
Yes	21	104	125	0.2507	0.617
No	56	319	375		

Child Removal (n = 500)					
Yes	8	35	43	0.3708	0.543
No	69	388	457		
Child Sex (n = 500)					
Female	41	222	263	0.0153	0.902
Male	36	201	237		
Caregiver Alcohol Use (n = 477)					
Yes	5	29	34	0.0101	0.92
No	68	375	443		
Caregiver Drug Use (n = 477)					
Yes	21	66	87	6.4064	0.011
No	52	338	39		
Domestic Violence (n = 472)					
Yes	9	56	65	0.1913	0.662
No	65	342	407		
Public Assistance (n = 500)					
Yes	25	136	161	0.003	0.956
No	52	287	339		
Physical Abuse Allegation (n = 500)					
Yes	13	100	113	1.7006	0.192
No	64	323	387		
Neglect Allegation (n = 500)					
Yes	65	323	388	2.4323	0.119
No	12	100	112		
Sexual Abuse Allegation* (n = 500)					
Yes	6	19	25		.251
No	71	404	475		
Emotional Maltreatment Allegation (n = 500)					
Yes	10	100	110	4.3086	0.038
No	67	323	390		

*Chi-square test statistics could not be reported due to expected frequencies <5 which violated statistical assumptions. As such, the Fisher's Exact test was used.

Table 11. Findings of chi-square and Fisher's exact tests with Indigenous & Ethnoracial Minority subgroup

Variable	Yes	No	Total	X^2	*p*
Substantiation (n = 500)					
Yes	11	114	125	0.0347	0.852
No	31	344	375		
Child Removal* (n = 500)					
Yes	6	37	43		0.159
No	36	421	457		
Child Sex (n = 500)					

Female	23	240	263	0.086	0.769
Male	19	218	237		
Caregiver Alcohol Use* (n = 477)					
Yes	1	33	34		0.343
No	40	403	443		
Caregiver Drug Use (n = 477)					
Yes	7	80	87	0.0409	0.84
No	34	356	390		
Domestic Violence (n = 472)					
Yes	4	61	65	0.5234	0.469
No	36	371	407		
Public Assistance (n = 500)					
Yes	16	145	161	0.7299	0.393
No	26	313	339		
Physical Abuse Allegation (n = 500)					
Yes	8	105	113	0.3308	0.565
No	34	353	387		
Neglect Allegation (n = 500)					
Yes	33	355	388	0.0249	0.875
No	9	103	112		
Sexual Abuse Allegation* (n = 500)					
Yes	3	22	25		0.457
No	39	436	475		
Emotional Maltreatment Allegation (n = 500)					
Yes	6	104	110	1.5901	0.207
No	36	354	390		

*Chi-square test statistics could not be reported due to expected frequencies <5 which violated statistical assumptions. As such, the Fisher's Exact test was used.

Table 12. Point bi-serial correlations between Indigenous identity subgroups and continuous variables

	Indigenous Alone	Indigenous & White	Indigenous & Ethnoracial Minority
Child Age	-0.0312	0.0320	0.0476
Total Children	-0.0242	0.0547	-0.0333
Total Services	-0.0298	0.0114	0.0854

Research Question 1: Indigenous Identity and Case Substantiation

Calibration Sample

A hierarchical logistic regression with clustering was conducted in STATA to determine if Indigenous identity was associated with greater odds of a substantiated case outcome. Cases were clustered by child ID to account for children with more than one child welfare investigation within the study time frame. Due to the missingness of data the total number of children within the regression was slightly lower (n = 470) from the original sample (n = 500). Step one included covariates and the model's performance was assessed via the chi-square statistic, which was statistically significant ($X^2(11) = 99.71$, $p = .000$; pseudo-$R^2 = .2562$; Table 13). While the pseudo-R^2 is reported – it was only used to test performance across steps since it cannot be used to measure variance explained by the model like in linear regression (*FAQ: What Are Pseudo R-Squareds?*, n.d.). The ethnoracial grouping variable was added in step two of the model which slightly improved model performance. Step two was statistically significant ($X^2(15) = 102.26$, $p = .0000$). The pseudo-R^2 value of .2579 also indicated an improvement in step two's performance when compared to step one of the model (pseudo-$R^2 = .2562$). As anticipated, several of the covariates were statistically significant for increased odds of a child's case outcome being substantiated. Despite this, none of the ethnoracial groups were statistically associated with substantiation.

Table 13. Hierarchical logistic regression of Indigenous identity and a case outcome of substantiated

	Adjusted Odds Ratio	Robust Std. Error	*z*	*p*	95%CI	
Constant	0.019	0.017	-4.480	0.000	0.003	0.106
Step 1: Covariates						
Child Age	0.982	0.027	-0.660	0.508	0.931	1.036

Child Sex						
Female	0.991	0.261	-0.040	0.972	0.592	1.659
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	2.790	1.539	1.860	0.063	0.947	8.223
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	7.394	2.374	6.230	0.000	3.940	13.873
No	REF	-	-	-	-	-
Domestic Violence						
Yes	8.890	3.514	5.530	0.000	4.096	19.293
No	REF	-	-	-	-	-
Public Assistance						
Yes	2.172	0.571	2.950	0.003	1.297	3.637
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	3.106	1.093	3.220	0.001	1.558	6.190
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	1.927	0.712	1.780	0.076	0.935	3.974
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	2.736	1.458	1.890	0.059	0.963	7.778
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	1.856	0.658	1.750	0.081	0.927	3.717
No	REF	-	-	-	-	-
Total Children*	2.506	1.834	1.250	0.210	0.597	10.521
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	0.596	0.397	-0.780	0.437	0.162	2.198
Indigenous & White	0.975	0.329	-0.080	0.940	0.503	1.890
Indigenous Ethnoracial Minority	1.117	0.586	0.210	0.833	0.399	3.125
Non- Indigenous Ethnoracial Minority	0.890	0.285	-0.360	0.716	0.475	1.668

Notes: Pseudo-R^2 for step 1 = .2562; ΔPseudo-R^2 for step 2 = .0017; p = .0000
*Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Validation Sample

A hierarchical logistic regression with clustering was conducted in STATA using the validation sample to determine if Indigenous identity was associated with greater odds of a

substantiated case outcome. Cases were clustered by child ID to account for children with more than one child welfare investigation within the study time frame. Similar to the calibration sample, due to some missingness of data the total number of children within the regression was slightly lower (n = 459) than the original sample (n = 500). Step one included all covariates except for the 'total kids' variable which was omitted from the model along with six observations due to it predicting success perfectly. Step one's performance was assessed via the chi-square statistic which was statistically significant ($X^2(10) = 100.85$, $p = .000$; Table 14). Step one's pseudo-R^2 value was .2861. The ethnoracial grouping variable was added in step two of the model which slightly enhanced the performance of the model. The performance statistics indicated step two was statistically significant ($X^2(14) = 104.59$, $p = .0000$). The pseudo-R^2 value of .3003 also indicated an improvement in the step two's performance compared to the step one (pseudo-R^2 = .2861). As anticipated, several of the covariates were statistically significant for increased odds of a child's case outcome being substantiated. Despite this, none of the ethnoracial groups were statistically significant.

Table 14. Hierarchical logistic regression of Indigenous identity and a case outcome of substantiated for the validation sample

	Adjusted Odds Ratio	Robust Std. Error	*z*	*p*	95%CI	
Constant	0.116	0.064	-3.890	0.000	0.039	0.343
Step 1: Covariates						
Child Age	0.952	0.028	-1.680	0.093	0.898	1.008
Child Sex						
Female	0.622	0.163	-1.810	0.071	0.372	1.041
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	6.746	3.163	4.070	0.000	2.691	16.911
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	6.119	2.024	5.480	0.000	3.200	11.702

No	REF	-	-	-	-	-
Domestic Violence						
Yes	8.555	3.175	5.780	0.000	4.134	17.704
No	REF	-	-	-	-	-
Public Assistance						
Yes	1.985	0.540	2.520	0.012	1.164	3.383
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	0.980	0.360	-0.050	0.957	0.478	2.012
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	1.538	0.592	1.120	0.263	0.724	3.269
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	0.866	0.619	-0.200	0.840	0.213	3.518
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	1.164	0.403	0.440	0.660	0.591	2.296
No	REF	-	-	-	-	-
Total Children*	1.000	(omitted)	-	-	-	-
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	0.677	0.368	-0.720	0.473	0.234	1.963
Indigenous & White	0.818	0.342	-0.480	0.631	0.360	1.858
Indigenous Ethnoracial Minority	0.377	0.274	-1.340	0.180	0.091	1.569
Non- Indigenous Ethnoracial Minority	1.545	0.468	1.430	0.152	0.853	2.798

Notes: Pseudo-R^2 for step 1 = .2861; ΔPseudo-R^2 for step 2 = .0142; p = .0000
*Refers to the number of children in the sample with the same report id. Omitted along with 6 observations due total kids = 1 predicting success perfectly.
95%CI: 95% Confidence Intervals

Holdout Sample

To further assess model performance, and potential relationships between substantiation outcomes and ethnoracial identity – a final model was constructed utilizing the remaining population level data (n = 65,200). Given the missingness of data a total of 60,230 cases were utilized for this analysis. Cases were again clustered by child ID to account for children who had more than one child welfare investigation during the study time frame.

Step one of the model included all covariates (Table 15). Performance statistics were assessed and step one was determined to be statistically significant ($X^2(11) = 9855.52$, $p = .0000$, pseudo-$R^2 = .2475$). The ethnoracial grouping variable was added into step two of the model. The addition slightly improved the model's performance ($X^2(15) = 9891.41$, p = .0000). Similarly, the pseudo-R^2 value of .2476 indicated better performance compared to step one (pseudo-$R^2 = .2475$). As expected, many of the covariates were associated with higher odds of substantiation. Unlike the previous models, children who were Indigenous and White exhibited lower odds of substantiation (AOR: .91, 95%CI: .85, .97) compared to their non-Hispanic White peers.

Table 15. Hierarchical logistic regression of Indigenous identity and a case outcome of substantiated for the holdout sample

	Adjusted Odds Ratio	Robust Std. Error	*z*	*p*	95%CI	
Constant	0.075	0.003	-58.060	0.000	0.069	0.082
Step 1: Covariates						
Child Age	0.970	0.002	-12.480	0.000	0.966	0.975
Child Sex						
Female	1.029	0.023	1.270	0.204	0.985	1.075
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	3.193	0.150	24.780	0.000	2.913	3.500
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	7.042	0.200	68.840	0.000	6.661	7.444
No	REF	-	-	-	-	-
Domestic Violence						
Yes	7.262	0.258	55.740	0.000	6.773	7.786
No	REF	-	-	-	-	-
Public Assistance						
Yes	1.726	0.039	23.880	0.000	1.650	1.805
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	1.502	0.049	12.490	0.000	1.409	1.601
No	REF	-	-	-	-	-

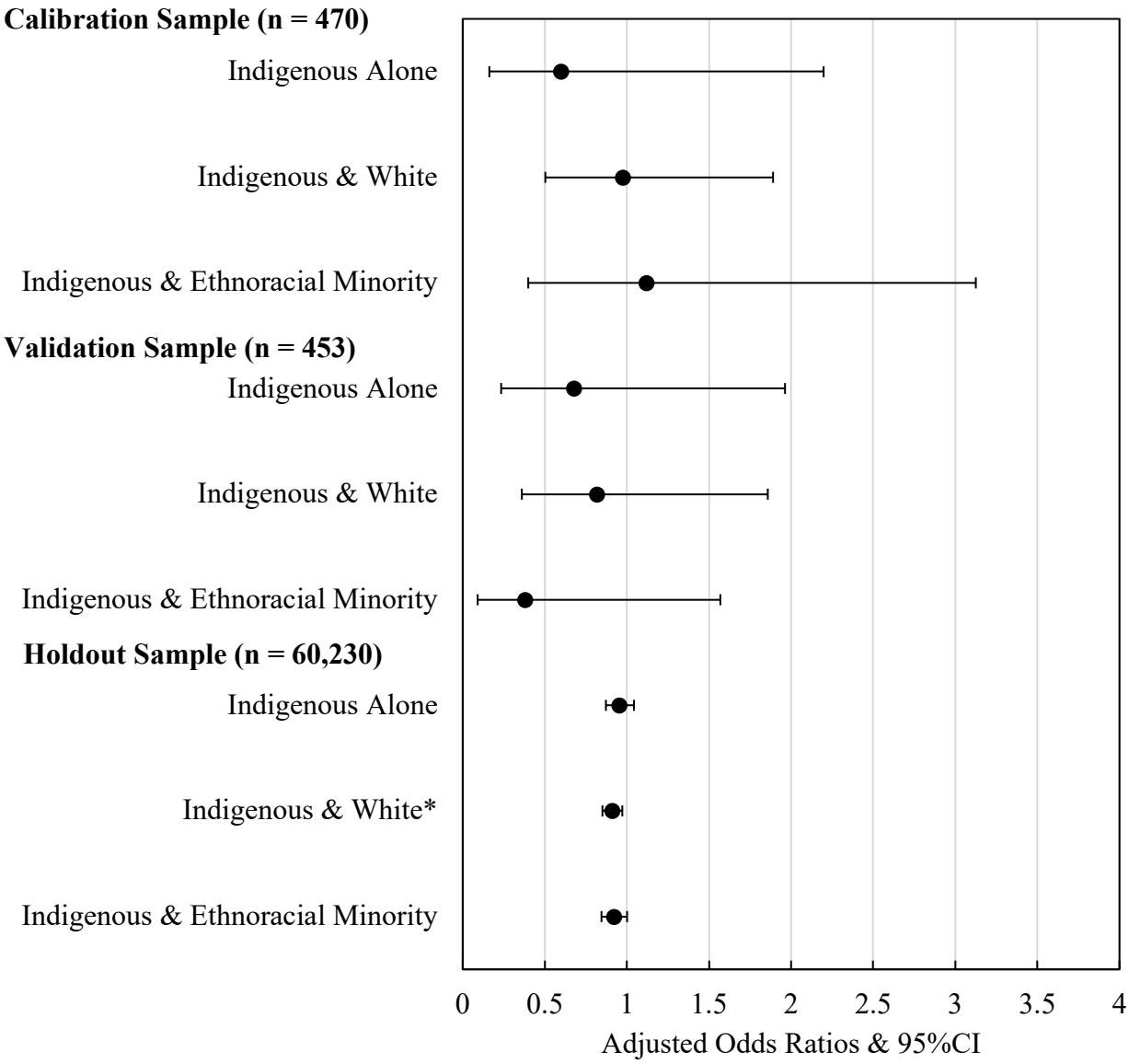
Neglect Allegation						
Yes	1.589	0.051	14.290	0.000	1.491	1.693
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	2.710	0.133	20.320	0.000	2.461	2.983
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	1.363	0.042	10.000	0.000	1.283	1.449
No	REF	-	-	-	-	-
Total Children*	1.008	0.008	0.940	0.345	0.992	1.023
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	0.954	0.044	-1.040	0.297	0.872	1.043
Indigenous & White	0.909	0.031	-2.790	0.005	0.851	0.972
Indigenous Ethnoracial Minority	0.920	0.040	-1.940	0.053	0.845	1.001
Non- Indigenous Ethnoracial Minority	0.983	0.027	-0.630	0.526	0.931	1.037

Notes: Pseudo-R^2 for step 1 = .2475; ΔPseudo-R^2 for step 2 = .0001; p = .0000
*Refers to the number of children in the sample with the same report id
95%CI: 95% Confidence Intervals

Comparison of Models

Findings across the calibration and validation samples remained consistent regarding Indigenous identity not being associated with higher odds of substantiation outcomes. Despite this, the Indigenous and White subgroup was found to be associated with lower odds of substantiation when compared to their non-Hispanic White peers in the holdout sample (Figure 13).

