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CHARLOTTESVILLE FOSTER CARE STUDY

**Produced by
The Public Interest Data Lab**

**A project of the University of Virginia Library,
the Frank Batten School of Leadership & Public Policy,
and the Community Policy, Analytics, and Strategy Lab**

EXECUTIVE SUMMARY

Building on the 2018 Charlottesville Child Welfare report, this study investigates racial disproportionality – overrepresentation of racial groups in the child welfare system relative to their presence in the population – and racial disparity – less favorable outcomes for some racial groups compared to others – for children interacting with the Charlottesville Department of Social Services over a three year period, from January 1, 2015 to December 31, 2017. We focus here on the child as the unit of analysis, following children from referral to exit from the system, focusing especially on foster care outcomes.

Racial Disproportionality: A disproportionate number of referrals to CPS are for Black children who compose about twice the proportion of referred children relative to their population. Multiracial children are also over-represented in referrals relative to their population in Charlottesville by about 30%.

Referral Frequency: Some of this over-representation stems from the greater frequency of referrals for Black and multiracial children. Multiracial children received, on average, 2.4 referrals and Black children received 2.1 referrals compared to 1.8 referrals on average for White children.

Post Referral Decision Points: Among children referred to CPS, Black children are slightly more likely to be screened in, at 72%, than White children, at 70%. Among children with screened-in referrals, cases involving multiracial children are the most likely to be investigated (63%), followed by cases involving Black children (55%). Among cases involving White and Hispanic children, 47% and 46% are assigned to investigation. There are no meaningful racial differences in the probability that an investigated case is substantiated or that a child's environment is determined to be unsafe.

Entering Foster Care: Multiracial children have a much higher probability of entering foster care, at 28%, than do White or Black children, at 14% and 13%, or Hispanic children, at 4%. Among the most common reasons reported for removal of children – neglect, parental drug use, and inadequate housing – inadequate housing is more likely to be cited as a reason in cases involving multiracial children (at 35%) compared to White and Black children (21%). Parental drug use is slightly more likely to be cited as a reason in cases involving White children (at 36%) compared to Black or multiracial children (at 26% and 27%).

Foster Care Placement: Among children in foster care during the study period, 71% were in a foster family environment, with 30% in kinship care. This is much higher than the overall state's rate of kinship care (6%) and in line with the national average (32%). Multiracial children are more likely to be in non-relative foster care (56%) compared to Black and White children (38% and 30%). There is no evidence of racial differences in placement stability – whether the number of placements or the time spent in a given placement – or in the overall time children spend in foster care.

Leaving Foster Care: Children in foster care are nearly universally working with child welfare professionals towards a permanency goal. This does not vary by race. Among the small number of children who exited foster care, almost all experienced outcomes consistent with their case goals. Among children who exited foster care during the study period, half were reunified with their families. The rate of reunification was higher among White children. Black children were more likely to be adopted relative to White or multiracial children. Given the limited number of observations, these findings should be considered suggestive.

Limitations: It is important to note that while the literature on racial disproportionality in child welfare suggests that higher rates of poverty in communities of color explains some of the disproportionality, the data under study here did not include family economic security variables and therefore we could not control for poverty in assessing disproportionality.

Potential directions for future research are suggested, including investigation into the causes of referral disproportionality, higher rates of investigation among black or multiracial children, and the definition and experiences of multiracial children.



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1 INTRODUCTION

Racial disproportionality in the U.S. child welfare system has been an ongoing concern among practitioners, advocates, and researchers for the last two decades. A wealth of studies has repeatedly shown that children of color and their families are disproportionately represented in the child welfare system in America. More specifically, considerable research has documented the overrepresentation of racial minorities in referrals to Child Protective Services (CPS) and in Foster Care (Child Welfare Information Gateway 2016; Maloney et al 2017).

The extent of racial disproportionality varies across the country. In Virginia, quarterly reports from Virginia's Child Protective Services Accountability System indicate that, in 2018 across the Commonwealth, 29% of reports to CPS involved Black children,¹ though Black children make up only 20% of the state's child population, for a racial disproportionality index of 1.4.² In the city of Charlottesville, 57% of referrals to CPS were for Black children, though Black children make up only 25% of Charlottesville's child population, for a racial disproportionality index of 2.2. Referral to child protective services for alleged maltreatment is only the first interaction children and their families may have with the child welfare system.

Building on the 2018 Charlottesville Child Welfare Study (Claibourn, McClintock et al 2018) this report continues to examine the data on child referrals to Charlottesville's Department of Social Services, with a focus on identifying racial and ethnic differences in the experiences of children interacting with the child welfare system. Conducted for the Charlottesville Department of Social Services by the UVA Public Interest Data Lab, this study analyzes racial disproportionality in referral to child protective services, racial disparity in post-referral decisions (whether children are screened in, whether their cases are investigated, whether children are removed from their home), and racial differences in experiences in foster care (reasons for removal, placements, exit from foster care).

2 RESEARCH AND DATA

2.1 BACKGROUND RESEARCH

Research has repeatedly documented the higher rates of involvement with child protective services among racial minority families (Bowman et al 2009; Johnson et al 2007; Maloney et al 2017; Putnam-Hornstein et al 2013; Rolock 2008). Disparities occur for different ethnic and racial minorities – Blacks, Latinx, Native Americans – depending on the particular demographic composition and history of a place, and across multiple decision points and outcomes – referrals, investigations, removal from the home. At the same time, a variety of explanations for the troubling overrepresentation and unequal experiences of minority families in the child welfare system have been proposed (Fluke et al 2011). From disproportionate need, whereby marginalized minorities experiencing greater poverty and economic insecurity experience more

¹Among reported children for whom race is known; the number of multiracial children is not provided in the quarterly reports.

²A racial disproportionality index is the ratio of percentage of children by race at a given point in the child welfare system over their percentage in the general population. Child population estimates are based on the American Community Survey's 2013-2017 5-year estimates.



fragile family environments as a result, to racial bias, whether expressed as discrimination on the part of individuals in and out of the child welfare ecosystem or as the differential impact of institutions and policies on families of color.

Racial disproportionality: the difference in the rates of children of a given race in the child welfare system and their presence in the overall population. Disproportionality is commonly conveyed as a racial disproportionality index (RDI), the ratio of percentage of children by race at a given point in the child welfare system over their percentage in the general population.

Racial disparity: the difference in outcomes within the child welfare system across racial groups. Disparity captures inequality in experiences between one racial group and another.

One of the most robust results in studies of race and maltreatment is the central role of socioeconomic status as a predictor of maltreatment risk. Indeed, poverty and economic insecurity have been repeatedly identified as key risk factors for maltreatment and interaction with child protective services. Drake goes so far as to say: “The relationship between poverty and child maltreatment is probably the most scientifically certain and largest magnitude effect in the field of child welfare research” (2011, pp. 100). Poverty itself is correlated with additional maltreatment risk factors – substance abuse, mental illness, incarceration, single-parent families – as well as greater exposure to agencies and actors connected to the child welfare ecosystem. In the current study, we do not have

data on maltreatment risk or on a family’s economic status, but see no reason why the persistent relationship between economic fragility and risk of child maltreatment found throughout research should be absent here.³

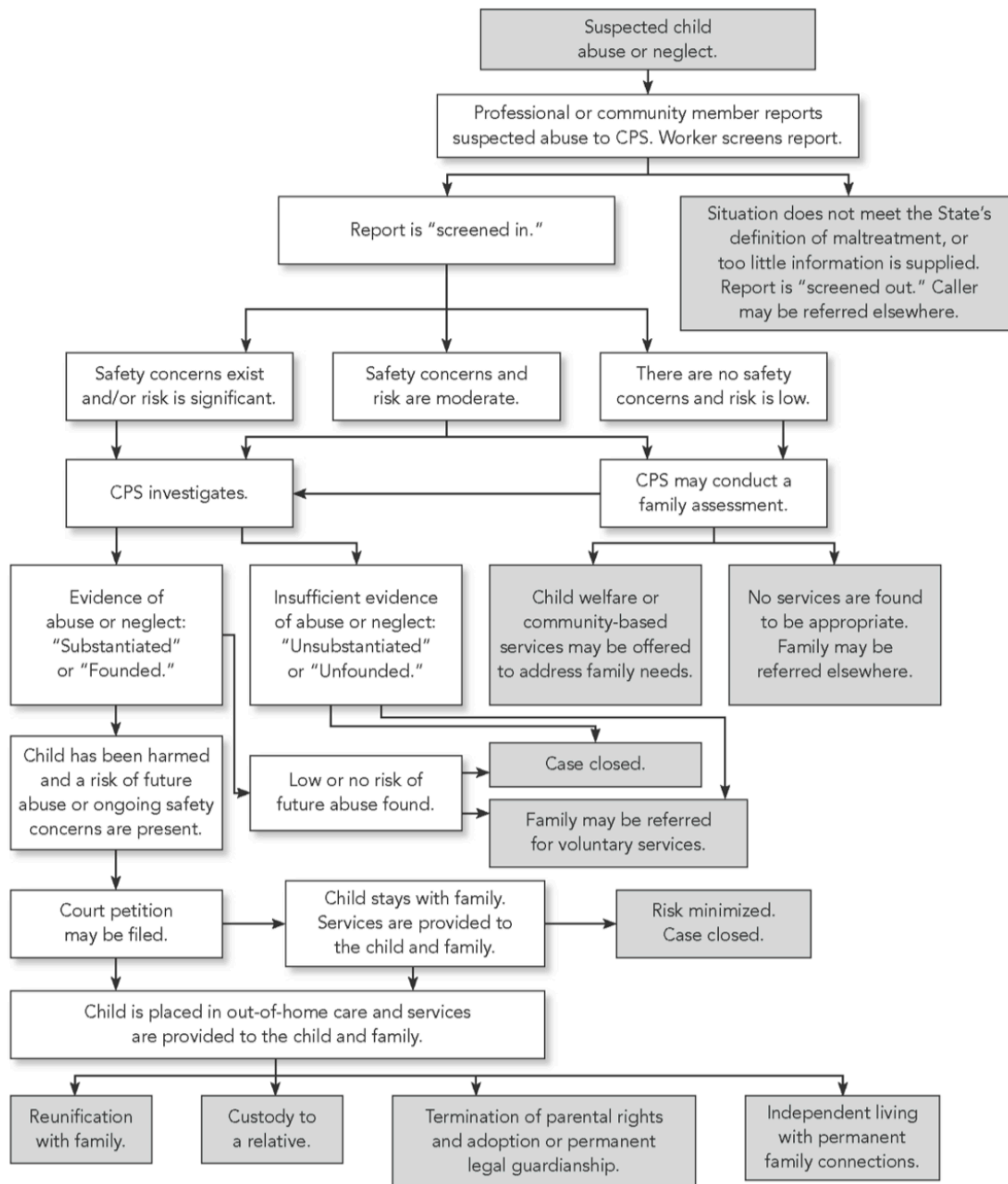
Maltreatment risk and poverty are likely to increase the chance that a child is referred to child protective services. Such a report or referral is the first action on which racial differences can arise. Bias in reporting of child abuse and neglect has been a longstanding concern (Krase 2013) and evidence suggests that poverty, and the greater concentration of Black families in areas of higher poverty, explains much of the disproportionate referral of Black children for alleged mistreatment (Drake, Lee and Jonson-Reid 2009).