Figure 13. Comparison of adjusted odds ratios for a substantiated case outcome for Indigenous children compared to non-Hispanic White peers



*Indicates statistically significant association between identity and substantiation outcomes. Adjusted odds ratios below 1 indicate lower odds of substantiation compared to non-Hispanic White peers.

Research Question 2: Indigenous Identity and Child Removal

Calibration Sample

A hierarchical logistic regression with clustering was conducted in STATA to determine if a relationship existed between Indigenous identity and child removal. Due to missingness of data the number of classes was slightly lower (n = 470) compared to the original sample (n = 500). Cases were clustered by child ID to account for children with more than one child welfare investigation within the study time frame. Step one of the model included all covariates except the 'total kids' variable which predicted failure perfectly (Table 16). Both the variable and four observations were subsequently omitted from the model. Performance statistics were assessed and step one was determined to be statistically significant ($X^2(10) = 42.46$, $p = .0000$, pseudo-$R^2 = .1397$). The ethnoracial grouping variable was added in step two of the model. The addition of ethnoracial identity enhanced model performance ($X^2(14) = 45.22$, $p = .0000$). Similarly, the pseudo-R^2 value of .1594 indicated better model performance compared to step one (pseudo-$R^2 = .1397$). As anticipated several covariates were statistically significant. Children who were Indigenous alone were noted to have higher odds of removal (AOR: 3.42; 95%CI: 1.03, 11.41) when compared to their non-Hispanic White peers.

Table 16. Hierarchical logistic regression of Indigenous identity and child removal for the calibration sample

	Adjusted Odds Ratio	Robust Std. Error	z	p	95%CI	
Constant	0.033	0.022	-5.110	0.000	0.009	0.123
Step 1: Covariates						
Child Age	0.912	0.031	-2.710	0.007	0.854	0.975
Child Sex						
Female	1.107	0.390	0.290	0.773	0.555	2.209
Male	REF	-	-	-	-	-

Caregiver Alcohol Use						
Yes	0.758	0.639	-0.330	0.742	0.145	3.953
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	3.738	1.526	3.230	0.001	1.680	8.318
No	REF	-	-	-	-	-
Domestic Violence						
Yes	2.042	0.931	1.570	0.118	0.835	4.992
No	REF	-	-	-	-	-
Public Assistance						
Yes	2.546	0.919	2.590	0.010	1.254	5.167
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	2.402	1.195	1.760	0.078	0.905	6.371
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	1.036	0.547	0.070	0.946	0.369	2.913
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	2.826	1.944	1.510	0.131	0.733	10.885
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	0.784	0.385	-0.490	0.621	0.299	2.054
No	REF	-	-	-	-	-
Total Children*	1.000	(omitted)	-	-	-	-
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	3.423	2.103	2.000	0.045	1.027	11.411
Indigenous & White	2.026	1.032	1.390	0.166	0.746	5.499
Indigenous Ethnoracial Minority	2.912	1.850	1.680	0.093	0.838	10.116
Non- Indigenous Ethnoracial Minority	1.673	0.764	1.130	0.260	0.683	4.097

Notes: Pseudo-R^2 for step 1 = .1397; ΔPseudo-R^2 for step 2 = .0197; p = .0000
*Refers to the number of children in the sample with the same report id. Omitted along with 4 observations due total kids predicting failure perfectly.
95%CI: 95% Confidence Intervals

Validation Sample

An additional hierarchical logistic regression with clustering was conducted using the validation sample. Similar to the calibration sample, the total number of children within the regression was slightly lower (n = 459) than the original sample (n = 500) due to missing data.

Cases were again clustered by child ID to account for children with more than one child welfare investigation in the sample. Step one included all covariates except 'sexual abuse allegation' which predicted failure perfectly and was noted to have collinearity concerns (Table 17). Given this the variable was omitted along with 17 observations. Performance statistics were assessed and step one was determined to be statistically significant ($X^2(10) = 44.73$, $p = .0000$, pseudo-$R^2 = .1884$). The addition of the ethnoracial grouping variable in step two enhanced the model's performance ($X^2(14) = 49.05$, $p = .0000$). Similarly, the pseudo-R^2 value of .2204 indicated better model performance compared to step one (pseudo-$R^2 = .1884$). As anticipated several covariates were statistically significant. Similar to the calibration sample's findings – children who were Indigenous alone continued to have higher odds of removal compared to their non-Hispanic White peers (AOR: 4.36; 95%CI: 1.36, 13.98).

Table 17. Hierarchical logistic regression of Indigenous identity and child removal for using the validation sample

	Adjusted Odds Ratio	Robust Std. Error	*z*	*p*	95%CI	
Constant	0.003	0.003	-4.960	0.000	0.000	0.030
Step 1: Covariates						
Child Age	0.957	0.041	-1.030	0.302	0.879	1.041
Child Sex						
Female	1.341	0.489	0.800	0.421	0.656	2.741
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	2.877	1.627	1.870	0.062	0.950	8.718
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	4.875	2.048	3.770	0.000	2.139	11.108
No	REF	-	-	-	-	-
Domestic Violence						
Yes	2.039	0.909	1.600	0.110	0.851	4.884
No	REF	-	-	-	-	-
Public Assistance						

Yes	3.435	1.352	3.140	0.002	1.589	7.429
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	2.311	1.162	1.670	0.096	0.862	6.191
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	3.150	2.255	1.600	0.109	0.774	12.816
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	Omitted	-	-	-	-	-
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	0.800	0.358	-0.500	0.618	0.333	1.922
No	REF	-	-	-	-	-
Total Children*	2.508	1.969	1.170	0.241	0.538	11.685
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	4.356	2.591	2.470	0.013	1.358	13.977
Indigenous & White	0.688	0.468	-0.550	0.582	0.181	2.612
Indigenous Ethnoracial Minority	0.384	0.460	-0.800	0.424	0.037	4.022
Non- Indigenous Ethnoracial Minority	1.520	0.697	0.910	0.362	0.618	3.734

Notes: Pseudo-R^2 for step 1 = .1884; ΔPseudo-R^2 for step 2 = .032; p = .0000
*The sexual abuse allegation variable was removed due to collinearity concerns.
**Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Holdout Sample

To further assess model performance, and potential relationships between child removal outcomes and ethnoracial identity – a final model was constructed utilizing the remaining population level data (n = 65,200). Given missingness of data a total of 60,230 cases were utilized for the analysis. Cases were again clustered by child ID to account for children who had more than one child welfare investigation during the study time frame. Step one included all covariates (Table 18). Performance statistics were assessed and step one was determined to be statistically significant ($X^2(11) = 4119.81$, p = .0000, pseudo-R^2 = .1461). The ethnoracial grouping variable was added to step two of the model which enhanced the model's performance

($X^2(15) = 4190.31$, $p = .0000$). Similarly, the pseudo-R^2 value of .1470 indicated better model performance compared to the step one (pseudo-$R^2 = .1461$). Unlike the validation and calibration sample findings – children who were Indigenous alone no longer exhibited higher odds of removal compared to their non-Hispanic White peers. However, children who were Indigenous and White exhibited higher odds of removal (AOR: 1.11, 95%CI: 1.01, 1.22) as did children who were Indigenous and another ethnoracial minority (AOR: 1.35, 95%CI:1.20, 1.52).

Table 18. Hierarchical logistic regression of Indigenous identity and child removal using the holdout sample

	Adjusted Odds Ratio	Robust Std. Error	*z*	*p*	95%CI	
Constant	0.045	0.003	-48.280	0.000	0.040	0.051
Step 1: Covariates						
Child Age	0.922	0.003	-21.550	0.000	0.915	0.929
Child Sex						
Female	0.936	0.031	-2.000	0.046	0.878	0.999
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	1.063	0.059	1.100	0.270	0.953	1.186
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	3.914	0.133	40.290	0.000	3.663	4.183
No	REF	-	-	-	-	-
Domestic Violence						
Yes	2.402	0.106	19.890	0.000	2.203	2.618
No	REF	-	-	-	-	-
Public Assistance						
Yes	3.085	0.103	33.710	0.000	2.890	3.294
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	2.098	0.083	18.710	0.000	1.941	2.267
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	1.217	0.055	4.310	0.000	1.113	1.330
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	2.071	0.139	10.850	0.000	1.816	2.362
No	REF	-	-	-	-	-

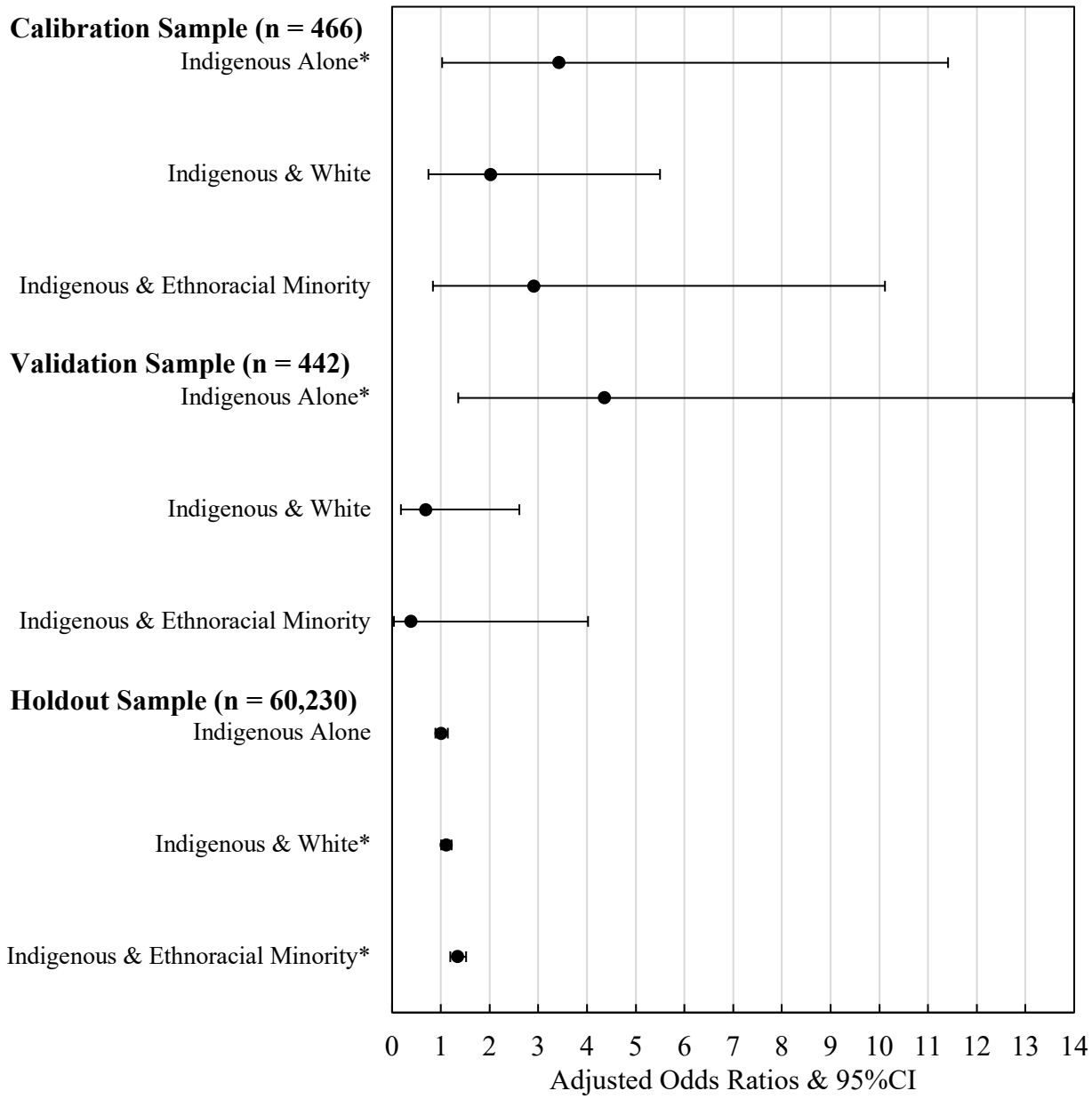
Emotional Maltreatment Allegation						
Yes	0.557	0.025	-12.920	0.000	0.509	0.608
No	REF	-	-	-	-	-
Total Children*	0.967	0.011	-2.950	0.003	0.946	0.989
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	1.008	0.065	0.130	0.898	0.889	1.144
Indigenous & White	1.108	0.055	2.080	0.037	1.006	1.221
Indigenous Ethnoracial Minority	1.347	0.082	4.880	0.000	1.195	1.519
Non- Indigenous Ethnoracial Minority	1.059	0.043	1.410	0.159	0.978	1.146

Notes: Pseudo-R^2 for step 1 = .1461.; ΔPseudo-R^2 for step 2 = .0009; p = .0000
*Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Comparison of Models

Findings across the calibration and validation samples remained consistent regarding the Indigenous alone subgroup having greater odds of child removal. Despite this, the Indigenous and White and Indigenous and another ethnoracial minority subgroups were found to be associated with higher odds of child removal compared to their non-Hispanic White peers in the holdout sample (Figure 14).