Once a referral is made, cases of alleged abuse and neglect are processed through a sequence of decision points. Figure 1 depicts the general series of decisions made as part of the child protection and welfare process. Families are referred to child protection and screened in or out based on the information provided in the referral: e.g., is the alleged victim in the relevant jurisdiction, under 18; does the report include behavior that meets the threshold of maltreatment, is the alleged abuser in a care-taking role; does the agency have sufficient information to locate the child.

³Importantly, the correlation between poverty and interaction with the child welfare system is understood as stemming from structural consequences of poverty – fewer support systems, greater stress – not from the characteristics of parents in poverty.



TABLE 1: CHILD WELFARE SYSTEM FLOWCHART



From Child Welfare Information Gateway, 2013.

Many states, including Virginia, implement a Differential Response System, meaning if a report is accepted, families may be assigned for assessment or for investigation. Assessment is intended to engage the family and the family’s support network, identify family needs, and generate services to meet those needs without seeking to substantiate maltreatment. Investigations seek to determine if abuse or neglect was likely to have occurred and may lead to service provision and/or removal of a child from the home. If investigated, a finding is reported for the investigation substantiating likely maltreatment or concluding the



report was unfounded. At each of these decisions, racial disparity could emerge, such that families of color become more likely than white families to experience a negative outcome.

Placement of children out of their home represents another set of decisions. When abuse or neglect is substantiated or a child is determined to be subject to future harm, the agency must decide if in-home family preservation and support services are likely to be sufficient to keep a child safe or if, instead, a child should be removed from the home and enter foster care. The decision to pursue foster care sets in motion another sequence of outcomes: where a child is placed, in family foster care or residential care; the stability or number of placement transitions a child experiences; the amount of time a child remains in foster care; and the path by which children exit the foster care system.

While the evidence of racial difference in post-referral decisions varies across states and jurisdictions, past work has found more consistent evidence of racial disparity for investigation decisions and entry into foster care, but less for substantiation (Bowman et al 2009; Fluke et al 2011). In addition, children of color are frequently found to have longer stays in foster care, further exacerbating disproportionality in the composition of children in foster care. Finally, studies have often found disparities in exit, in particular, with lower rates of reunification and adoption for Black children (Fluke et al 2011; Hill 2006).

2.2 2018 CHARLOTTESVILLE CHILD WELFARE STUDY

To better understand whether the persistent racial disparities uncovered in other research are present in Charlottesville, and where such disparities are most prevalent, we began examining Charlottesville's child welfare case load in early 2018 in collaboration with Charlottesville's Department of Social Services (Clairbourn, McClintock et al 2018). Using administrative data on reports made to Child Protective Services from July 1, 2014 to June 30, 2017, we assessed racial disproportionality in the composition of referrals, racial disparity in post-referral decisions, and racial differences in a subset of foster care outcomes. We found that Black and multiracial children are overrepresented among referrals to CPS relative to the population, with Black children making up twice the percent of referrals compared to their percent of the local child population and multiracial children reported to CPS at about 1.4 times over their population size. There were no racial differences in whether referrals were screened in, or accepted, though equivalent screen-in rates carry the referral disproportionality forward. The next step, whether to investigate the report or respond with a family assessment for services, was the place in which we saw greater racial disparity, with cases involving multiracial and Black children more likely to be investigated. Once investigated, cases for children of color and White children were equally likely to be substantiated.

In the 2018 study, we were able to follow referrals through the initial decision flow, but were unable to reliably match referrals to a child's removal from the home into foster care. A separate set of analyses examined Charlottesville's foster care cases. Here, again, multiracial children were highly overrepresented among children entering foster care during these three years with a disproportionality index of 3.8. Black children were also overrepresented in this subset, at nearly 1.7 times over their population size. Analysis revealed racial differences in the initial out-of-home placement, with Black and multiracial children more likely to be placed in a foster family compared to White children and less likely to be placed in kinship care.



Looking at all substitute care experienced by a child, however, Black children were more likely to spend some time in kinship care relative to White children. Black children also experienced a greater number of placements, indicating more transitions, compared to White children, but there was no racial disparity in overall time spent in foster care.

As a caveat, while the literature underscores the importance of family economic conditions on child welfare outcomes, and on racial differences in these outcomes, we did not have information on economic characteristics to incorporate into the 2018 study. Consequently, we could not determine the extent to which the differences we noted were driven by potentially greater need among families of color versus differential treatment by the child welfare system.

2.3 THE CURRENT STUDY

This study again relies on administrative data provided by the Virginia Department of Social Services (VDSS). The child-level data from both the Virginia Child Protection Accountability System (CPS data) and from the Foster Care system (FC data) was extracted, merged, and de-identified by the Office of Research and Planning at VDSS. Table 2 outlines the nature of the data provided for the study.

While the 2018 study initially used *referrals* as the unit of analysis, comparing the racial composition of referrals to the population and following the referral through the post-referral decision flow, this study treats the *child* as the unit of analysis, examining the experiences of children, who may be subject to multiple referrals during the study period, as they move through a similar set of decisions.

TABLE 2: THE CHILD PROTECTIVE SERVICES AND FOSTER CARE DATA SOURCES

- **Referral data:** Children referred to Charlottesville DSS from January 1, 2015 to December 31, 2017 (n=1,427). Includes age, race, ethnicity, and gender of referred children; nature of reported maltreatment; the number of referrals for each child during this three year period; whether a child, subsequent to any referral, was ever screened in, was ever investigated, ever received a substantiated finding of maltreatment, and ever received a safety determination of unsafe.
- **Foster care data:** Among the children referred to CPS, children entering care between January 1, 2015 to December 31, 2017 (n=182). Includes child disability status, family structure, and Title IV assistance; date of removal from home, reasons for removal from home, presence of prior entry into foster care, and current placement type; date child existed custody, and reason for exit.
- **Foster care placement history data:** Placement history of children entering foster care between January 1, 2015 to December 31, 2017 (n=182). Includes date of entry for each new placement, type of placement, date of exit for each placement, and reason for exit.



The Virginia Department of Social Services worked with us to merge the administrative data on children referred to Charlottesville’s Department of Social Services with the data from the local foster care system, allowing us to follow a child’s path from report to the decision to remove a child from the home. Consequently, we can analyze the removal decision, an outcome omitted from the 2018 study, and can incorporate information on agency decisions prior to removal in analysis of foster care outcomes.

In addition, this study incorporates information that allows us to dive deeper into the foster care experience by investigating removal reasons and controlling for characteristics like a child’s family structure. As in the 2018 study, however, we do not have access to information about a family’s economic stability, so this remains a possible confounder of the racial differences we uncover in our analysis.

In the next Section, we again assess the evidence for racial disproportionality in who is referred to Social Services and analyze the likelihood of repeated referrals for children by race and ethnicity. Section 4 investigates racial differences in whether a child is screened in and investigated or assessed, along with the outcomes of investigations. Section 5 begins by examining the likelihood of a child entering foster care. In addition, we assess the characteristics of children entering foster care during the study period and investigate the reasons given for removal. In Section 6 we turn to foster care outcomes like current placements and transition experiences. Finally, Section 7 focuses on how children leave foster care.

Defining Race: Measuring race and ethnicity is an imperfect endeavor. Classifications are reductive and may not accurately reflect an individual’s self identity or changing conceptual understanding. We understand race as socially defined with racial differences deriving primarily from the inequality constructed to reinforce racial categories. We are limited, though, in how we can capture racial and ethnic identity in this study. Population estimates from the U.S. Census are not structured to permit dis-aggregation of multiracial children into individual racial categories, and the population of several census-identified minority groups in Charlottesville is not large enough to measure with accuracy. We are left with White, Black, multiracial, Hispanic and Asian as available classifications.⁹ For analysis of referrals and post-referral decisions, we incorporate all five race/ethnicity categories where possible. The local child welfare data includes only 12 referred children identified as Asian over the study period, so as we move further down the post-referral decisions, we reduce the analysis to only White, Black, multiracial, and Hispanic children. Among the smaller number of children entering foster care, only two are identified as Asian and two as Hispanic. Consequently, when we are analyzing foster care outcomes, we focus on White, Black, and multiracial children only.

⁹ In this report, we follow the APA style guide in which racial and ethnic groups are designated as proper nouns and are capitalized.

3 REFERRAL TO CHILD WELFARE



3.1 RACIAL DISPROPORTIONALITY

Racial disproportionality, the over- or under-representation of a racial or ethnic group relative to their population, has consistently been an issue in the American child welfare system. In the 2018 study, the most noteworthy racial difference was found in referrals to the child welfare system. Figure 1 examines referral disproportionality in this new data set. The top panel of Figure 1 presents the percent of reports made to CPS by the race and ethnicity of the child referred compared to the percent of children by race and ethnicity in Charlottesville’s population.⁴

The differences are quite drastic. Black children make up 26.4% of the local population under 18, yet 56% of the referrals made to the child welfare system involve Black children. Similarly, while 8.2% of children in Charlottesville are multiracial, 10.9% of referrals involve multiracial children. Conversely, 24% of referrals involve White children, while 50.8% of Charlottesville’s child population is White. Referrals involving Hispanic and Asian children also occur at rates below what their presence in the population might suggest.

The bottom panel of Figure 1 translates these percentages into a racial disproportionality index (RDI), making the relative degree of over- or underrepresentation more explicit. To account for the uncertainty about the population sizes, particularly for smaller populations, the RDI also incorporates the uncertainty by providing lower and upper bounds derived from the margins of error for population estimates. RDI values of one reflect equal representation of a group in referrals and in the population, RDIs greater than one suggest a population is overrepresented compared to their population composition, and RDIs less than one mean a population is underrepresented.⁵

Black children are the most highly over-represented group in reports made to CPS with an RDI of 2.1.

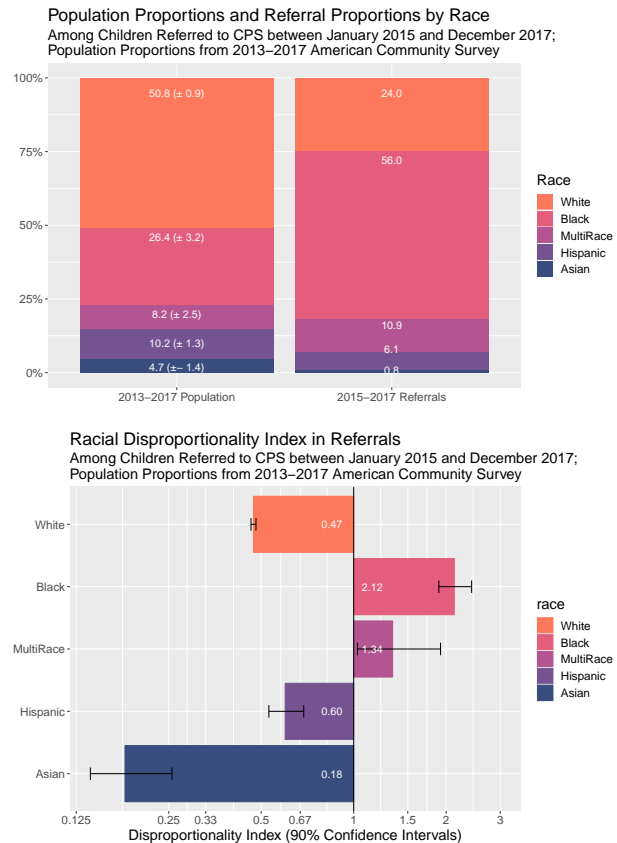


Figure 1: Proportion of children in the Charlottesville population and referred to Charlottesville DSS by race and ethnicity.

⁴Local child population estimates are from the American Community Survey 5-year survey, 2013-2017. Sent to approximately 3.5 million addresses per year, the 5-year estimates provide up-to-date estimates for localities that may be changing rapidly between censuses. As these are estimates derived from surveys, and thus subject to variability due to sampling error, margins of error are provided. Larger margins mean the estimate is less accurate.

⁵Figure 1 graphs the RDI values on a logarithmic scale allowing us to show bars that are equal in length on either side of one. That is, an RDI of two, where children are twice as likely to be in the referral set compared to their presence in the population will be the same length as an RDI of 0.5, where children are half as likely to be in the referral set compared to their presence in the population.



That is, Black children compose about twice the proportion of referred children relative to their population. Multiracial children are overrepresented in referrals by about 34% (though with a confidence interval ranging from 1.03, or near parity, to 1.92, nearly double the population proportion). Hispanic children, who were not analyzed separately in the 2018 study, are under-represented in referrals, as are White children; and Asian children appear especially infrequently relative to their population.

In Charlottesville, referral to CPS is particularly high and disproportionate for Black and multiracial children. This greater contact with the child welfare system from referrals could generate disproportionality at later stages – investigations, removal from home – even if there are no additional racial or ethnic differences in decisions and outcomes post referral. Section 4 will turn to this question of disparity, that is, once referred to the system, whether children of color are subject to different decisions and outcomes.

3.2 REFERRAL FREQUENCY

This over-representation of Black and multiracial children among referrals to CPS could result from reports made on a greater proportion of Black and multiracial children or by individual Black and multiracial children being referred more frequently to CPS, or both. To understand this process better, we examined the referral frequency among children to understand if there are differences in how frequently a report was made on any particular child by race and ethnicity.

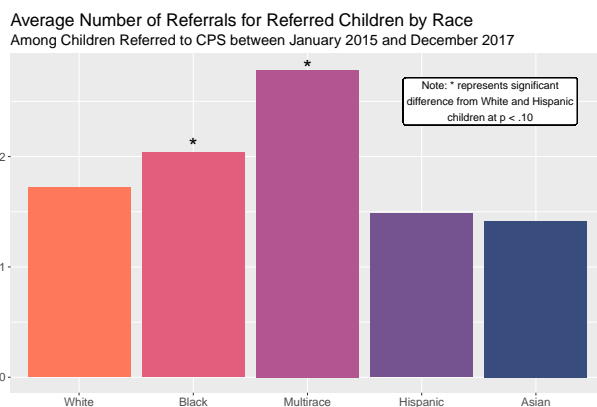


Figure 2: Average number of referrals per child made to the Charlottesville DSS by race and ethnicity.

Figure 2 provides the average number of times children were referred to CPS during this three-year period by race and ethnicity. Black and multiracial children were more likely to be referred more than once, with multiracial children receiving 2.8 reports on average during this period and Black children receiving an average of 2 reports each. Both of these averages are sufficiently greater than the average for White and Hispanic children to be considered statistically reliable.⁶

At the same time, there are a greater number of Black children referred at least once to CPS during this period than any other race or ethnicity combined. Among children referred at any time during this period, 799 are Black, 342 are White, 156 are multiracial, 87 are Hispanic, and 12 are Asian. A greater number of Black children are reported to CPS and, at the same time, Black children are likely to receive more reports than White children. But multiracial children receive the most repeated referrals to the child welfare system.

⁶A statistical test for the difference in average referrals between Black and White children produces a $p = 0.055$; between Black and Hispanic children, the test generates a $p = 0.055$. The tests comparing multiracial children to White, Black, and Hispanic children all generate $p < 0.001$. While the magnitude of the differences in the average number of referrals for Black and multiracial children relative to Asian children is similar, the number of Asian children in the data set is small, making it harder to characterize this population with confidence.



A note about statistical uncertainty: Throughout the study, we will present descriptive statistics – average number of referrals by race, the proportion of children screened in by race. To the extent our concern is with the population of children interacting with the child welfare system in Charlottesville during 2015-2017, we have observations on the full population and the differences presented can be understood as the true observed difference.

To the extent our concern is with not just the children who interact with DSS during this period, but with past and future children who may interact, we will treat the data as a sample generated by a process that would produce additional samples in past or future years. For this purpose, our analysis will present measures of precision and uncertainty about racial differences. These statistical or inferential tests speak to how much information or evidence we have about the process that generated this data and whether such a process is likely to generate similar differences in the future. More specifically, these tests assess how much evidence we have that a world in which there are no racial differences would produce the differences we see in *this* sample of data.

Our measures of precision will generally be credibility intervals, or the range of racial effects that are compatible with the data; these will be presented for predicted outcomes based on statistical models that control for a child's race along with other characteristics of the child's case or experience. Our measures of uncertainty will generally be p -values on inferential tests. These should be understood as measuring the compatibility between a hypothesis of no racial difference and the differences we observe in the study data.