Figure 14. Adjusted odds ratios and corresponding 95% confidence intervals for child removal



*Indicates statistically significant association between identity and child removal. Adjusted odds ratios below 1 indicate lower odds of child removal compared to non-Hispanic White peers.

Research Question 3: Indigenous Identity and Services

Calibration Sample

To determine if a relationship existed between Indigenous identity and services provided to a child and/or their family a hierarchical linear regression with clustering was conducted in STATA. As with previous models, missingness of data resulted in a reduction of observations within the analysis (n = 470) compared to the original sample (n = 500). Like the previous models discussed, cases were clustered by child ID to account for children with more than one child welfare investigation within the sample. All covariates were entered into step one of the model (Table 19). Step one was not statistically significant (R^2 = .0171, F(11, 469) = .90, p = .5407). The ethnoracial grouping variable was added into step two of the model. Despite the addition of this variable, step two was not statistically significant (R^2 = .0291, F(15, 469) = 1.11, p = .3412). Further, none of the covariates were statistically significant.

Table 19. Hierarchical linear regression of Indigenous identity and total services for the calibration sample*

	B	Robust Std. Error	*t*	*p*	95%CI	
Constant	2.219	0.484	4.590	0.000	1.269	3.169
Step 1: Covariates						
Child Age	-0.007	0.014	-0.550	0.584	-0.034	0.019
Child Sex						
Female	0.030	0.136	0.220	0.823	-0.237	0.297
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	0.193	0.272	0.710	0.479	-0.342	0.727
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	0.229	0.183	1.250	0.212	-0.131	0.589
No	REF	-	-	-	-	-
Domestic Violence						
Yes	0.278	0.212	1.310	0.191	-0.139	0.695
No	REF	-	-	-	-	-
Public Assistance						
Yes	0.072	0.147	0.490	0.627	-0.218	0.361

No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	0.029	0.170	0.170	0.866	-0.305	0.363
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	-0.120	0.172	-0.700	0.483	-0.457	0.217
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	0.120	0.324	0.370	0.711	-0.516	0.756
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	0.160	0.193	0.830	0.406	-0.218	0.539
No	REF	-	-	-	-	-
Total Children*	0.113	0.411	0.270	0.784	-0.695	0.921
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	-0.330	0.302	-1.090	0.275	-0.923	0.263
Indigenous & White	0.050	0.200	0.250	0.805	-0.344	0.443
Indigenous Ethnoracial Minority	0.468	0.229	2.040	0.042	0.018	0.918
Non- Indigenous Ethnoracial Minority	-0.064	0.167	-0.380	0.703	-0.392	0.264

Notes: R^2 for step 1 = .0171; ΔR^2 for step 2 = .012; $p > .05$
*Non-standardized coefficients are reported due to clustering methodology used.
**Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Validation Sample

An additional hierarchical linear regression with clustering was conducted in STATA utilizing the validation sample to determine if there was a relationship between Indigenous identity and services provided to children and/or their families. As with previous models, missingness of data resulted in a reduction of observations within the analysis (n = 459) compared to the original sample (n = 500). Cases were clustered by child ID to account for children with more than one child welfare investigation within the sample. All covariates were added into step one of the which was statistically significant ($R^2 = .0661$, $F(11, 458) = 3.30$, $p = .0002$; Table 20). The ethnoracial grouping variable was added into step two of the model. Step

two demonstrated an increase in R^2 (R^2 = .0767, $F(15, 458) = 2.74$, $p = .0005$). Despite this, none of the Indigenous ethnoracial groups of interest were statistically significant.

Table 20. Hierarchical linear regression of Indigenous identity and total services for the validation sample

	B	Robust Std. Error	*t*	*p*	95%CI	
Constant	1.033	0.457	2.260	0.024	0.135	1.930
Step 1: Covariates						
Child Age	-0.001	0.015	-0.060	0.951	-0.030	0.028
Child Sex						
Female	-0.143	0.137	-1.050	0.296	-0.412	0.126
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						
Yes	-0.010	0.246	-0.040	0.967	-0.493	0.473
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	0.453	0.172	2.630	0.009	0.115	0.790
No	REF	-	-	-	-	-
Domestic Violence						
Yes	0.130	0.194	0.670	0.505	-0.252	0.511
No	REF	-	-	-	-	-
Public Assistance						
Yes	0.437	0.142	3.090	0.002	0.159	0.715
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	0.076	0.192	0.390	0.694	-0.302	0.453
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	0.265	0.194	1.370	0.173	-0.116	0.647
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	0.910	0.500	1.820	0.069	-0.073	1.892
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	-0.006	0.174	-0.030	0.973	-0.347	0.335
No	REF	-	-	-	-	-
Total Children*	0.789	0.359	2.200	0.028	0.084	1.495
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	0.017	0.307	0.060	0.956	-0.586	0.620
Indigenous & White	0.294	0.185	1.590	0.112	-0.069	0.658

Indigenous Ethnoracial Minority	0.456	0.254	1.800	0.073	-0.043	0.956
Non- Indigenous Ethnoracial Minority	-0.006	0.169	-0.030	0.973	-0.338	0.327

Notes: R^2 for step 1 = .0661; ΔR^2 for step 2 = .0106; p = .0005
*Non-standardized coefficients are reported due to clustering methodology used.
**Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Holdout Sample

To further assess model performance, and potential relationships between total services and ethnoracial identity – a final model was constructed utilizing the remaining population level data (n = 65,200). Given missingness of data a total of 60,230 cases were utilized for the analysis. Cases were again clustered by child ID to account for children who had more than one child welfare investigation in the sample. Step one included all covariates (Table 21), and was statistically significant (R^2 = .0286, F(11, 52,681) = 161.82, p = .0000). The ethnoracial grouping variable was added into step two of the model. When assessing overall performance, step two of the model demonstrated better performance and was statistically significant (R^2 = .0300, F(15, 52,681) = 125.25, p = .0000). Both the Indigenous and White and Indigenous and another ethnoracial minority subgroups were associated with a greater number of service referrals.

Table 21. Hierarchical linear regression of Indigenous identity and child removal for the holdout sample

	B	Robust Std. Error	*t*	*p*	95%CI	
Constant	2.075	0.023	88.410	0.000	2.029	2.121
Step 1: Covariates						
Child Age	-0.023	0.001	-18.610	0.000	-0.026	-0.021
Child Sex						
Female	-0.008	0.012	-0.680	0.493	-0.032	0.016
Male	REF	-	-	-	-	-
Caregiver Alcohol Use						

Yes	0.072	0.023	3.120	0.002	0.027	0.117
No	REF	-	-	-	-	-
Caregiver Drug Use						
Yes	0.232	0.016	14.740	0.000	0.201	0.263
No	REF	-	-	-	-	-
Domestic Violence						
Yes	0.274	0.020	13.900	0.000	0.235	0.312
No	REF	-	-	-	-	-
Public Assistance						
Yes	0.215	0.013	16.510	0.000	0.189	0.240
No	REF	-	-	-	-	-
Physical Abuse Allegation						
Yes	0.066	0.017	3.990	0.000	0.034	0.098
No	REF	-	-	-	-	-
Neglect Allegation						
Yes	0.084	0.017	5.030	0.000	0.051	0.116
No	REF	-	-	-	-	-
Sexual Abuse Allegation						
Yes	0.109	0.026	4.230	0.000	0.059	0.160
No	REF	-	-	-	-	-
Emotional Maltreatment Allegation						
Yes	-0.056	0.017	-3.320	0.001	-0.089	-0.023
No	REF	-	-	-	-	-
Total Children*	0.055	0.004	12.840	0.000	0.046	0.063
Step 2: Ethnoracial Groups						
Non-Hispanic White	REF	-	-	-	-	-
Indigenous Alone	0.024	0.024	0.990	0.323	-0.024	0.071
Indigenous & White	0.112	0.018	6.380	0.000	0.078	0.147
Indigenous Ethnoracial Minority	0.144	0.023	6.200	0.000	0.098	0.189
Non-Indigenous Ethnoracial Minority	-0.012	0.015	-0.770	0.440	-0.042	0.018

Notes: R^2 for step 1 = .0286; ΔR^2 for step 2 = .2714; p = .0000
*Non-standardized coefficients are reported due to clustering methodology used.
**Refers to the number of children in the sample with the same report id.
95%CI: 95% Confidence Intervals

Comparison of Models

Findings across the calibration and validation samples were mixed with the calibration sample's model not achieving statistical significance. Both the validation and holdout samples' models achieved statistical significance. Despite not being statistically significant, the calibration model did indicate a statistically significant association between the Indigenous and another

ethnoracial minority subgroup and total services provided which was also indicated in the holdout model, along with Indigenous and White.

Discussion

As discussed previously, the purpose of this study was to provide foundational knowledge about Indigenous experiences in the child welfare system at various decision points in investigative processes (Johnson-Motoyama et al., 2018; Luken et al., 2021). Throughout the various models relationships between specific Indigenous ethnoracial groups and outcome variables were noted. This included lower odds of substantiation for children who were Indigenous and White, higher odds of removal for several Indigenous subgroups, and statistically significant associations between several Indigenous subgroups and service referrals.

The differences in subgroup experiences enforces the need for social work research to focus on various decision points throughout the child welfare investigative process (Luken et al., 2021). This is particularly important as previous researchers have argued that each decision point in a child welfare investigation provides an opportunity for disproportionality and disparities (Johnson-Motoyama et al., 2018).

Risk Factors for Maltreatment

While covariates may not be the primary focus of the current study – from a critical race theory perspective understanding the experiences of Indigenous families and their historical relevance are paramount to understanding model findings (Daftary, 2020; Delgado & Stefancic, 2023). Several of the covariates used in the models are considered risk factors for maltreatment, and are intrinsically linked to the historical trauma perpetrated on Indigenous communities (Brave Heart, 2003; Brave Heart et al., 2011; Ross et al., 2022d; *Trauma*, n.d.; Weaver, 2016).

Currently, empirical evidence indicates poverty (Eckenrode et al., 2014; Hunter & Flores, 2021; Rebbe et al., 2022; Slack et al., 2017; Younas & Gutman, 2022), substance use (Brook & McDonald, 2009; Dube et al., 2001; Fix & Nair, 2020; Kepple, 2017; Younas & Gutman, 2022), and domestic violence are all predictors for maltreatment (Appel & Holden, 1998; Austin et al., 2020; Edleson, 1999; Fix & Nair, 2020; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022).

Public Assistance

As mentioned previously poverty and financial hardship have been extensively studied as potential risk factors for child welfare referrals and child maltreatment (Eckenrode et al., 2014; Hunter & Flores, 2021; Rebbe et al., 2022; Slack et al., 2017; Younas & Gutman, 2022). In Oklahoma an estimated 19.9% of children in the general population live in poverty compared to an estimated 22.8% of non-Hispanic Indigenous children (United Health Foundation, n.d.-d). While the NCANDS' child file has a "financial hardship" variable, it was only used sporadically within the Oklahoma data and was judged to have a relatively subjective definition regarding its inclusion within a case (*NCANDS Child File Codebook*, 2019). As such, "receiving public assistance" was used as a proxy for poverty. When assessing the ingroup percentage of children with documented public assistance – children who were Indigenous alone had the lowest percentage within all three samples with percentages ranging from 26.09% to 30.94%. Further, a statistically significant association was not found between public assistance and Indigenous alone identity. Both multiracial Indigenous groups demonstrated higher ingroup percentages across samples. The Indigenous and White group ranged from (32.47-39.29%) which exceeded that of non-Hispanic White children. Meanwhile children who were Indigenous and another

ethnoracial minority exhibited the highest ingroup percentage across all samples ranging from 38.10% to 52.63%.

While the current findings cannot be used to definitively point to the drivers behind this discrepancy, there are several potential reasons for why Indigenous alone children have lower percentages of public assistance use despite having poverty rates higher than the general population in Oklahoma (United Health Foundation, n.d.-d). One contributing factor could be the way that public assistance is conceptualized at the state level. For instance, public assistance is defined in the NCANDS' child file codebook as, "Participation in any of the following social service programs such as TANF, General Assistance, Medicaid, SSI, SNAP, WIC, etc." (*NCANDS Child File Codebook*, 2019). While it would be a valid assumption that participation in tribal programs that are equivalent to this list would fall under 'etc.' it is unclear how Oklahoma documents these services. Further, tribal social services vary according to the capacity of each sovereign nation. Finally, research has indicated significant mistrust of systems, such as those offering services, likely due to historical trauma which could contribute to low use of public assistance for this group (Vázquez et al., 2024; Wille et al., 2017).

Alcohol & Drug Use

Substance use has been identified in previous literature as a risk factor for family violence including domestic violence and child maltreatment (Brook & McDonald, 2009; Dube et al., 2001; Fix & Nair, 2020; Kepple, 2017; Younas & Gutman, 2022). Substance use has also been linked to historical trauma as a way of coping (Brave Heart, 2003). Historically, substance use was also included as a reason for child removal during the Indian Adoption Project era (Jacobs & Saus, 2012). In recent years – research regarding child maltreatment substantiation has shown caregiver substance use is predictive of child physical abuse substantiations for

Indigenous children (Fix & Nair, 2020). As such, caregiver substance use is a critical family risk factor requiring assessment in child welfare related research, particularly for Indigenous children.

Recent state-level statistics in Oklahoma have indicated that 12.9% of the general population reported excessive drinking compared to 15.5% of the non-Hispanic American Indian/Alaska Native population (United Health Foundation, n.d.-a). Within the current study – Indigenous alone children had the highest ingroup percentages for documented caregiver alcohol use within the calibration and holdout samples ranging from 9.88% to 13.04%. Caregiver alcohol use fluctuated across samples for Indigenous and White children ranging from 6.85% to 11.25%. Finally, children who were Indigenous and another ethnoracial minority had some of the lowest ingroup percentages ranging from 2.44% to 8.11%.

There are a few notable points regarding the 'caregiver alcohol use' variable within the child file. First, the NCANDS' child file codebook indicates that caregiver alcohol use is reported in the event of, "Compulsive use of alcohol that is not of a temporary nature" (*NCANDS Child File Codebook*, 2019). Beyond diagnosis of fetal alcohol syndrome and/or a positive screen in an infant – Oklahoma child welfare policy guidelines available to the public are relatively vague regarding the identification of caregiver alcohol use (*450. Drug-Endangered Child*, n.d.). Given the lack of information at the policy level – it is difficult to ascertain if practices regarding caregiver alcohol use have the potential to introduce bias due to ethnoracial stereotypes. This is particularly concerning given the historical precedent in which these stereotypes were used to justify child removal during the Indian Adoption Project era (Jacobs & Saus, 2012).

Recent statistics have estimated that 9.8% of children in Oklahoma have lived with

someone with substance use problems (United Health Foundation, n.d.-c). An estimated 21.5% of adults from the general population in Oklahoma reported non-medical drug use in the last twelve months compared to 30.7% of non-Hispanic American Indian/Alaska Native residents (United Health Foundation, n.d.-b). Within the current study, caregiver drug use was statistically associated with both Indigenous alone and Indigenous and White child identity. In fact, children who were Indigenous alone had the highest ingroup percentages for documented caregiver substance use for all three samples ranging from 25% to 39.13% which surpassed the recent general population statistics for Oklahoma. Children who were Indigenous and White had the second and third highest ingroup percentages across samples ranging from 18.38% to 28.77%. Ingroup percentages varied for children who were Indigenous and another ethnoracial minority ranging from the lowest in group percentage (10.81%) to the second highest (19.04%).

Domestic Violence

Previous research has shown that the presence of domestic violence is a risk factor for maltreatment (Appel & Holden, 1998; Austin et al., 2020; Edleson, 1999; Fix & Nair, 2020; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022) and continued contact with CPS (Casanueva et al., 2009). The prevalence of domestic violence in Indigenous communities could be rooted in the violence perpetrated against them via federal assimilation policies including genocide, and cultural ethnocide (Weaver, 2016). Further, previous research has indicated family violence as a predictor specifically for child maltreatment in Indigenous children (Fix & Nair, 2020).

In general, Oklahoma has significant problems with domestic violence. In 2019 an estimated 26,290 domestic violence crimes occurred in the state (Office of the Attorney General, 2023). During that same time there were 96 homicides attributed to domestic violence – 15% of

which were classified as “Native American” (Office of the Attorney General, 2020). Recent estimates have indicated that approximately 6.9% of children living in the state have witnessed domestic violence (United Health Foundation, n.d.-c). Within the current study – the ingroup percentages of Indigenous alone children who had domestic violence documented as part of their CPS case was startling. Within the calibration sample 31.82% of these children had documented domestic violence – which was statistically significant. Ingroup percentages remained higher than recent estimates at 14.29% for the validation sample and 14.97% for the holdout sample. Meanwhile, ingroup percentages for Indigenous and White children varied from 12.16%, which was below percentages for the non-Hispanic White and non-Indigenous ethnoracial minority groups, to 20.51%. The ingroup percentage of children who were Indigenous and another ethnoracial minority with documented domestic violence varied from the lowest percentages in the calibration and validation samples (8.57% - 10.00%) to the highest in the holdout sample (17.14%). These differences in ingroup percentages across groups suggests for the need to disaggregate ethnoracial identity, when possible, for Indigenous children as exposure to domestic violence may differ across subgroups.

Child Age

Age is a well-established child level risk factor for maltreatment (Austin et al., 2020; CDC, 2024b). While maltreatment can happen to children of any age, previous research has indicated that children under the age of four are the most at risk for maltreatment (Austin et al., 2020; CDC, 2024b). This fact is important when considering the age distribution of children across the current study’s samples. While median age ranged from 6 - 8 years for most of the ethnoracial groups – the Indigenous alone group had the youngest median ages across all samples ranging from 3 - 5 years. When discussing potential child welfare responses and

outcomes this is a particularly important characteristic of the Indigenous alone subgroup that merits consideration.

Indigenous Identity and Substantiation Outcomes

Indigenous ethnoracial subgroups were first assessed to determine if they were statistically associated with an outcome of substantiation in isolation. While none of the Indigenous ethnoracial groups were statistically associated with substantiation outcomes – ingroup percentages experiencing substantiation varied. For instance, the children who were Indigenous alone experienced the highest ingroup substantiation percentages for both the calibration (34.78%) and holdout (27.56%) samples while experiencing the third highest percentage in the validation (21.43%) sample. Meanwhile, Indigenous and White children experienced the second highest substantiation percentages for the calibration (27.27%) and validation (27.38%) samples but had the third highest (23.83%) in the holdout sample. Children who were Indigenous and another ethnoracial minority had the most variable ingroup percentages ranging from 13.16% to 26.19%.

For both the calibration and validation models, none of the Indigenous identity categories were statistically associated with higher odds of substantiation when compared to non-Hispanic White children. This consistency changed when the holdout sample (e.g., the remaining population) was utilized to test the model. When using the remaining population level data children who were Indigenous and White had lower odds of substantiation than their non-Hispanic White peers.

There are several potential reasons for the discrepancies in findings between the calibration, validation, and holdout samples. From a purely methodological point of view the

holdout sample had a significantly larger sample size (n = 65,200) compared to that of both the calibration and validation samples which were 500 children each. The original power calculations for the calibration/validation samples indicated that 346 children would be needed for an odds ratio of 1.35 and an effect size of 0.8. Thus, the model including the remaining population was significantly overpowered which meant that even negligible differences would have been observed as statistically significant (Faber & Fonseca, 2014). Despite this, when assessing for potential systemic racism within child welfare it could be argued that any significant finding points to a potential issue as there should be no association between ethnoracial identity and case outcomes. The addition of more data, while potentially overpowering the test, also enhanced the precision of the findings thus reducing the range between the lower and upper confidence intervals which were relatively wide in both the calibration and validation models.

While simple random sampling is a convenient form of sampling, particularly when population data is known, it is not without potential limitations. Namely, smaller ethnoracial minority populations may be excluded or not represented appropriately given the 'equal chance' of being selected (*Numeracy, Maths and Statistics - Academic Skills Kit*, n.d.). This is something that is particularly troubling for the Indigenous ethnoracial groups given the predominance of non-Hispanic White children in Oklahoma's child welfare system. While all groupings were likely impacted within the calibration and validation samples, Indigenous alone, the smallest subgroup, could have been disproportionately impacted. Further, the Indigenous and White subgroup's ingroup percentage for substantiation changed across the various samples with the holdout sample having the lowest percentage of children with a substantiation. It is possible that

this is evidence that the random sampling used for the calibration and validation models created samples that were not truly representative of the experiences for this group.

As mentioned previously, there is a debate within social work literature regarding the use of control variables such as poverty in models assessing the presence of systemic racism (Boyd, 2022; Dettlaff et al., 2011; Kim & Drake, 2018). While seeking to control for influencing factors leading to decisions related to substantiation, it is possible that what it means to be Indigenous in Oklahoma was diminished. This in many ways is intrinsically tied to the historical trauma and federal policies that have created potential barriers to the accrual of generational wealth, and opportunities for marginalized communities, including Indigenous peoples (Division of Behavioral and Social Sciences and Education & National Academies of Sciences, Engineering, and Medicine, 2023). Several covariates that were associated with higher odds of substantiation were also associated with specific ethnoracial groups. Namely, caregiver drug use, which consistently generated significant adjusted odds ratios (AOR: 6.12 - 7.40) for substantiation, was statistically associated with Indigenous only and Indigenous and White identity. When assessing the percentage of children with documented caregiver drug use – the Indigenous alone category had the highest ingroup percentages, ranging from 25% to 39.13%. Indigenous and White children had the second highest percentages for the calibration and validation samples (22.50% - 28.77%); however, their ingroup percentage dropped to 18.38% in the holdout sample, slightly below that of children who were Indigenous and another ethnoracial minority. The inconsistencies between samples are likely attributable to random sampling. Additionally, domestic violence, which created the highest AORs (7.26 - 8.89), was statistically associated with the Indigenous alone identity. Despite this, the ingroup percentages across the Indigenous alone group varied across the samples. It is possible by controlling for these factors the

ethnoracial subgroups were inadvertently put at the same 'starting line' as their non-Hispanic White peers which is not a true representation of Indigenous experiences. It should be noted that the performance of these covariates was consistent with previous literature showing associations between substance use and domestic violence with child maltreatment (Appel & Holden, 1998; Austin et al., 2020; Brook & McDonald, 2009; Dube et al., 2001; Edleson, 1999; Fix & Nair, 2020; Kepple, 2017; Miller et al., 2013; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022).

As mentioned previously, the only significant ethnoracial identity within the substantiation models was Indigenous and White in the holdout sample's model. This model indicated Indigenous and White children having lower odds of substantiation compared to non-Hispanic White children. This finding, which may seem counterintuitive, underscores the complexity of modern Indigenous ethnoracial identity, and highlights a significant limitation to current research methodologies and use of 'multiracial.' First, within the Indigenous groups 'Indigenous and White' was the largest subgroup across all three samples. Most common research practices would have grouped these children into a singular 'multirace' category with all other multiracial children (Gatewood et al., 2024). Since the current study's methodological approach to ethnoracial identity is not widespread it is difficult to compare findings with that of other research; however, there is a historical precedent as recent as the early 1900s in Oklahoma for why the presence of 'Whiteness' or less 'Nativeness' may positively influence outcomes. For instance, during the early 1900s when generational wealth in the form of oil was discovered on reservation land, the Osage people were commonly assessed for 'competency' to handle their significant wealth (Grann, 2017). Individuals presenting as more 'Indigenous' or culturally grounded within their traditions were commonly viewed as less capable of handling their own

affairs than individuals who were more assimilated into the predominant culture (Grann, 2017). As such, it is possible that the presence of 'Whiteness' may influence outcomes in a protective manner; however, this conclusion cannot be drawn from the current findings. Further research is needed to determine the impact of intersectionality related to various race combinations with Indigenous identity.

Indigenous Identity and Child Removal Outcomes

The removal of Indigenous children from their homes has had significant and long ranging implications for families. The exclusion of multiracial Indigenous children from previous research has been a critical gap in the literature which the current study sought to fill. When assessing removal outcomes in isolation, findings varied widely across ethnoracial subgroups as well as samples. For instance, a statistically significant association between Indigenous alone identity and removal was noted using data from the calibration sample. Despite this, ingroup percentages for the Indigenous alone subgroup were inflated in both the calibration (21.43%), and validation (21.74%) samples when compared to the holdout sample (9.38%). Meanwhile, the Indigenous and White group's percentages remained relatively consistent across the samples, ranging from 8.33% to 10.39%. While somewhat variable the percentages of children being removed who were Indigenous and another ethnoracial minority also varied less across samples from that of the Indigenous alone group (7.89% - 14.29%). These differences are important when considering inconsistencies in findings across the various models.

For both the calibration and validation samples, children who were Indigenous alone had higher odds of removal (AOR: 3.42 - 4.36) compared to their non-Hispanic White peers. They were the only ethnoracial group in the two models to show a statistically significant finding. Despite this, the relationship between higher odds of removal and the Indigenous alone subgroup

did not hold in the final model. Instead, children who were Indigenous and White or Indigenous and another ethnoracial minority had higher odds of removal compared to their non-Hispanic White peers.

As mentioned previously, there are several potential contributing factors for the differences in findings across models. The Indigenous alone group had the smallest number of individuals, when compared to the other groups, which could have impacted model stability in the smaller calibration and validation samples. The representation of Indigenous alone children across the samples also varied with the holdout sample having the largest percentage. Further the Indigenous alone group's ingroup percentages for removal were inflated in both the calibration and validation samples compared to the holdout sample. These slight discrepancies due to the sampling technique may have attributed to the differences between the models. Finally, the holdout sample (n = 65,200) was significantly larger than the 346 children needed according to the a priori power calculation. As such, the holdout sample significantly overpowered the model– meaning small differences would be observed as statistically significant (Faber & Fonseca, 2014). Despite this – the addition of more data in the holdout model, while potentially overpowering the test, also enhanced the precision of the findings as evidenced by the reduction in the range between the lower and upper confidence intervals.