Because the data set is comparatively small, particularly when examining children in foster care, we know that we have limited information to make inferences about the larger processes. Consequently, we will not use an arbitrary p -value to denote differences that are statistically significant or not, but will use the p -value along with the size of the estimated difference, the amount of information available to us, and prior work to make a judgment about whether a difference should be understood as important.

Finally, because such judgments are always necessary and always somewhat subjective, we are committed to a practice of open and transparent inquiry by providing the complete results of multiple model specifications in the appendix and sharing our code online.

3.3 MODELING REFERRAL FREQUENCY

To analyze differences in frequency of referral further, we estimated a statistical model for the number of referrals as a function of race and ethnicity of the child while controlling for other attributes that might account for repeated referrals. More specifically, we estimate a negative binomial model, a common model for predicting counts of events, like number of referrals, in a given period. We include race and ethnicity along with gender, age, and alleged maltreatment indicators as predictor variables. Age and alleged maltreatment, in particular, may represent alternative explanations for a higher rate of referral. Age deserves some additional consideration. Examining the age of a child's first referral (during this three-year study pe-



riod) revealed some racial differences. Multiracial children had the youngest average age at first referral, at 6.1 years, followed by Black children, at 7.0 years. These average ages were both significantly lower than those for White and Hispanic children, whose average ages at first referral were 7.8 and 8.7 respectively. It's not clear why multiracial children should come to the attention of CPS a full year younger than Black children, who themselves are nearly a full year younger than White children when first referred. But age will be an important control variable throughout this study to help us differentiate between racial effects and age effects.

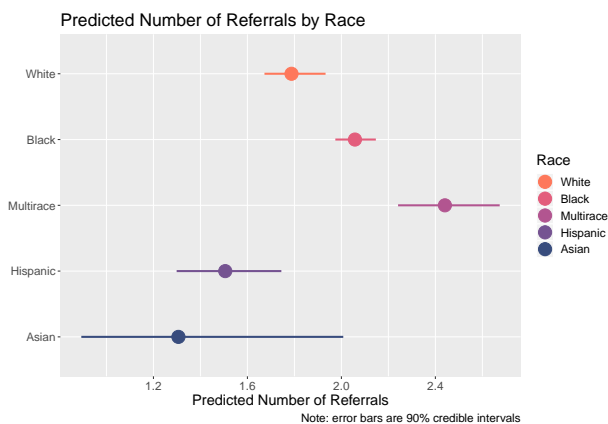


Figure 3: Predicted number of referrals by race and ethnicity based on negative binomial model controlling for gender, age, and alleged maltreatment types.

by the model with a 90% credibility interval around the predicted value.⁷ The credibility intervals provide a measure of the variability of predicted values.⁸

Whether Black and multiracial children are subject to more maltreatment or subject to more biased judgment by those making reports we cannot determine with the available data. But it is telling that even when we account for types of maltreatment reported in referrals, multiracial and Black children are subject to more repeated reports.

This disproportionality in referrals for Black and multiracial children, and the greater number of referrals made on Black and multiracial children, remain a clear point of racial difference, though one generated from outside the Department of Social Services. The greater frequency of calls about multiracial and Black children could reflect greater risk or differences in economic insecurity which might look to outsiders like neglect. Alternatively, it may be driven by more frequent encounters with agencies and actors who are man-

⁷Throughout the report, figures presenting model predictions are based on the fullest model specification presented in the Appendix, the final model in each table, in this case Model 2. Model predictions are generated by first simulating model coefficients, drawn from the coefficient distributions defined by the models' coefficient estimates and standard errors, then assigning all observations the value of a single racial or ethnic category and generating average model predictions, then repeating the model predictions with observations assigned to each possible race or ethnicity group. These average predictions are presented in the figures as point estimates with 90% credibility intervals, defined by taking the 5th and 95th percentile prediction values from the predictions generated by the 1000 simulated model estimates.

⁸Effects estimated from a sample of data are always imprecise. Imprecision arises from, for instance, limited data – there may be hints of a relationship between race and an outcome but we don't have enough cases to be certain – or from variability – there may be some evidence of a relationship between race and an outcome but there is a lot of variation around that pattern, with sufficient counter examples in the data, that we aren't especially certain. The credibility interval seeks to quantify our uncertainty.



dated reporters or by bias on the part of referrers. Other work on the Charlottesville community points to the presence of greater economic insecurities among Black and multiracial children, which speaks to the broader needs to ameliorate economic and racial inequities in Charlottesville. At the same time, individuals referring children to child protective services are generally trying to ensure a child receives the services he or she needs to be healthy. A fuller commitment to funding and providing services that ensure all children can thrive, whether from local government agencies, nonprofit organizations, or elsewhere, would likely help reduce this referral disparity by reducing the appearance of neglect created by routine poverty.

Summary

- A disproportionate number of referrals to CPS are for Black children who compose about twice the proportion of referred children relative to their population. Multiracial children are also over-represented in referrals relative to their population in Charlottesville by about 30%.
- Some of this over-representation stems from the greater frequency of referrals for Black and multiracial children. Multiracial children received, on average, 2.4 referrals and Black children received 2.1 referrals compared to 1.8 referrals on average for White children.

4 CHILD WELFARE DECISION POINTS

4.1 POST-REFERRAL DECISION FLOW

After coming into contact with the child welfare system, children face a number of “decision points” at which caseworkers may decide to escalate the child’s interaction with the system. These decision points include determining whether a child should:

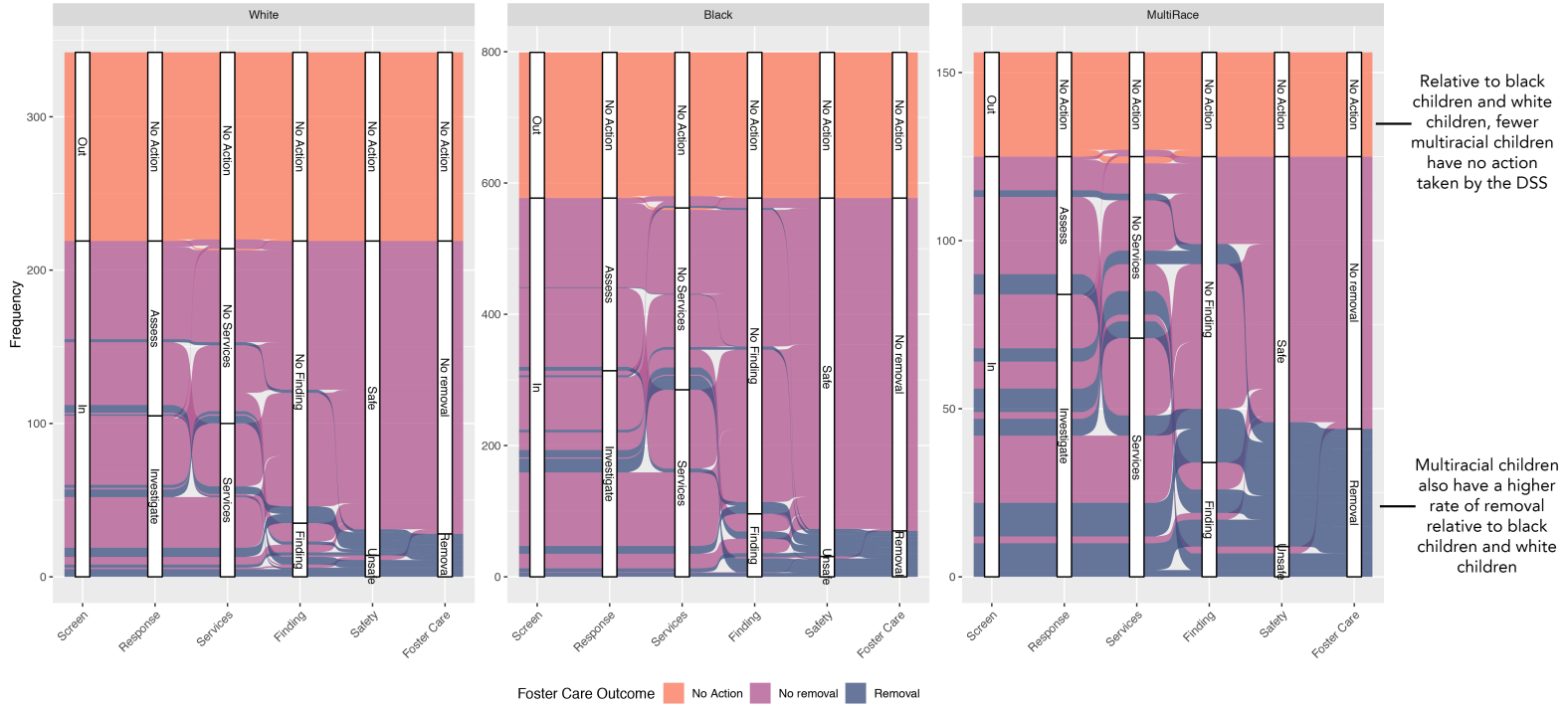
- be initially screened into the system,
- have their case formally investigated by a caseworker,
- have a substantiated finding as a result of an investigation, or
- be considered unsafe in their current living arrangement.

These decision points, visually represented in Table 1, represent a gradual increase in the severity of a case. Determinations at these decision points are made by DSS caseworkers according to criteria set by the Virginia Department of Social Services. In the analysis to follow, we investigate whether any systematic differences across groups are evident at key decision points.