There were differences in covariate performance across the models that may have also influenced the findings. The two covariates that performed consistently across the samples were caregiver drug use and public assistance which is consistent with previous evidence (Fix & Nair, 2020; Miller et al., 2013). Caregiver drug use demonstrated the highest adjusted odds ratios for removal across all models (AOR: 3.74 - 4.88). Caregiver drug use was also statistically associated with both Indigenous alone and Indigenous and White identity. Similarly, receiving

public assistance demonstrated the second highest adjusted odds ratios across all models (AOR: 2.55 - 3.44). Unlike caregiver drug use, public assistance was not associated with any of the Indigenous ethnoracial groups.

Child age was significantly associated with child removal in the calibration model and holdout model. Previous research related to child removal has indicated that younger age is associated with removal (Williams & Sepulveda, 2019). For instance, in 2017 the rate of children three and younger entering the foster care system was nearly double that of children 4-17 (Williams & Sepulveda, 2019). This is particularly important as children who were Indigenous alone were amongst the youngest children consistently across all three samples.

Within the holdout model domestic violence was also associated with higher odds of child removal. While this finding was not seen in either the calibration or validation models – it had the third highest adjusted odds ratio for removal. When assessing associations between covariates and ethnoracial subgroups utilizing the calibration sample there was a statistically significant association between Indigenous alone identity and domestic violence. Given this association – it is possible that the inclusion of domestic violence as a covariate may have diminished the relationship between Indigenous alone identity and child removal.

Association Between Indigenous Identity and Higher Removal Odds

Given the historical significance of Indigenous child removal – most existing literature related to Indigenous experiences in the child welfare system centers around removal. The current study's findings indicated higher odds of removal for children who were Indigenous alone in both the calibration (AOR: 3.42, 95%CI: 1.03 - 11.41, p = .045) and validation samples (AOR: 4.36, 95%CI:1.36 - 13.98, p = .013), but not in the holdout sample. Despite the

association not being found in the holdout sample – the consistency between the calibration and validation models still merits reflection.

While relationships were not observed in the validation and calibration samples for Indigenous and White children – the holdout model indicated higher odds of removal for these children (AOR: 1.11, 95%CI: 1.01 - 1.22, $p = .037$) compared to their non-Hispanic White peers. This was also true for children who were Indigenous and another ethnoracial minority (AOR: 1.35, 95%CI:1.20 - 1.52 , $p = .000$). While the possible methodological drivers of these changes across models have been explored previously – there are further systemic factors that may be at play.

The Indian Child Welfare Act (ICWA) which outlines policy standards that should be adhered to is only applicable to children who are citizens or eligible to become citizens of a sovereign nation (Udall, 1978). This key provision is where the overlap of Indigenous political status and ethnoracial identity begins to become convoluted. When considering systemic implicit biases and racism in the child welfare system – ethnoracial identity (perceived or otherwise), not a unique political classification, would make the most sense as a driving factor for adverse outcomes. Due to the widespread assimilation policies and practices previously discussed, these two unique descriptors are not always in alignment. For instance, an individual may identify racially and culturally as an Indigenous person while not qualifying for tribal citizenship due to a variety of factors. These factors may include things such as high blood quantum requirements or an ancestor not participating in federal initiatives like the Dawes Roll due to justifiable mistrust of the federal government (Jacobs & Saus, 2012). These factors are inherently problematic as each are rooted in colonial settler ideology. For instance blood quantum (e.g., the amount of 'Native' blood a person has) has no scientific basis but was an imprecise way of attributing

"Nativeness" to individuals by the federal government (*Blood Quantum and Sovereignty: A Guide*, 2022). Further, blood quantum was used during the Dawes Act to determine eligibility for land allotments (*Blood Quantum and Sovereignty: A Guide*, 2022). Surplus land once owned by Indigenous peoples was then sold by the federal government to non-Indigenous people which was a clear conflict of interest in the government's favor (*Blood Quantum and Sovereignty: A Guide*, 2022). All of this is to say – the ICWA's eligibility is convoluted due to historical assimilation policies, which favored Indigenous erasure for the benefit of the federal government and has become more complicated as Indigenous populations become increasingly more diverse. Some tribal nations have very strict blood quantum requirements for citizenship which means while a grandparent or parent may be a tribal citizen – new generations of multiracial children may not be. This means as time continues to pass the ICWA will serve less children (Jacobs & Saus, 2012).

The findings in the holdout sample might indicate the ICWA is working for youth who identify as Indigenous alone, but not for multiracial Indigenous children. This could be due to multiracial children not being eligible for tribal citizenship, thus falling outside the protection of the ICWA. Since the NCANDS' child file does not report ICWA eligibility it is difficult to know this for certain, and further research must be done to expand these findings. Further, children who were Indigenous and another ethnoracial minority having the highest odds ratio for removal (AOR: 1.35, 95%CI: 1.20 - 1.52) might indicate further bias against other ethnoracial identities. It's worth noting that despite a statistically significant finding – the adjusted odds ratio is relatively low, particularly when compared with the adjusted odds ratios of some of the covariates. Regardless – any finding indicating identity is associated with removal is worth further exploration.

Another possible explanation for findings related to greater odds of removal for children who are Indigenous and White or Indigenous and another ethnoracial minority centers around the actual adherence to the ICWA. As mentioned previously, while the ICWA does bolster tribal sovereignty it is not without limitations. Despite the act's creation – the federal government has failed to create a way to monitor adherence to the act and sanctions against non-compliance have been underutilized (van Straateen & Buchbinder, 2011). Due to this, enforcement of the act can prove difficult. It is possible during the study period that multiracial children who did not appear "Indigenous" were not being asked about their citizenship status. While this is not possible to answer with the current research findings – further research is needed to determine if this is a possibility as the 'mislabeling' of Indigenous peoples has previously been well documented across other systems (Gartner et al., 2023).

Regardless of the contributing factors related to the change in odds ratios across the various Indigenous ethnoracial groups – these findings lend further support to reconceptualizing the use of race in research. In most research methodologies children who are Indigenous and White or Indigenous and another ethnoracial minority would have been grouped with all other non-Indigenous multiracial children. The merit in disaggregating identity data is enforced by the differences in experiences observed across the various Indigenous groups. While large population data sets are not without limitations, notable strengths of the NCANDS child file are evidenced here. Those strengths include providing only disaggregated ethnoracial identity data and providing all child welfare cases within participating states that meet inclusion criteria. The level of data and flexibility provided to researchers should drive further secondary research utilizing disaggregated identity data, something that is difficult to do with smaller samples.

Indigenous Identity and Service Referrals

One of the key goals of the ICWA is family preservation, when possible. This goal is to be achieved through the 'active efforts' provision of the act. There is not a singular definition for what active efforts should be as efforts will vary from case-to-case (*Active Efforts*, n.d.). Due to this, it can be difficult to truly assess from a group or population level if this core component of the ICWA is being followed. Generally speaking, active efforts should be consistent with preservation or reunification of the family and actively engage the family while being thorough and timely (*Active Efforts*, n.d.). While the NCANDS' child file does offer a wealth of data, not all provisions of 'active efforts' can truly be assessed using it. Despite this, one of the key components, access to services, can be assessed (Edwards, 2021). For the purpose of the current study, services indicative of 'best efforts' were reviewed and totaled to determine the number of service referrals received by a child and/or their family. As such, a higher number of services was considered a positive outcome for the family. Previous research has suggested potential disparities in service referrals for children and families who are ethnoracial minorities (Lovato-Hermann et al., 2017). This is particularly troubling as disparities in service referrals may lead to further disparities in future outcomes for families (Lovato-Hermann et al., 2017).

Given previous evidence and the ICWA's provisions – it is critical to understand this important decision point within child welfare investigations. Prior to running the models, the median number of service referrals were assessed across Indigenous ethnoracial groups. Across the three samples, children who were Indigenous alone had a median of 2-2.5 services. Indigenous and White children had a median of 2-3 services whereas children who were Indigenous and another ethnoracial minority had a median of 3 services. While tribal citizenship cannot be ascertained with data from the child file it could be reasoned that many individuals

who only identify as Indigenous may have accessed tribal level resources. It is unclear if these tribal level services are documented within the child file. While service availability across sovereign nations in Oklahoma varies – the major nations have extensive services available for their members. As such, children who were Indigenous alone having lower service referrals is counterintuitive. Further research is needed to determine if service referrals provided by Indian Child Welfare or via other tribal organizations are reported as part of this data to further determine if the discrepancies across groups are truly a cause for concern.

Association Between Indigenous Identity and Service Referrals

Model performance assessing the relationship between Indigenous identity and service referrals was perhaps the most perplexing of the analyses, and likely points to model misspecification. The calibration model was not statistically significant. In comparison, the validation model was statistically significant; however, none of the Indigenous ethnoracial groups were associated with service referrals. With that being said, caregiver drug use and public assistance were both associated with higher referrals. When assessing the remaining population using the holdout sample –the Indigenous and White and Indigenous and another ethnoracial minority subgroups were positively associated with service referrals as was caregiver drug use and public assistance. Despite this the validation and holdout models accounted for low overall variance with their adjusted-R^2s ranging from .0767 to .0300, respectively.

The performance across the validation and holdout models poses additional questions. For instance, one could assume the presence of risk factors such as caregiver substance use, public assistance, domestic violence, and even maltreatment types such as neglect would enhance overall model performance. These specific covariates can be tied to several service referral types listed within the child file such as substance use services, family support and

preservation services, as well as employment and mental health services. As such, further investigation is needed to determine the level of caseworker discretion that leads to service referrals prior to other actions such as removal. Previous literature has suggested that these service referral decisions may vary across ethnoracial groups with minority children and families receiving fewer or inadequate services (Lovato-Hermann et al., 2017). As mentioned previously, service referrals could be considered a measure of the 'active efforts' provision of the ICWA; however, this specific outcome coupled with the inconsistent nature of the current study's findings merits further exploration. Further research could look at additional metrics such as individual service types, and length between the start of the investigation and when service referrals were made. Further, research should also be conducted on family follow-through to determine potential barriers to service utilization (e.g., rurality, transportation, etc.) that cannot be accounted for using referral data alone (Lovato-Hermann et al., 2017).

Race and Research

As mentioned previously, one of the core tenets of critical race theory is the acknowledgment that race is a social construct (Daftary, 2020; Delgado & Stefancic, 2023). As such, a new approach to Indigenous identity was utilized as part of the current study's analyses. This approach was critically important since the American Indian/Alaska Native race group has been documented as having the highest self-reported rate of multiracial individuals in the 2020 census which has been supported further in previous research (Gatewood et al., 2024; Sanchez et al., 2023). Generally, common methodological practices regarding ethnoracial data and the use of 'multiracial' categories have limited the representation of modern Indigenous experiences in research. This particular methodology has also led to Indigenous data being excluded from analyses due to low sample size (Haozous et al., 2014). As such, the current study's findings

support Luken and Nair's (2021) call for further research related to multiracial child experiences as well as state-level analyses of Indigenous experiences in the child welfare system (Luken et al., 2021).

As both the Indigenous population as well as the general population of the United States becomes increasingly more diverse – the question regarding the use of a multiracial category in research becomes more dire. The current study's findings lend support to the use of disaggregated race, when possible, to more accurately capture the experiences of ethnoracial minorities. In light of these findings alongside the history of Indigenous peoples in the United States, the question must be asked if the use of multiracial is simply a continuation of assimilation tactics seeking to minimize Indigenous experiences and representation (Haozous et al., 2014).

Given the findings of the current study as well as previous evidence suggesting the impact 'multiracial' has on Indigenous representation in research (Gatewood et al., 2024), researchers should seriously consider disaggregating race when possible. When disaggregation is not possible researchers must be clear about the methodology they used regarding identity in their analyses as well as its potential limitations. While large administrative datasets are not without limitations, data like that from the NCANDS' child file allow researchers to disaggregate ethnoracial identity which is a notable strength. As such, more federal and nationally representative data sets should consider providing disaggregated racial data to researchers.

Policy and Research Implications and Recommendations

Based on the current study's findings there are several recommendations that should be considered at the policy and research levels. For instance, while the ICWA was a response from

Congress to right some of the historical wrongs perpetrated against Indigenous peoples – it is not without its limitations. From a research perspective, data regarding ICWA compliance is not easily accessible. While the Adoption and Foster Care Analysis and Reporting System (AFCARS) does provide some level of information tied to adherence to certain components of the ICWA – the NCANDS' child file does not (*AFCARS Data Collection for Native Children* , 2020). This is a significant limitation to federal data collection as AFCARS only captures children within the foster care system which is a fraction of the children interacting with the child welfare system. To better track efforts, or lack thereof, in family preservation for all children – an ICWA eligible data point within the child file should be considered. This would allow researchers and lawmakers to assess all child welfare investigations – not just those that end in child removal – to determine the level of active efforts being made. Beyond better tracking of compliance of the ICWA, Congress must consider reforming the ramifications for non-compliance to the ICWA (van Straateen & Buchbinder, 2011). Further, given the complexities between Indigenous race and Indigenous political status – more thought must be given regarding how to protect Indigenous children as less qualify for tribal citizenship thus falling outside the protections of the ICWA.

Policy level changes must also be made to bolster social services programs to help families with risk factors associated with maltreatment. Currently the child welfare system in the United States works in a reactive capacity with families typically first encountering the system after an allegation has been made. As noted previously, Indigenous children experienced some of these risk factors, such as caregiver drug use and domestic violence, at higher rates than their non-Indigenous peers.

In general, Oklahoma has faced significant problems related to substance use (Turner,

2019). A 2019 report indicated that nearly 1,000 residents within the state die every year from an overdose – a death rate which rose 91% between 2003 and 2018 (Turner, 2019). In the same report it was estimated that two-thirds of individuals with a substance use disorder do not receive the appropriate level of care needed (Turner, 2019). Trends in substance use across Oklahoma continue to change amongst various illicit substances including methamphetamine and fentanyl (*Fentanyl*, n.d.). These shifts have led to state-wide initiatives including access to fentanyl test strips, and free naloxone (Ready, 2022). While these measures have been notable steps in increasing the safety of individuals with substance use disorders – they are not mitigating concerns related to children being exposed to illicit substances and/or being inadequately supervised due to caregiver impairment. Given the impact substance use disorders can have on child safety as well as the increased rates of caregiver substance use within the Indigenous groups assessed in the current study, it is critical that state, federal, and tribal governments continue to seek ways to combat substance use and assist those experiencing a substance use disorder.

Domestic violence, which has long been considered associated with increased risk for maltreatment (Appel & Holden, 1998; Austin et al., 2020; Edleson, 1999; Fix & Nair, 2020; Nicklas & Mackenzie, 2013; Taylor et al., 2009; Younas & Gutman, 2022), was similarly found at higher rates in Indigenous groups. Specifically, domestic violence was statistically associated with Indigenous alone identity. From a historical context – domestic violence could be considered a continuation of the cycle of violence which was initiated by the violent colonization of Indigenous people by European settlers. As with any maltreatment risk factor – the goal should always be prevention. Individuals at-risk for perpetrating domestic violence (e.g., survivors of family violence, and individuals with substance use, stress, isolation, or mental

health concerns, etc.) should be proactively identified via other services they access (e.g., healthcare, etc.) and provided appropriate services (CDC, 2024a). Further, professionals in various fields should continue advocating for the de-stigmatization of accessing mental health resources. Sovereign nations should continue to invest in programs such as the Native Alliance Against Violence to allow for coordination of services for survivors of domestic violence (*Tribal Programs* —, n.d.). Finally, the state of Oklahoma must set forth better policies to help individuals experiencing domestic violence safely leave situations without fear of legal reprisal if they are actively seeking to improve the safety and well-being of their children (*Oklahoma's Failure to Protect Law and the Criminalization of Motherhood*, 2021).

Regarding measurements of poverty – the NCANDS' child file lacks an objective measure for poverty. Instead, the data file has variables such as 'financial problems,' 'housing instability,' and 'public assistance' (*NCANDS Child File Codebook*, 2019). None of these are truly adequate measures of poverty. For instance, the 'financial problems' variable is relatively subjective to caseworkers assessing whether a family can cover basic needs (*NCANDS Child File Codebook*, 2019). Further, not all individuals who experience poverty experience housing instability or use public assistance. As such, universal measurements such as federal poverty level classifications should be considered as required data to better assess experiences of children in the child welfare system.

Within the empirical literature poverty has been related to chronic stress which is related to child maltreatment, domestic violence, and substance use (Bates et al., 2021; Harms & Garrett-Ruffin, 2023; Kim et al., 2024; Martins et al., 2023; Sinha, 2008). Given the compounding nature poverty has on the development of other maltreatment risk factors – it is paramount that anti-poverty initiatives continue to be advocated for and used at the tribal, state,

and federal levels (Kim et al., 2024). Advocates for the prevention of child maltreatment have suggested specific anti-poverty measures to help lift families out of poverty. These anti-poverty (Crane et al., 2024) initiatives include child care subsidies (Klika et al., 2022), paid family leave (Bullinger, L. R., et al., 2023), and expanded child tax credits (Crane et al., 2024).

Limitations & Future Directions

Despite the contributions this study makes to the current evidence base – it is not without limitations. There were instances in which data were missing – sometimes due to administrative processes that were not overly clear. Further, the analyses were limited to the cases and variables available within the child file. The NCANDS' child file only includes cases screened in for investigation by child protective services thus missing the first child welfare decision point that may be influenced by bias (Luken et al., 2021).

According to the NCANDS' child file codebook, race and ethnicity data were self-reported by the child and/or caregivers (*NCANDS Child File Codebook*, 2019). With secondary administrative data there is a possibility that race/ethnicity may not have been appropriately obtained or recorded (Johnson-Motoyama et al., 2018). Previous research has shown that Indigenous individuals are frequently misclassified in various administrative data (Gartner et al., 2023). There is no way to account for the possibility of individual case worker documentation processes that might diverge from expected practices. While other administrative data sets include ICWA eligibility – the child file does not. This makes it difficult to determine compliance to the ICWA for the children and cases assessed.

As mentioned previously, random sampling was likely not the best sampling strategy for this analysis. The sampling strategy, while convenient, may have excluded or not appropriately

represented ethnoracial minority groups given the 'equal chance' of being selected (*Numeracy, Maths and Statistics - Academic Skills Kit*, n.d.). The sampling technique likely attributed to the inconsistencies in findings across the models. While sampling was used to try to confirm findings across the samples to reinforce conclusions – future research should either look at population level data only or utilize stratified sampling when necessary.

The NCANDS' child file lacks a consistent and objective measure for poverty. While the child file has a 'financial problems' variable– Oklahoma does not routinely collect this data. As such the 'public assistance' variable was used as a proxy for poverty. The absence of public assistance does not mean a family is not experiencing poverty. For instance, Indigenous alone children had the lowest ingroup percentage of public assistance despite the fact that 22.8% of non-Hispanic American Indian/Alaska Native children experience poverty in Oklahoma (United Health Foundation, n.d.-d). As such, future research is needed using better poverty measurements for Indigenous children involved in the Oklahoma child welfare system.

While the inclusion of covariates is a common method to enhance model performance and determine the contribution of a specific variable of interest it is not without limitations from a social context. By controlling for things such as poverty, substance use, and domestic violence ethnoracial groups are put at the same starting line. This methodology disregards the lived experiences of what it means to be a member of a specific ethnoracial group. This is particularly important for groups like Indigenous peoples who have faced widespread systemic racism and oppression through federal policies. Incorrect conclusions have been made in previous research when covariates diminished the impact of racial disparities in child welfare outcomes (Boyd, 2022; Dettlaff et al., 2011; Kim & Drake, 2018). Covariates, and particularly their relationship and presence in ethnoracial groups, merit discussion in research focused on systemic racism – as

supported by critical race theory (Daftary, 2020; Delgado & Stefancic, 2023). While their inclusion may diminish associations between ethnoracial identity and outcomes – researchers must ground their theoretical approach within the history of oppression and consider upstream factors that systemically lead to higher rates of covariates for some groups (e.g., forced removal, genocide, ability to vote, ability for resource and wealth accrual compared to White peers) (Daftary, 2020; Delgado & Stefancic, 2023).

While this study did propose a new way to define Indigenous identity in child welfare research – the methodological approach is not without limitations. For the sake of simplicity multiracial Indigenous children who were anything other than Indigenous and White were coded as a single group. This alongside the creation of the Indigenous and White group fit the purpose of this analysis as the main objective was to assess Indigenous experiences in the child welfare system. However, the multiracial Indigenous group was relatively diverse regarding race and ethnicity representation. As such, future research should focus on disaggregating Indigenous identity further to determine if other Indigenous groups have different experiences within the child welfare system.

Future analyses using the NCANDS' child file data could further elaborate findings from this study. These analyses should include additional years of Oklahoma data so that population level analyses can be done across years to determine if findings remain consistent. Further, after the 2020 Supreme Court of the United States McGirt ruling a large portion of Oklahoma reverted to federal and tribal jurisdiction for major crimes, including child maltreatment (Hendrix-Dicken et al., 2023). This change may have led to better practices regarding the collection and documentation of individuals who were either citizens or eligible to become citizens of federally recognized tribes. As such, further analyses are needed to determine how the McGirt ruling

impacted the data collected on Indigenous child welfare cases. Additional research should include linking NCANDS' child file data with AFCARS' data for children in Oklahoma. This will allow for a better understanding of case processing for children who have entered the foster care system. Finally, future analyses should also include other states with high Indigenous populations.

Conclusion

Indigenous children and their experiences within the child welfare system have not been truly represented within previous social work literature. Their exclusion from research has left a sizable knowledge gap within existing literature. As such, the purpose of this study was to determine if Indigenous identity was associated with specific child welfare outcomes by utilizing core tenets of critical race theory. Critical race theory allowed for a more comprehensive assessment of the experiences of Indigenous children in the child welfare system. Namely, the theoretical framework allowed for the inclusion of historical trauma and federal policies when considering not only child welfare outcomes but potential risk factors associated with those outcomes (Daftary, 2020). Given the pervasive influence of historical harms perpetrated against Indigenous peoples, it was vital that this study ground present day experiences in historical context, which critical race theory elucidates (Delgado & Stefancic, 2023).

Further research is still needed to better understand how specific predictors of maltreatment may disproportionately impact Indigenous children. This is particularly important given recent discussions within social work literature regarding statistically controlling for elements of lived experiences such as poverty. By controlling for these risk factors, it is possible that statistical modeling is diminishing what it means to be Indigenous in the United States thus disregarding the history of colonization and oppression that Indigenous groups have experienced.

Additional research is also needed to better understand how other multiracial Indigenous child experiences may differ from one another since the current study was limited in its use of Indigenous and White and Indigenous and another ethnoracial minority groupings.

Despite lingering questions and the need for future research – this study's findings are meaningful given the little evidence currently related to Indigenous child welfare experiences. First, by grouping multiracial Indigenous children in their own ethnoracial categories – a more comprehensive picture of Indigenous child experiences was obtained. This is critically important given the differences in outcomes across Indigenous groups. This included multiracial White and Indigenous children being found to have lower odds of substantiation. Further, higher odds of removal were observed in population data for children who were Indigenous and White or Indigenous and another ethnoracial minority. These findings further support the need to not only evaluate Indigenous children in child welfare research, but to consider different approaches to the use of multiracial identity, particularly for Indigenous children.

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Appendix A. NCANDS Disclaimer and Acknowledgment

The analyses presented in this publication were based on data from the NCANDS Child File for federal fiscal year 2019. These data were provided by the National Data Archive on Child Abuse and Neglect and have been used with permission. The data were originally collected under the auspices of the Children's Bureau (Administration on Children, Youth and Families, Administration for Children and Families) of the U.S. Department of Health and Human Services. Funding was provided by the U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. The collector of the original data, the funder, NDACAN, Duke University, Cornell University, and the agents or employees of these institutions bear no responsibility for the analyses or interpretations presented here. The information and opinions expressed reflect solely the opinions of the authors.

Appendix B. Child File Codebook for Federal Fiscal Year 2019

The following are excerpts from the NCANDS Child File Codebook.

Field Long Name: State/Territory

Field Short Name: STATERR | Field Number: 2

Size: 2 | Position: 5–6

Definition:
In NCANDS, the primary unit from which child maltreatment data are collected. This includes all 50 states, the Commonwealth of Puerto Rico, and the District of Columbia.

Instructions:
The contents of this field must be identical for all records in this Child File. This field must contain the U.S. Postal Service two-character abbreviation for the State or Territory submitting the Child File.

Washington, DC and U.S. territories have the same status as states.

Code Values:
This is not a coded field.

Field Long Name: Report ID

Field Short Name: RPTID | Field Number: 3

Size: 12 | Position: 7–18

Definition:
A unique identification assigned to each report of child maltreatment.

Instructions:
This identification is not the actual state report identification, but is an encrypted identification assigned by the state for the purposes of the data collection. The report ID should be unique within the state, only used for this current report and never used again. A report can have more than one child associated with it. Thus, the same report ID can occur in more than one record.

The encrypted identifier should be left-filled with zeroes, as needed, to the 12-character length.

Code Values:
This is not a coded field.

Field Long Name: Child ID

Field Short Name: CHID | Field Number: 4

Size: 12 | Position: 19–30

Definition:
A unique identification assigned to each child.

Instructions:
This identification is not the state child identification, but is an encrypted identification assigned by the state for the purposes of the Child File data collection. The child ID should be unique within the state, only used for this child and never used again. This will allow the child to be uniquely identified in different reports within the Child File and across different reporting years.

The encrypted identifier should be left-filled with zeroes, as needed, to the 12-character length.

Code Values:
This is not a coded field.

Child Data

Field Long Name: Child Age at Report

Field Short Name: CHAGE | Field Number: 12

Size: 2 | Position: 63–64

Definition:
Age, calculated in years, as of the date of the referral.

Instructions:
If the child is unborn, the age should be coded as "77." If the child is born, but younger than one year, the age should be coded "00."

If the child's date of birth is provided, NCANDS will compute the child's age by subtracting the child's date of birth from the report date and placing the resulting age in this field. If the child's date of birth is blank or invalid, the child's age will not be recomputed if it passes validation checks.

A valid child age is "00" to "23" years, "77" (if the child is unborn), or "99" (if the child age is unknown). If the age is "22" or "23" years, one of the maltreatment types (maltreatment1, maltreatment2, maltreatment3, or maltreatment4) must equal 7 (sex trafficking).

Code Values:
Blank = Not collected / Not applicable

This is not a coded field

Field Long Name: Child Sex

Field Short Name: CHSEX | Field Number: 14

Size: 1 | Position: 73

Definition:
Biological sex as indicated.

Code Values:
Blank = Not collected/Not applicable
1 Male
2 Female
9 Unknown

Field Long Name: Child Race American Indian or Alaska Native

Field Short Name: CHRACAI Field Number: 15

Size: 1 Position: 74

Definition:
Having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Instructions:
This field indicates the child identifies himself or herself as a member of this race, or the parent identifies the child as a member of this race.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
3 unable to determine
9 unknown or missing

Field Long Name: Child Race Asian

Field Short Name: CHRACAS Field Number: 16

Size: 1 Position: 75

Definition:
Having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Instructions:
This field indicates the child identifies himself or herself as a member of this race, or the parent identifies the child as a member of this race.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
3 unable to determine
9 unknown or missing

Field Long Name: Child Race Black or African American

Field Short Name: CHRACBL Field Number: 17

Size: 1 Position: 76

Definition:
Having origins in any of the black racial groups of Africa.