Movement of Children through Post-Referral Decisions by Race
Among Children Referred to CPS between January 2015 and July 2017



Relative to black children and white children, fewer multiracial children have no action taken by the DSS

Multiracial children also have a higher rate of removal relative to black children and white children

Figure 4: Movement of children through screened in, investigation, provision of services, substantiated finding, safety determination, and removal from home by race.

To provide an overall view of the rate at which children are subject to each outcome – screened in versus screened out, investigated or assessed, services provided or no services, a substantiated finding or no finding, a determination of safe or unsafe environments, and, ultimately, removal to foster care – Figure 4 shows the rate at which children move through these decision points by race.⁹ The vertical axis represents the number of children and is different for each group; they are plotted to enable relative comparisons of rates. The colors reflect the final decision – removal to foster care.

Figure 4 provides a high-level view of decision-point paths by race. Multiple differences stand out: (1) the higher rates in which Black and especially multiracial children are screened in compared to White children referred to the agency (the height of the first white bar); (2) the higher rates at which Black and multiracial children are investigated and receive services (the heights of the second and third bars); and (3) the higher rates at which multiracial children are removed from the home (the height of the last bar). We examine each decision point in more detail below.

Looked at another way, Figure 5 presents the racial composition of children at each decision point, without connecting the sequence of decisions. We’ve already seen that Black and multiracial children are over-represented among referrals to CPS relative to their presence in the population. Figure 5 follows this breakdown through subsequent decisions. The number of children subject to each decision is displayed above the relevant bar.

If the proportion of each group remains steady throughout the decision sequence, the apparent over-representation of Black and multiracial children at subsequent decision points is more likely to be a result of their overrepresentation in referrals. Alternatively, if the proportion of Black or multiracial children grows from referrals to screened in to investigations and so forth, this is more likely to be a result of disparate outcomes.

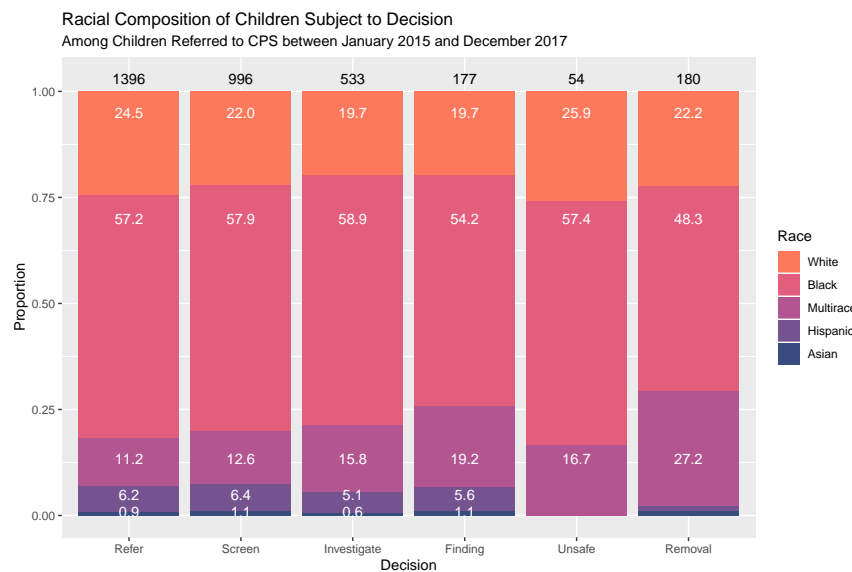


Figure 5: Proportion of children at each decision point by race and ethnicity.

⁹Only the aggregated results for White, Black, and multiracial children are shown here. The number of Hispanic and Asian children in the data set is fairly small and only two children of each ethnicity referred during the study period were removed to foster care. Given this small number, tracing these children through these decisions risks making them identifiable.



Among children referred to the child welfare system during this study period, 24.5% were White. A slightly smaller percent of children screened in were White, 22%, and an even smaller percent of children whose cases were assigned to investigation or whose cases had substantiated findings were White, at 19.7% each. We see a jump in the composition of children whose case was ever designated as unsafe, with 25.9% of these cases involving White children. And among children removed from their homes into foster care, 22% are white, the same proportion of children who were initially screened in.

The pattern is slightly different for Black children. While initially 57.2% of children reported to CPS for suspected abuse or neglect were Black, 57.9% of children whose cases are screened in are Black. The proportion of Black children jumps slightly among the cases investigated, to 58.9%, and then drops more notably among cases with a substantiated finding, to 54.2%. The proportion rises again, so that Black children make up 57.4% of cases receiving a determination of unsafe, and then falls starkly among children taken into foster care, to 48.3%. While the percent of children removed from their homes who are White resembles the proportion of children whose referrals have been screened in that are White, the proportion of children who are removed from their homes is quite a bit less than the proportion of screened in referrals involving Black children.

Among multiracial children, the only other racial or ethnic group with sufficient numbers to discern a pattern, the pattern is one of increasing over-representation. Among referrals, 11.2% involve multiracial children. Among children screened in, the proportion rises slightly to 12.6%. Among cases assigned to investigation, the proportion involving multiracial children jumps more markedly, to 15.8%, with multiracial children composing an even larger proportion of cases with a substantiated finding, at 19.2%. Among children whose cases are determined to be unsafe, the proportion of multiracial children drops a bit to 16.7%. But among children removed from their homes, the proportion who are multiracial jumps decidedly, to 27.2%. Multiracial children exhibit the biggest difference in composition between screened in referrals and removal to foster care.

4.2 MODELING DECISION POINTS

To more fully examine whether decisions in the child welfare system are consistent for children of all races, we developed a series of statistical models for each of the previously discussed decision points as a function of race and ethnicity of the child and controlling for additional characteristics of the case.

The statistical models, primarily logit models, test for systematic differences in the probability of a given outcome on the basis of included characteristics of the case. The results of the models address the question: are cases involving children from one racial group more likely to experience an outcome (e.g., screened in, investigated, substantiated, unsafe determination) than cases involving children from another racial group given they share similar characteristics like gender, age, alleged maltreatment, number of referrals or screened in referrals?

Each decision or outcome is coded as 1 if a child experiences the highlighted outcome, and 0 otherwise. For example, referred children whose cases are accepted or screened in are coded as 1; referrals for children that were screened out are coded as 0. The likelihood of being a 1, screened in, is then modeled as a



function of the race of the child and a series of additional control variables. We focus here on whether the race of the child increases the decreases the probability of an outcome.

The models for each outcome use only the data on the subset of children eligible for a given decision point in each model. Consequently the number of observations for each model decreases as an outcome moves further along the decision tree. As the number of observations decrease, so do our racial categories, as the smallest categories contain too few observations to estimate with precision. For the models with acceptance of referred cases and for assignment to investigation among accepted cases we use five racial or ethnic categories – White, Black, multiracial, Hispanic and Asian. For the model of substantiation of maltreatment, we use only White, Black, multiracial, and Hispanic. And for the model of safety determination, we reduce this further using only White, Black, and multiracial.

The full model results can be found in tables A2 through A5. Here we emphasize the relationship between race and each outcome.

Families are referred to child protection and screened in or out based on the information provided in the referral. Some evidence exists that Black and multiracial children are more likely to have referrals screened in than are White children, and the models based only on race and ethnicity, gender, and age do suggest that all children of color are more likely to be screened in than White children. Once we control for alleged maltreatment and number of referrals, however, the only racial difference that remains is for Black children, who continue to have a higher probability of being screened in compared to White children with similar characteristics.

This is evident in the first panel of Figure 6 which presents the predicted probability of being screened in by race and ethnicity along with 90% confidence intervals.¹⁰ The average predicted probability of being screened in is 72% for Black children compared to 70% for White children, holding all other variables constant. While not a large difference, a statistical test generates a $p = 0.063$; given the consequences of being screened for interaction with the child welfare environment, we view this difference as meaningful.

Once screened into the system, cases are put on one of two tracks -- family assessment or investigation. Investigations occur when there are immediate child safety concerns, when certain forms of maltreatment such as sexual abuse or physical injury are alleged, or when a child has received three or more screened-in referrals in the past year. If the alleged maltreatment does not require an investigation and if there are no immediate safety concerns, screened-in cases can be addressed through family assessment. Family assessments have the potential to be more flexible than investigations and do not imply the same level of severity.

A model of the likelihood that a case is investigated using only race and ethnicity, gender, and age as predictors provides evidence that Black and multiracial children have a significantly higher probability of having their cases assigned to investigation relative to White children. After controlling for forms of alleged maltreatment and the presence of three or more screened in referrals within a year, we continue to see evidence that Black and multiracial children whose cases are screened into the system are more likely than White children to have their cases investigated rather than referred to family assessment.

The second panel of Figure 6 depicts the average predicted probability of assignment to investigation as

¹⁰Predictions are estimated from Model 3 in Table A2.



race varies holding all other characteristics constant. Among screened in children, the average probability of investigation for cases involving White children is 47%; for cases involving Black children, the probability increases to 55%¹¹ and for cases involving multiracial children, the probability is 63%.¹²

Investigations can result in a finding of abuse or neglect, which confirms that a child has been mistreated, or in no finding. For this outcome, we see no evidence of any racial differences. The probability of a substantiated finding from low to high severity is consistent for children in each racial group. The third panel of Figure 6 presents these predicted probabilities.