Instructions:
This field indicates the child identifies himself or herself as a member of this race, or the parent identifies the child as a member of this race.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
3 unable to determine
9 unknown or missing

Field Long Name: Child Race Native Hawaiian or Other Pacific Islander

Name: CHRACNH Field Number: 18

Size: 1 Position: 77

Definition:
Having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Instructions:
This field indicates the child identifies himself or herself as a member of this race, or the parent identifies the child as a member of this race.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
3 unable to determine
9 unknown or missing

Field Long Name: Child Race White

Field Short Name: CHRACWH Field Number: 19

Size: 1 Position: 78

Definition:
Having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Instructions:
This field indicates the child identifies himself or herself as a member of this race, or the parent identifies the child as a member of this race.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
3 unable to determine
9 unknown or missing

Field Long Name: Child Race Unable to Determine

Field Short Name: CHRACUD Field Number: 20

Size: 1 Position: 79

Definition:
The inability to determine the child's race and no one is available to identify it.

Instructions:
This field indicates neither the child nor parent, nor any collateral, is able to identify the child as a member of any race. If this field is coded to "1= yes", then every other child race field (fields 15 through 19) should be coded to "9= unknown or missing" or left blank.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Child Hispanic or Latino Ethnicity

Field Short Name: CHETHN Field Number: 21

Size: 1 Position: 80

Definition:
A Hispanic or Latino such as a person from Cuba, Mexico, Puerto Rico, South or Central America, or other Spanish language culture, regardless of race.

Instructions:
Whether or not a child is of Hispanic or Latino Ethnicity is determined by how others define them or by how they define themselves. In the case of young children, parents determine the ethnicity of the child.

Code Values:
Blank = Not collected/Not applicable
1 yes, Hispanic or Latino
2 not Hispanic or Latino
3 unable to determine
9 unknown or missing

Field Long Name: Maltreatment-1 Type

Field Short Name: CHMAL1 Field Number: 26

Size: 1 Position: 88

Definition:
A form of child maltreatment (alleged or having occurred) such as physical abuse, neglect, sexual abuse, psychological or emotional maltreatment, or others as defined by policy and state law.

Instructions:
This is the first type of maltreatment recorded on the child's record. If a maltreatment is reported in this field, then a maltreatment level should be provided in the corresponding maltreatment disposition level field (field 27).

Guidance from the Children's Bureau is to include, to the extent practicable, noncaregiver perpetrators who sex trafficked children. A child can be both sexually abused and sex trafficked, and both maltreatment types may be reported. However, just because a child was sex trafficked it does not automatically mean the child meets the state definition of sexually abused.

Labor trafficking should be coded to maltreatment type 8=other.

States should use the following information when mapping maltreatment types:

ABUSE TYPE = NCANDS MALTREATMENT TYPE
Risk of Physical Abuse = physical abuse or emotional maltreatment
Risk of Sexual Abuse = sexual abuse or emotional maltreatment
Threatened Harm = emotional maltreatment or physical abuse
Domestic Violence = emotional maltreatment
Fetal Alcohol Syndrome = neglect
Prenatal Substance Exposure = neglect
Abandonment = neglect
Educational neglect = neglect

Any valid maltreatment code may appear in this field. For a given child in a given report, up to four maltreatments may be reported in fields 26, 28, 30, and 32. However, a maltreatment type code cannot be used in more than one maltreatment type field in a given record (e.g. field 26 and 28 cannot both be coded as "2").

Code Values:

1 Physical abuse
2 Neglect or deprivation of necessities

3 Medical neglect
4 Sexual abuse
5 Psychological or emotional maltreatment
6 No alleged maltreatment
7 Sex trafficking
8 Other
9 Unknown or missing

Field Long Name: Maltreatment-1 Disposition Level

Field Short Name: MAL1LEV | Field Number: 27

Size: 2 | Position: 89–90

Definition:
The determination resulting from the CPS response to a report of alleged child maltreatment.

Instructions:
This is the level of finding for the first type of maltreatment (field 26) recorded on the child's record. Maltreatment-1 Disposition Level needs to be provided if there are data in the corresponding Maltreatment Type-1 field (field 26).

Children with codes of substantiated, "01" or indicated, "02" are considered to be victims of maltreatment.

A state that provides a response to all children in a household whether or not there are any allegations of maltreatment on the child would use "08", for a child who did not have an allegation of maltreatment and was not found to be a victim of maltreatment.

The dispositions of "alternative response victim" or "alternative response nonvictim" should only be used if a state has a diversified response system (e.g., if the state allows assessments as well as investigations in response to a report). The only allowable maltreatment dispositions in an alternative response report are "alternative response victim," "alternative response nonvictim," and "no alleged maltreatment."

Code Values:

01	Substantiated
02	Indicated or reason to suspect
03	Alternative response victim
04	Alternative response nonvictim
05	Unsubstantiated
06	Unsubstantiated due to intentionally false reporting
07	Closed-no finding
08	No alleged maltreatment
88	Other
99	Unknown or missing

Field Long Name: Maltreatment-2 Type

Field Short Name: CHMAL2 Field Number: 28

Size: 1 Position: 91

Definition:
A form of child maltreatment (alleged or having occurred) such as physical abuse, neglect, sexual abuse, psychological or emotional maltreatment, or others as defined by policy and state law.

Instructions:
This is the second type of maltreatment recorded on the child's record. If a maltreatment is reported in this field, then a maltreatment level should be provided in the corresponding maltreatment disposition level field (field 29). If there is not a second maltreatment type for the child, this field and the remaining maltreatment fields (fields 28-33) should be left blank.

Guidance from the Children's Bureau is to include, to the extent practicable, noncaregiver perpetrators who sex trafficked children. A child can be both sexually abused and sex trafficked, and both maltreatment types may be reported. However, just because a child was sex trafficked it does not automatically mean the child meets the state definition of sexually abused.

Labor trafficking should be coded to maltreatment type 8=other.

States should use the following information when mapping maltreatment types:

ABUSE TYPE = NCANDS MALTREATMENT TYPE
Risk of Physical Abuse = physical abuse or emotional maltreatment
Risk of Sexual Abuse = sexual abuse or emotional maltreatment
Threatened Harm = emotional maltreatment or physical abuse
Domestic Violence = emotional maltreatment
Fetal Alcohol Syndrome = neglect
Prenatal Substance Exposure = neglect
Abandonment = neglect
Educational neglect = neglect

Code Values:
Blank = Not collected/Not applicable

1	physical abuse
2	neglect or deprivation of necessities
3	medical neglect
4	sexual abuse
5	psychological or emotional maltreatment
7	sex trafficking
8	other
9	unknown or missing

Field Long Name: Maltreatment-2 Disposition Level

Field Short Name: MAL2LEV | Field Number: 29

Size: 2 | Position: 92–93

Definition:
The determination resulting from the CPS response to a report of alleged child maltreatment.

Instructions:
This is the level of substantiation for the second type of maltreatment reported (field 28) on the child's record. Maltreatment-2 disposition level needs to be provided if there are data in the corresponding maltreatment type-2 field (field 28).

Children with codes of substantiated, "01" or indicated, "02 are considered to be victims of maltreatment.

The dispositions of "alternative response victim" or "alternative response nonvictim" should only be used if a state has a diversified response system (e.g., if the state allows assessments as well as investigations in response to a report). The only allowable maltreatment dispositions in an alternative response report are "alternative response victim," "alternative response nonvictim," and "no alleged maltreatment."

Code Values:
Blank = Not collected/Not applicable
01 substantiated
02 indicated or reason to suspect
03 alternative response victim
04 alternative response nonvictim
05 unsubstantiated
06 unsubstantiated due to intentionally false reporting
07 closed-no finding
88 other
99 unknown or missing

Field Long Name: Maltreatment-3 Type

Field Short Name: CHMAL3 Field Number: 30

Size: 1 Position: 94

Definition:
A form of child maltreatment (alleged or having occurred) such as physical abuse, neglect, sexual abuse, psychological or emotional maltreatment, or others as defined by policy and state law.

Instructions:
This is the third type of maltreatment reported on the child's record. If a maltreatment is reported in this field, then a maltreatment level should be provided in the corresponding maltreatment disposition level field (field 31). If there is not a third maltreatment type for the child, this field and the remaining maltreatment fields (fields 30-33) should be left blank.

Guidance from the Children's Bureau is to include, to the extent practicable, noncaregiver perpetrators who sex trafficked children. A child can be both sexually abused and sex trafficked, and both maltreatment types may be reported. However, just because a child was sex trafficked it does not automatically mean the child meets the state definition of sexually abused.

Labor trafficking should be coded to maltreatment type 8=other.

States should use the following information when mapping maltreatment types:

ABUSE TYPE = NCANDS MALTREATMENT TYPE
Risk of Physical Abuse = physical abuse or emotional maltreatment
Risk of Sexual Abuse = sexual abuse or emotional maltreatment
Threatened Harm = emotional maltreatment or physical abuse
Domestic Violence = emotional maltreatment
Fetal Alcohol Syndrome = neglect
Prenatal Substance Exposure = neglect
Abandonment = neglect
Educational neglect = neglect

Code Values:
Blank = Not collected/Not applicable
1 physical abuse
2 neglect or deprivation of necessities
3 medical neglect
4 sexual abuse
5 psychological or emotional maltreatment
7 sex trafficking
8 other
9 unknown or missing

Field Long Name: Maltreatment-3 Disposition Level

Field Short Name: MAL3LEV | Field Number: 31

Size: 2 | Position: 95–96

Definition:
The determination resulting from the CPS response to a report of alleged child maltreatment.

Instructions:
This is the level of substantiation for the third type of maltreatment reported (field 30) on the child's record. Maltreatment-3 disposition level needs to be provided if there are data in the corresponding maltreatment type-3 field (field 30).

Children with codes of substantiated, "01" or indicated, "02" are considered to be victims of maltreatment.

The dispositions of "alternative response victim" or "alternative response nonvictim" should only be used if a state has a diversified response system (e.g., if the state allows assessments as well as investigations in response to a report). The only allowable maltreatment dispositions in an alternative response report are "alternative response victim," "alternative response nonvictim," and "no alleged maltreatment."

Code Values:
Blank = Not collected/Not applicable
01 substantiated
02 indicated or reason to suspect
03 alternative response victim
04 alternative response nonvictim
05 unsubstantiated
06 unsubstantiated due to intentionally false reporting
07 closed-no finding
88 other
99 unknown or missing

Field Long Name: Maltreatment-4 Type

Field Short Name: CHMAL4 Field Number: 32

Size: 1 Position: 97

Definition:
A form of child maltreatment (alleged or having occurred) such as physical abuse, neglect, sexual abuse, psychological or emotional maltreatment, or others as defined by policy and state law.

Instructions:
This is the fourth type of maltreatment reported on the child's record. If a maltreatment is reported in this field, then a maltreatment level should be provided in the corresponding maltreatment disposition level field (field 33). If there is not a fourth maltreatment type for the child, this field and its corresponding maltreatment level (fields 32-33) should be left blank.

Guidance from the Children's Bureau is to include, to the extent practicable, noncaregiver perpetrators who sex trafficked children. A child can be both sexually abused and sex trafficked, and both maltreatment types may be reported. However, just because a child was sex trafficked it does not automatically mean the child meets the state definition of sexually abused.

Labor trafficking should be coded to maltreatment type 8=other.

States should use the following information when mapping maltreatment types:

ABUSE TYPE = NCANDS MALTREATMENT TYPE
Risk of Physical Abuse = physical abuse or emotional maltreatment
Risk of Sexual Abuse = sexual abuse or emotional maltreatment
Threatened Harm = emotional maltreatment or physical abuse
Domestic Violence = emotional maltreatment
Fetal Alcohol Syndrome = neglect
Prenatal Substance Exposure = neglect
Abandonment = neglect
Educational neglect = neglect\

Code Values:
Blank = Not collected/Not applicable
1 physical abuse
2 neglect or deprivation of necessities
3 medical neglect
4 sexual abuse
5 psychological or emotional maltreatment
7 sex trafficking
8 other
9 unknown or missing

Field Long Name: Maltreatment-4 Disposition Level

Field Short Name: MAL4LEV Field Number: 33

Size: 2 Position: 98–99

Definition:
The determination resulting from the CPS response to a report of alleged child maltreatment.

Instructions:
This is the level of substantiation for the fourth type of maltreatment reported (field 32) on the child's record. Maltreatment-4 disposition level needs to be provided if there are data in the corresponding maltreatment type-4 field (field 32).

Children with codes of substantiated, "01", and indicated, "02", are considered to be victims of maltreatment.

The dispositions of "alternative response victim" or "alternative response nonvictim" should only be used if a state has a diversified response system (e.g., if the state allows assessments as well as investigations in response to a report). The only allowable maltreatment dispositions in an alternative response report are "alternative response victim," "alternative response nonvictim," and "no alleged maltreatment."

Code Values:
Blank = Not collected/Not applicable
01 substantiated
02 indicated or reason to suspect
03 alternative response victim
04 alternative response nonvictim
05 unsubstantiated
06 unsubstantiated due to intentionally false reporting
07 closed-no finding
88 other
99 unknown or missing

Field Long Name: Maltreatment Death

Field Short Name: MALDEATH | Field Number: 34

Size: 1 | Position: 100

Definition:
The death of a child as a result of abuse or neglect, because either: (a) an injury resulting from abuse and/or neglect was the cause of death; or (b) abuse and/or neglect were contributing factors to the cause of death.

Instructions:
If a child dies as a result of maltreatment, but the maltreatment type is unknown, then a maltreatment type code of "9=unknown" should be placed into one of the maltreatment fields: 26, 28, 30, or 32.

The disposition date must fall within the submission period, but the report date may be any date prior to or equal to the disposition date.

A "1=yes" in this field classifies the child as a victim. If a "1-yes" is reported, at least one maltreatment disposition must be either substantiated or indicated.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Alcohol Abuse-Caregiver(s)

Field Short Name: FCALC | Field Number: 44

Size: 1 | Position: 110

Definition:
Compulsive use of alcohol that is not of a temporary nature.