Finally, DSS caseworkers may also make a determination that a child is unsafe in their current living environment. Unsafe determinations are relatively rare, with only six percent of screened in cases receiving this designation overall. A model of the likelihood of receiving a determination of unsafe as a function of race, gender, and age shows no racial difference. Including additional controls – type of alleged maltreatment, three or more screened in referrals, and indicators for whether a case was investigated and had a substantiated finding – generates a small and marginally significant effect for multiracial children,¹³ such that multiracial children are slightly less likely (at four percent) than White children (at eight percent) with similar characteristics to receive such a designation.

To summarize, on top of the over-representation of Black and multiracial children in referrals to the child welfare system, Black children who are referred during this three-year period are somewhat more likely than White children to be screened in at some point. Further, among screened in cases, those involving Black and multiracial children are more likely to be assigned to investigation. We see no notable evidence of racial disparity for substantiation of maltreatment in investigated cases and little evidence for determinations of safety. These findings, which control for additional characteristics of the child and the case, are in line with the general trends we saw in Figure 4 and generally mirror the findings from the 2018 study of post-decision referrals. We turn next to the final decision in that sequence – entry into foster care.

¹¹A statistical test of this difference generates a $p = 0.023$.

¹²A statistical test of this difference generates a $p = 0.003$.

¹³A statistical test of this difference generates a $p = 0.115$.



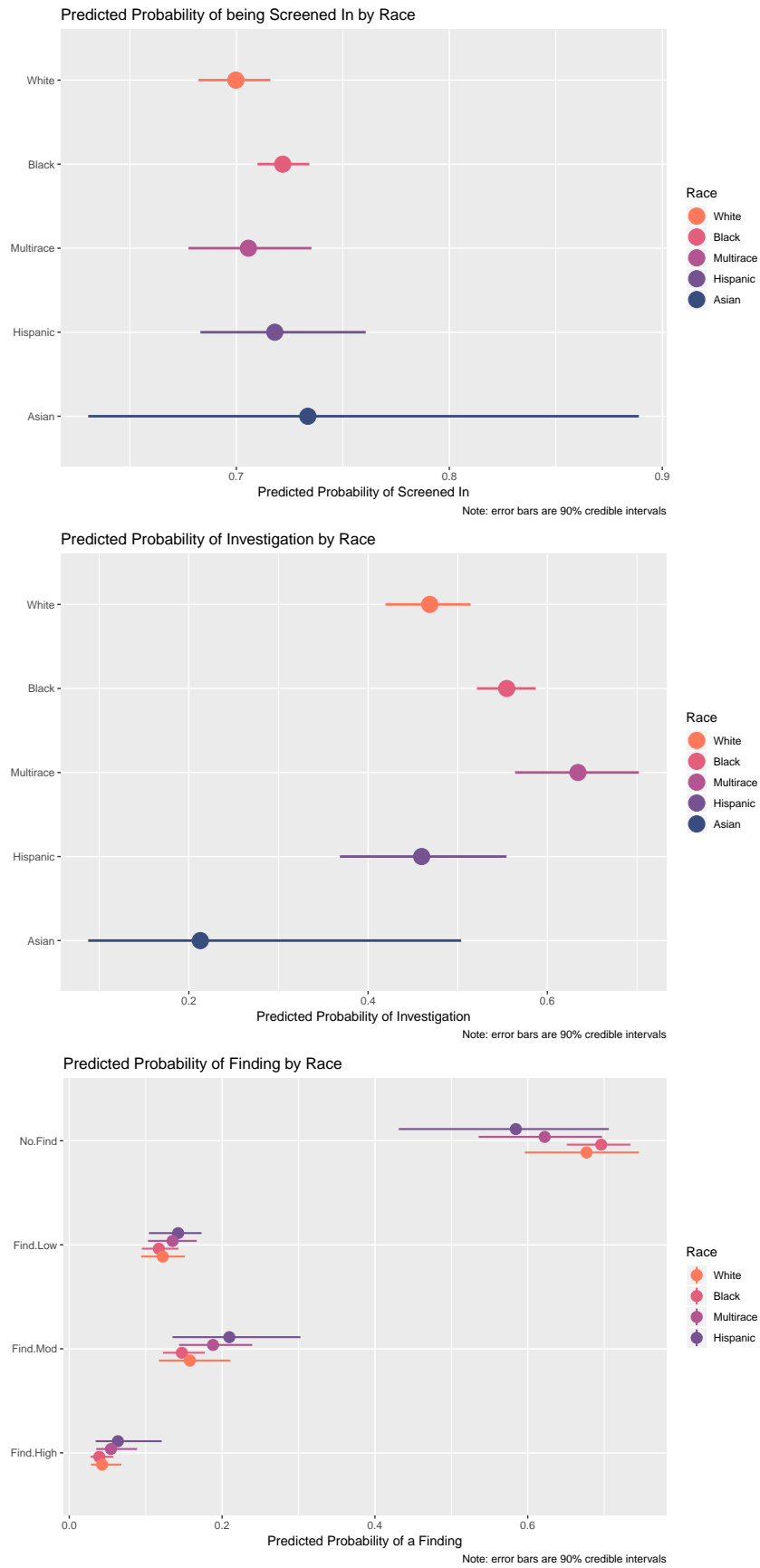


Figure 6: Predicted probability of being screened in (top panel), investigated (middle panel), and having substantiated finding (bottom panel) by race and ethnicity based on a logit/ordinal logit model controlling for gender, age, alleged maltreatment types, and number of prior referrals. Note that the range of the horizontal axis varies for each panel; probabilities cannot be visually compared across panels.

Summary

- Among children referred to CPS, Black children are slightly more likely to be screened in, at 72%, than White children, at 70%.
- Among children with screened-in referrals, cases involving multiracial children are the most likely to be investigated (63%), followed by cases involving Black children (55%). Among cases involving White and Hispanic children, 47% and 46% are assigned to investigation.
- There are no meaningful racial differences in the probability that an investigated case is substantiated or that a child's environment is determined to be unsafe.

5 FROM REFERRAL TO FOSTER CARE

5.1 ENTRY INTO FOSTER CARE

The removal of a child from the home is one of the most challenging and severe outcomes in the child welfare system decision flow, pursued only with court commitment or parental agreement. According to the Joint Legislative Audit and Review Commission's report, Virginia, overall, has the lowest rate of removing children from their homes; the study does not differentiate by race and ethnicity (JLARC 2018). Figures 4 and 5 suggested racial differences in the local rates at which children are removed from their homes and placed into foster care. In particular, multiracial children appeared to have a higher rate of entry into foster care and to be disproportionately represented among children entering care.

Here we investigate removal from the home more fully, developing a logit model of removal from the home as a function of race and ethnicity, gender of the child and age at first referral, type of alleged maltreatment, the presence of three or more screened in referrals within a year, and whether the case was ever investigated, was ever substantiated, and was ever deemed unsafe. Though most children entering foster care will have had their cases investigated and substantiated, children can enter foster care through other paths. Consequently, all children who were ever screened in are included in the model. The full results are provided in Table A6 in the Appendix. Predicted probabilities of removal from the home by

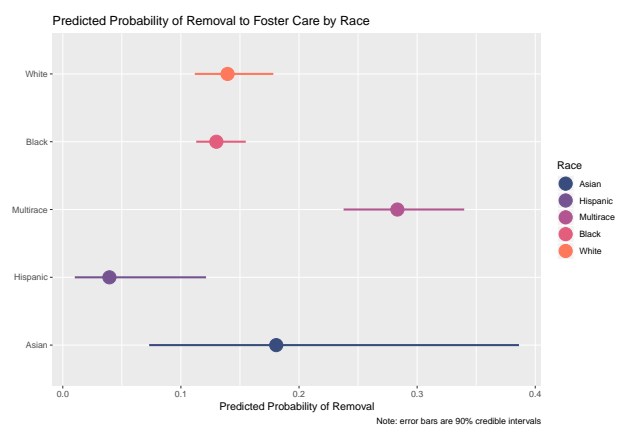


Figure 7: Predicted probability of removal to foster care by race and ethnicity based on a logit model controlling for gender, age, alleged maltreatment types, number of prior referrals, and presence of an investigation, substantiated finding, and unsafe determination.



race and ethnicity are presented in Figure 7.

The model reveals that multiracial children are significantly more likely to be removed from the home relative to White children with the same profile of maltreatment, screened in referrals, investigation track, findings, and safety determinations.¹⁴ Hispanic children, though, are markedly less likely to be removed from the home.¹⁵ Figure 7 shows the magnitude of the effects. Among White and Black children, the average likelihood of entering foster care was 14% and 13%, respectively. Among multiracial children, the likelihood is 28%, or twice as likely. For Hispanic children, the average likelihood is 4%. The number of Asian children in the data is small so the predicted likelihood of entering foster care, 18%, is very imprecise.

This is an outcome we were unable to analyze in the 2018 study and it adds to the weight of evidence of disparate outcomes, particularly for multiracial children. Again, these average probabilities hold many other characteristics constant – alleged maltreatment, number of prior referrals, whether a child was investigated, whether an investigation produced substantiated findings, and whether the environment was deemed unsafe; these are all characteristics that could, and do, affect the likelihood of removal from the home.

It is worth considering what this category – multiracial – means in the local context. While we did not have the individual racial categories for multiracial children in the study data for this project, in the 2018 study, 93% of multiracial children in the local child welfare data were recorded as Black and White (Clairbourn, McClintock et al 2018). There is little reason to expect this to be different less than a year later.

To better understand the racial difference seen here, we examine the reasons for removing a child from his or her home. First, however, we want to understand more about the population of children in foster care.

5.2 CHARACTERISTICS OF CHILDREN IN FOSTER CARE

We describe some additional characteristics of children removed to foster care. These characteristics are important in their own right and will be used as additional controls in subsequent models.

Among the subset of children entering foster care during the study period, 40 are categorized as White, 87 as Black, and 49 as multiracial; only two children are categorized as Asian, two as Hispanic, and two are not categorized. Consequently, throughout the analysis of foster care outcomes, we focus on comparisons between White, Black, and multiracial children.

About 21% of children entering foster care in Charlottesville during these three years have been diagnosed with some disability. This is lower than the rate of documented health problems found among children in foster care statewide, at 31% (JLARC 2018). Comparing across racial groups, 18% of Black children, 29.5% of multiracial children, and 25% of White children entering foster care in Charlottesville received some type of disability diagnosis. Possible diagnoses include emotional disturbances (anxiety, ADHD), intellectual or cognitive disabilities, physical disability, hearing or vision impairments, or other medically-diagnosed conditions requiring special care. Figure 8 shows the proportion for overall disability and each

¹⁴A statistical test of this difference generates a $p < 0.001$.

¹⁵A statistical test of this difference generates a $p = 0.049$.



disability type by race.

Of the children who have been diagnosed, most receive only one type of diagnosis, the most common of which is an emotional disturbance. Twelve percent of the Black children, 27.3% of the multiracial children, and 22.5% of the White children in foster care in Charlottesville are recorded as having received a diagnosis of emotional disturbance. Among the possible disabilities captured here, this is the only diagnosis that differs sharply enough by race to generate a statistically significant test of difference.¹⁶ No other diagnoses showed marked differences by race, and for many types of disabilities only a few children received the diagnosis in question.

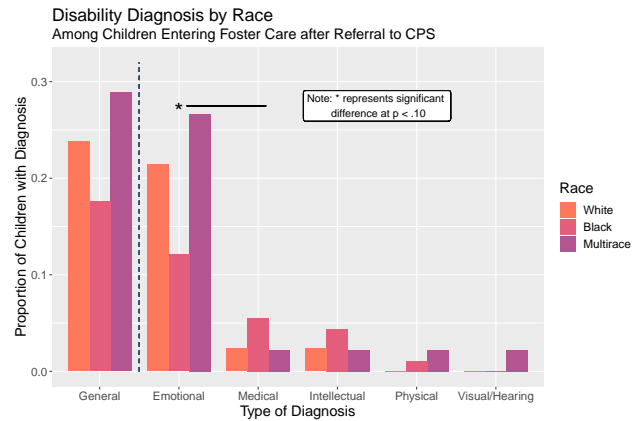


Figure 8: Proportion of children in each racial group diagnosed with each type of disability. 'General' represents the presence of a diagnosis of any type.

Literature suggests that children with disabilities may be more likely to be placed into foster care and to remain in care for a longer time than children without disabilities (Slayter 2016). The greater rate of emotional disturbance among multiracial children could contribute to the greater likelihood of removal to foster care among these children. Because of this, we will use disability diagnoses as a control variable in the analysis to follow.

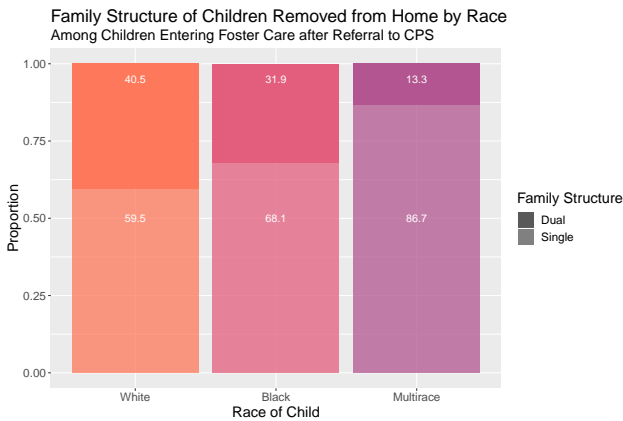


Figure 9: Proportion of children from single- and two-parent households by race among children removed from home.

Family structure may also impact child outcomes, so we include a control for whether children are coming from a family headed by a single parent or by two parents in the models to follow.¹⁷ Looking at how caregiver family structure varies among the different racial subgroups in this population may also help identify race-based disparities.

For caregiver family structure, we see that 60% of White children, 68% of Black children and 87% of multiracial children came from homes with one parent. A significance test on the hypothesis that the distributions among the races were identical generated strong evidence that multiracial children entering foster care are more likely to be coming from single-parent homes.¹⁸

¹⁶A statistical test for independence between race and diagnosis of emotional disturbance generates a $p = 0.087$.

¹⁷We consolidated the child's family structure into a single indicator for one-parent (single mother or father) or two-parent households (married or unmarried). Among the 30% of two-parent households from which children were removed in this period, only five were unmarried couples. Among the 70% of single-parent households from which children were removed, only eight were composed of single fathers.

¹⁸A statistical test for independence between race and diagnosis of emotional disturbance generates a $p = 0.015$.



Finally, the JLARC report noted that younger children are making up a greater proportion of Virginia’s foster care population over time, with children under 12 comprising 58% of all children in foster care across the state in 2018. Among children entering foster care during the study period in Charlottesville, 77% were under 12. Black and multiracial children entering foster care were somewhat more likely to be under 12, at 79% and 78%, compared to White children (71%).

5.3 REASONS FOR REMOVAL

In the child welfare system, children may be removed from their homes through two methods. The first type of removal is voluntary, meaning the parents willingly give up their child to DSS. The second type of removal is court-ordered, which means parents are ordered to relinquish their child to DSS, mostly likely in response to evidence of child abuse or neglect. Among children entering foster care in Charlottesville, nearly all are removed from the home by court-order, but there is a small difference by race, with White children removed voluntarily 10% of the time, multiracial children removed voluntarily 11% of the time, and Black children removed voluntarily only 3% of the time.¹⁹

When a child is taken into foster care, a case worker must cite one or more reasons for removing a child from his or her home. Figure 10 displays the most frequently cited reasons for removal and the proportion within each racial group for whom each reason was recorded. On average, two removal reasons are recorded for each child entering foster care; this does not vary by race of the child.

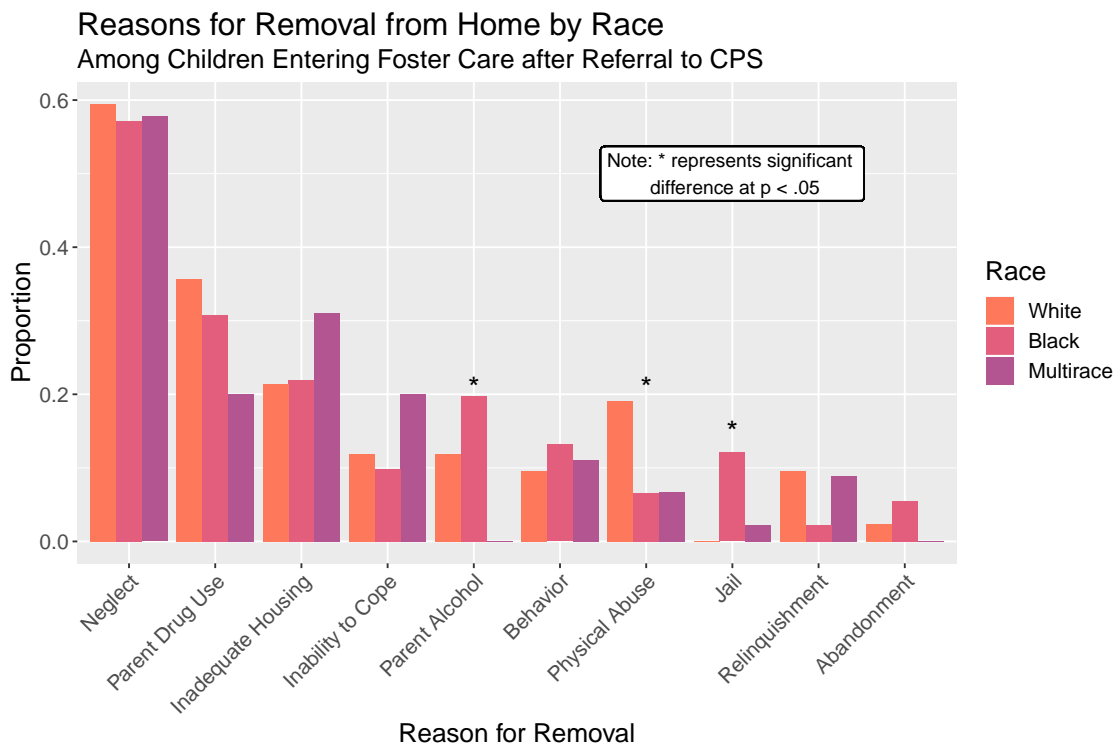


Figure 10: Proportion of children removed from home for each available reason by race.

¹⁹A statistical significance test of these differences generated a $p = .178$, a value that suggests a meaningful difference in the context of this small sample size and the magnitude of the difference.