Instructions:
This field indicates if alcohol abuse is a problem of the child's caregiver(s).

If alcohol and drug abuse cannot be distinguished from each other, then the state should indicate it in the "State Data Characteristics" or the "State Commentary/Construction Logic" section below. The state should also note why (e.g., alcohol abuse and drug abuse are collected under one category, such as substance abuse). In this case, both the NCANDS alcohol field and the drug field should be set to "1-yes."

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Drug Abuse-Caregiver(s)

Field Short Name: FCDRUG | Field Number: 45

Size: 1 | Position: 111

Definition:
The compulsive use of drugs that is not of a temporary nature.

Instructions:
This field indicates if drug abuse is a problem of the child's caregiver(s).

If alcohol and drug abuse cannot be distinguished from each other, then the state should indicate it in the "State Data Characteristics" or the "State Commentary/Construction Logic" section below. The state should also note why (e.g., alcohol abuse and drug abuse are collected under one category, such as substance abuse). In this case, both the NCANDS alcohol field and the drug field should be set to "1-yes."

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Domestic Violence

Field Short Name: FCVIOL | Field Number: 52

Size: 1 | Position: 118

Definition:
Any abusive, violent, coercive, forceful, or threatening act or word inflicted by one member of a family or household on another. This risk factor can be applied to a caregiver. In NCANDS, the caregiver may be the perpetrator or the victim of the domestic violence.

Instructions:
This field indicates if domestic violence exists in the child's home/family environment.

Code Values:
Blank = Not collected/Not applicable

1	yes
2	no
9	unknown or missing

Field Long Name: Public Assistance

Field Short Name: FCPUBLIC | Field Number: 55

Size: 1 | Position: 121

Definition:
This field indicates if the child's family is receiving public assistance.

Instructions:
Participation in any of the following social service programs such as TANF, General Assistance, Medicaid, SSI, SNAP, WIC, etc.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Post Investigation Services

Field Short Name: POSTSERV | Field Number: 56

Size: 1 | Position: 122

Definition:
Services directly related to the CPS response and delivered up to 90 days after the disposition date.

Instructions:
This field indicates whether services began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. These services have been delivered between the report date and 90 days after the disposition date of the report. Services must continue past the Report Disposition Date to be appropriate for inclusion in the Child File record.

For services that were begun prior to the current report, the fact that they continued past the current report disposition date implies that the current investigation or assessment for alternative response has reaffirmed the appropriateness of those services and planned to continue them.

Services that begin before the disposition date but do not continue past the disposition date are not included. A service date that is more than 90 days past the disposition date is considered invalid for inclusion.

Services that are usually provided as part of an investigation/assessment should not be separately recorded in this or any other field. Services that are distinct from usual or customary investigation/assessment activities with children and families should be recorded as post response services.

If this field is coded "Yes," the Service Date field (Field # 57) is required.

If this field is coded "Yes," then one or more other service titles (Field #s 58 to 85) should be coded "Yes."

If any other service titles are coded "Yes," then this field should be coded "Yes."

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Family Support Services

Field Short Name: FAMSUP | Field Number: 58

Size: 1 | Position: 131

Definition:
Community-based services that assist and support parents in their role as caregivers. These services are designed to improve parental competency and healthy child development by helping parents enhance their strengths and resolve problems that may lead to child maltreatment, developmental delays, and family disruption.

Instructions:
Services include peer support and counseling, early developmental screening, parent education, early childhood development, child care and respite care, home visits, family resource centers, school-linked services, recreation, and job or skills education or training. Programs may address the general population or be targeted to ethnic/cultural minorities, families facing health, mental health, or substance abuse issues, adolescent parents, or kinship caregivers.

This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Family Preservation Services

Field Short Name: FAMPRES | Field Number: 59

Size: 1 | Position: 132

Definition:
Activities designed to help families alleviate crises that might lead to out-of-home placement of children; maintain the safety of children in their own homes; support families preparing to reunify or adopt; and assist families in obtaining services and other supports necessary to address their multiple needs in a culturally sensitive manner.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Case Management Services

Field Short Name: CASEMANG | Field Number: 66

Size: 1 | Position: 153

Definition:
Case management services are services or activities for the arrangement, coordination, and monitoring of services to meet the needs of individuals (children) and their families.

Instructions:
Component services and activities may include individual service plan development; counseling; monitoring, developing, securing, and coordinating services; monitoring and evaluating client progress; and assuring that clients' rights are protected.

This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Counseling Services

Field Short Name: COUNSEL | Field Number: 67

Size: 1 | Position: 154

Definition:
Counseling services are those services or activities that apply therapeutic processes to personal, family, situational, or occupational problems to bring about a positive resolution of the problem or improved individual or family functioning or circumstances. Problem areas may include family or marital relationships.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Daycare Services-Child

Field Short Name: DAYCARE | Field Number: 68

Size: 1 | Position: 155

Definition:
Day care services for children (including infants, pre-school, and school age children) are services or activities provided in a setting that meets applicable standards of state and local law, in a center or in a home, for a portion of a 24-hour day.

Instructions:
This field indicates that this service began or continued for the child in the report as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include a comprehensive and coordinated set of appropriate developmental activities for children, recreation, meals and snacks, transportation, health support services, social service counseling for parents, plan development, and licensing and monitoring of child care homes and facilities.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Educational and Training Services

Field Short Name: EDUCATN | Field Number: 69

Size: 1 | Position: 156

Definition:
Education and training services are those services provided to improve knowledge or daily living skills and to enhance cultural opportunities. Services may include instruction or training in, but are not limited to, such issues as consumer education, health education, community protection and safety education, literacy education, English as a second language, and General Educational Development (G.E.D.). Component services or activities may include screening, assessment, and testing; individual or group instruction; tutoring; provision of books, supplies and instructional material; counseling; transportation; and referral to community resources.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Employment Services

Field Short Name: EMPLOY | Field Number: 70

Size: 1 | Position: 157

Definition:
Employment services are those services or activities provided to assist individuals in securing employment or acquiring or learning skills that promote opportunities for employment.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include employment screening, assessment, or testing; structured job skills and job seeking skills; specialized therapy (occupational, speech, physical); special training and tutoring, including literacy training and pre-vocational training; provision of books, supplies and instructional material; counseling, transportation; and referral to community resources.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Family Planning Services

Field Short Name: FAMPLAN | Field Number: 71

Size: 1 | Position: 158

Definition:
Family planning services are those educational, comprehensive medical or social services or activities which enable individuals, including minors, to determine freely the number and spacing of their children and to select the means by which this may be achieved. These services and activities include a broad range of acceptable and effective methods and services to limit or enhance fertility, including contraceptive methods (including natural family planning and abstinence), and the management of infertility (including referral to adoption).

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Specific component services and activities may include preconceptional counseling, education, and general reproductive health care, including diagnosis and treatment of infections which threaten reproductive capability. Family planning services do not include pregnancy care (including obstetric or prenatal care).

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Health-Related and Home Health Services

Field Short Name: HEALTH | Field Number: 72

Size: 1 | Position: 159

Definition:
Health related and home health services are those in-home or out-of-home services or activities designed to assist individuals and families to attain and maintain a favorable condition of health.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services and activities may include providing an analysis or assessment of an individual's health problems and the development of a treatment plan; assisting individuals to identify and understand their health needs; assisting individuals to locate, provide or secure, and utilize appropriate medical treatment, preventive medical care, and health maintenance services, including in-home health services and emergency medical services; and providing follow-up services as needed.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Home-Based Services

Field Short Name: HOMEBASE | Field Number: 73

Size: 1 | Position: 160

Definition:
Home-based services are those in-home services or activities provided to individuals or families to assist with household or personal care activities that improve or maintain adequate family well-being. These services may be provided for reasons of illness, incapacity, frailty, absence of a caretaker relative, or to prevent abuse and neglect of a child or adult. Major service components include homemaker services, chore services, home maintenance services, and household management services.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include protective supervision of adults and/or children to help prevent abuse, temporary non-medical personal care, house-cleaning, essential shopping, simple household repairs, yard maintenance, teaching of homemaking skills, training in self-help and self-care skills, assistance with meal planning and preparation, sanitation, budgeting, and general household management.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Housing Services

Field Short Name: HOUSING | Field Number: 74

Size: 1 | Position: 161

Definition:
Housing services are those services or activities designed to assist individuals or families in locating, obtaining, or retaining suitable housing.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include tenant counseling; helping individuals and families to identify and correct substandard housing conditions on behalf of individuals and families who are unable to protect their own interests; and assisting individuals and families to understand leases, secure utilities, make moving arrangements and minor renovations.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Independent and Transitional Living Services

Field Short Name: TRANSLIV Field Number: 75

Size: 1 Position: 162

Definition:
Independent and transitional living services are those services and activities designed to help older youth in foster care or homeless youth make the transition to independent living, or to help adults make the transition from an institution, or from homelessness, to independent living.

Instructions:
This field indicates that this service began or continued for the child in the report as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include educational and employment assistance, training in daily living skills, and housing assistance. Specific component services and activities may include supervised practice living and post-foster care services.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Information and Referral Services

Field Short Name: INFOREF | Field Number: 76

Size: 1 | Position: 163

Definition:
Information and referral services are those services or activities designed to provide information about services provided by public and private service providers and a brief assessment of client needs (but not diagnosis and evaluation) to facilitate appropriate referral to these community resources.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date. Services that are usually provided as part of an investigation/assessment should not be recorded in this field. Only services that are distinct from usual or customary investigation/assessment activities with children and families should be reported.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Legal Services

Field Short Name: LEGAL | Field Number: 77

Size: 1 | Position: 164

Definition:
Legal services are those services or activities provided by a lawyer or other person(s) under the supervision of a lawyer to assist individuals in seeking or obtaining legal help in civil matters such as housing, divorce, child support, guardianship, paternity, and legal separation.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include receiving and preparing cases for trial, provision of legal advice, representation at hearings, and counseling.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Mental Health Services

Field Short Name: MENTHLTH | Field Number: 78

Size: 1 | Position: 165

Definition:
Activities and services which aim to overcome issues involving emotional disturbance or maladaptive behavior adversely affecting socialization, learning, or development. Usually provided by public or private mental health agencies and includes both residential and non-residential activities.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Pregnancy and Parenting Services for Young Parents

Field Short Name: PREGPAR | Field Number: 79

Size: 1 | Position: 166

Definition:
Pregnancy and parenting services are those services or activities for married or unmarried adolescent parents and their families designed to assist young parents in coping with the social, emotional, and economic problems related to pregnancy and in planning for the future.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the report disposition date.

Component services or activities may include securing necessary health care and living arrangements; obtaining legal services; and providing counseling, child care education, and training in and development of parenting skills.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Respite Care Services

Field Short Name: RESPITE | Field Number: 80

Size: 1 | Position: 167

Definition:
Activities and services involving the temporary care of the children in order to provide relief to the caregiver. May involve care of the children outside of the caregiver's own home for a brief period of time, such as overnight or for a weekend. Not considered by the state to be foster care or other placement.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Special Services-Disabilities

Field Short Name: SSDISABL | Field Number: 81

Size: 1 | Position: 168

Definition:
Special services for persons with developmental or physical disabilities, or persons with visual or auditory impairments, are services or activities to maximize the potential of persons with disabilities, help alleviate the effects of physical, mental or emotional disabilities, and to enable these persons to live in the least restrictive environment possible.

Instructions:
This field indicates that this service began or continued for the child in the report as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

Component services or activities may include personal and family counseling; respite care; family support; recreation; transportation; aid to assist with independent functioning in the community; and training in mobility, communication skills, the use of special aids and appliances, and self-sufficiency skills. Residential and medical services may be included only as an integral, but subordinate, part of the services.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Special Services-Juvenile Delinquent

Short: SSDELINQ Field Number: 82

Size: 1 Position: 169

Definition:
Special services for youth involved in or at risk of involvement with criminal activity are those services or activities for youth who are, or who may become, involved with the juvenile justice system and their families.

Instructions:
This field indicates that this service began or continued for the child in the report as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

Components services or activities are designed to enhance family functioning and/or modify the youth's behavior with the goal of developing socially appropriate behavior and may include counseling, intervention therapy, and residential and medical services if included as an integral but subordinate part of the service.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Substance Abuse Services

Field Short Name: SUBABUSE | Field Number: 83

Size: 1 | Position: 170

Definition:
Substance abuse services are those services or activities that are primarily designed to deter, reduce, or eliminate substance abuse or chemical dependence. Except for initial detoxification services, medical and residential services may be included but only as an integral but subordinate part of the service.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

Component substance abuse services or activities may include a comprehensive range of personal and family counseling methods, methadone treatment for opiate abusers, or detoxification treatment for alcohol abusers. Services may be provided in alternative living arrangements such as institutional settings and community-based halfway houses.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Transportation Services

Field Short Name: TRANSPRT | Field Number: 84

Size: 1 | Position: 171

Definition:
Transportation services are those services or activities that provide or arrange for the travel, including travel costs, of individuals in order to access services, or obtain medical care or employment.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

Component services or activities may include special travel arrangements such as special modes of transportation and personnel to accompany or assist individuals or families to utilize transportation.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing

Field Long Name: Other Services

Field Short Name: OTHERSV | Field Number: 85

Size: 1 | Position: 172

Definition:
Activities that have been provided to the child and/or family, but which are not included in the services listed in the Child File record layout.

Instructions:
This field indicates that this service began or continued for the child in the report or the child's family as a result of the CPS response to reported allegations. The service has been delivered between the report date and 90 days after the disposition date of the report. The service continued past the Report Disposition Date.

If a state service code is mapped to this field, it should not be mapped to any other field.

Code Values:
Blank = Not collected/Not applicable
1 yes
2 no
9 unknown or missing