Overall, the most common removal reasons are neglect (cited in 58% of cases), parent drug abuse (29%), and inadequate housing (24%).²⁰ There is no discernible racial differences in the frequency with which neglect – defined as negligent treatment or maltreatment, including failure to provide adequate food, clothing, shelter or care – is given as a reason.²¹ Parental drug use, or a caretaker’s compulsive use of drugs that is not of a temporary nature, is a more common reason in the removal of White children, but these differences are not statistically significant.²² Similarly, multiracial children appear more likely to be removed due to inadequate housing, that is, housing facilities that are substandard, overcrowded, unsafe or otherwise inadequate, but again, these differences are not strong enough to say with confidence that they represent real differences in the underlying populations.²³

Less common removal reasons include inability to cope (cited in 13% of cases), parental alcohol use (13%), behavior of the child (12%), and physical abuse (10%). Among these reasons, Black children are significantly more likely to be removed because of a parent’s compulsive use of alcohol;²⁴ White children are significantly more likely to be removed for physical abuse.²⁵ Inability to cope, defined as a physical or emotional illness or disabling condition affecting the caretaker, appears to be cited slightly more frequently for multiracial children, though the test of significant differences does not fully support a conclusion of a clear difference.²⁶ There is no suggestion that removal due to

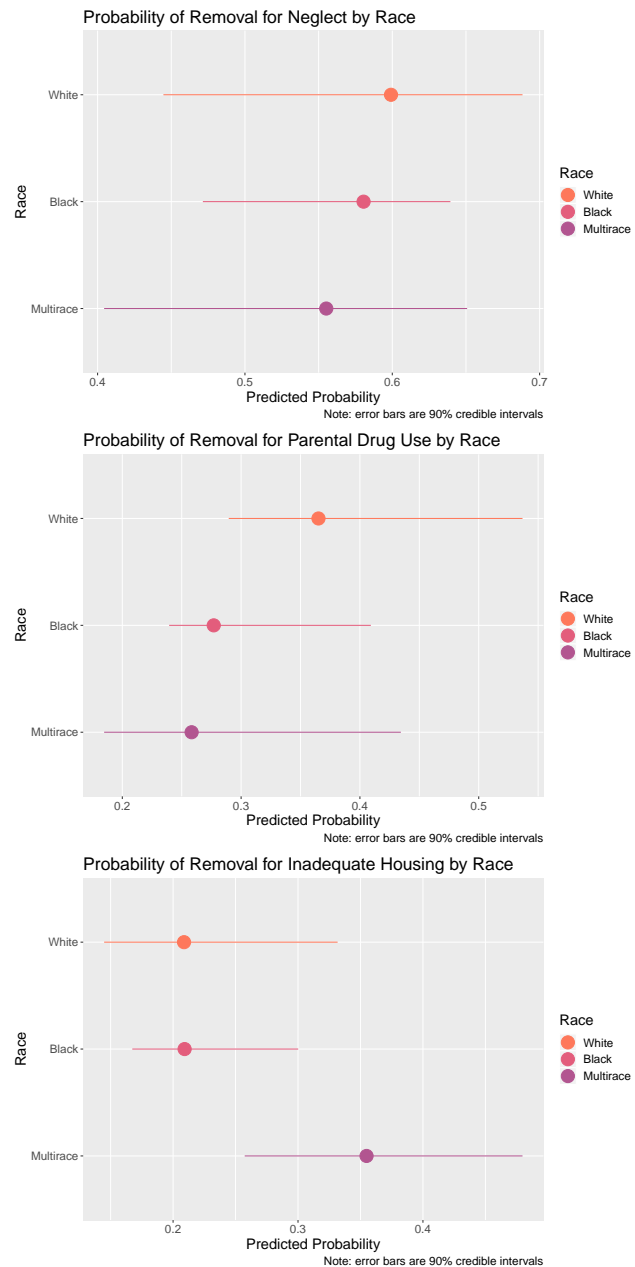


Figure 11: Predicted probability of most frequent removal reasons by race based on logit models controlling for gender, age, child disability status, family structure, alleged maltreatment types, number of prior referrals, and presence of substantiated finding and unsafe determination. Note that the range of the horizontal axis varies for each panel; probabilities cannot be visually compared across panels.

²⁰The JLARC report notes that, statewide, just under half of children are removed because of neglect in 2018; the percent removed for parental drug abuse has been growing, reaching about 28% in 2018.

²¹A statistical test of these differences generates a $p = .981$.

²²A statistical test of these differences generates a $p = .240$.

²³A statistical test of these differences generates a $p = .446$.

²⁴A statistical test of these differences generated a $p = .004$.

²⁵A statistical test of these differences generates a $p = .05$.

²⁶A statistical test of these differences generates a $p = .271$.



a child's behavior varies across race.²⁷

The least common reasons cited include parental incarceration (recorded in 7% of cases), relinquishment (6%), and parental abandonment (3%). Only for parental incarceration is there a discernible racial difference, with this reason being used most often in the removal of Black children.²⁸

While we do not see strong evidence of racial differences in the most common reasons for removal – removal for neglect, parental drug use, and inadequate housing – these impact the most children so we chose to examine them more deeply by developing a logit model for each of these reasons as a function of race while controlling for other characteristics likely to impact removal reasons. The model includes gender, age at removal, whether a child was disabled, comes from a single-parent family, and alleged maltreatment types, number of prior referrals, and the presence of substantiated findings or a determination that the environment is unsafe. The full results are provided in Tables A7 through A8 in the Appendix. Predicted probabilities of removal for each of the most frequent three reasons based on these models are presented in Figure 11.

When controlling for other characteristics, several of which vary by race as well (e.g., family structure, number of prior referrals), a few racial differences begin to emerge. The predicted probabilities in the bottom panel of Figure 11 indicate that inadequate housing is more likely to be cited as a reason for the removal of multiracial children, holding other attributes constant. That is, a multiracial child has an average likelihood of having inadequate housing cited as a reason for removal of 35%; a White or Black child with the same characteristics – same age, gender, maltreatment profile, prior referrals and substantiated findings – has an average likelihood of 21% of removal for this reason.²⁹

A less stark, but still discernible racial difference, appears in the likelihood that parental drug use is cited as a reason for removal (Figure 11, middle panel). In this case, White children have a higher average probability of encountering this reason, at 36%, relative to otherwise similar Black and multiracial children who have a 26% and 27% chance, respectively, of removal due to parental drug abuse.³⁰

Multiple racial differences are evident at the point at which children enter foster care. Most notably, multiracial children have a higher probability of removal from the home relative to otherwise similar White or Black children. Multiracial children, too, are more likely to come from single-parent homes, a condition that can exacerbate economic vulnerability, and to receive a diagnosis of an emotional disturbance. Finally, multiracial children appear more likely to have inadequate housing cited as a reason for their removal, which also speaks to greater economic insecurity.

Removal for inadequate housing, the third most common reason given for a child's entry into foster care, is particularly troubling given the community's ongoing shortage of affordable housing. This, and the racial difference in removal for parental drug abuse, speak to needed services that would be necessary to keep families intact. These services may be needed more by different communities, such that decisions about service investment could have unintentionally disparate impacts.

²⁷A statistical test of these differences generates a $p = .821$.

²⁸A statistical test of these differences generates a $p = .015$.

²⁹A statistical test of this difference generates a $p = 0.145$.

³⁰A statistical test of these difference generates a $p = 0.244$ and $p = 0.263$.



Summary

- Multiracial children have a much higher probability of entering foster care, at 28%, than do White or Black children, at 14% and 13%, or Hispanic children, at 4%.
- Among the most common reasons reported for removal of children – neglect, parental drug use, and inadequate housing – inadequate housing is more likely to be cited as a reason in cases involving multiracial children (at 35%) compared to White and Black children (21%). Parental drug use is slightly more likely to be cited as a reason in cases involving White children (at 36%) compared to Black or multiracial children (at 26% and 27%).

6 FOSTER CARE OUTCOMES

6.1 FOSTER CARE PLACEMENT

We turn next to a set of outcomes and experiences among children entering foster care during this study period, the nature of a child's current placement and placement transitions.

When children are removed from their homes and placed in foster care, there are multiple out-of-home environments in which they could be placed. The vast majority, 71% of the children entering foster care in this period, are currently in a foster family. This is in line with federal law, which requires that children be placed in the least-restrictive setting possible (42 U.S.C. 675(5)). Foster families might be related to the child, kin placement,³¹ or unknown to the child. Kinship placements tend to be more stable than non-kinship placements and have been found in some research to improve the likelihood of legal permanence (Koh 2010); when possible, social services seeks to place children in kinship foster care. Overall, 30% of children entering foster care during these three years are placed with kin and 41% are placed in traditional, unrelated, foster families. This compares favorably with the JLARC's report noting that in 2016, only six percent of children in foster care were in relative care, well below the national average of 32%.

Figure 12 examines the share of Black, White, and multiracial children currently in each type of out-of-home care setting. The starkest difference is for multiracial children, who are most likely to be in a traditional, non-kin, foster family. Fifty-three percent of multiracial children who entered foster care during this period are placed in such settings, nearly twice the percent of multiracial children in relative foster care (27%). Multiracial children are also notably more likely than Black and White children to be in nonkinship foster family care.³²

Black children are slightly more likely to be in non-kin foster family care (38%) than in kinship care (30%). White children are equally likely to be placed with either type of foster family, with 33% of White children in each placement type. Outside of these most common out-of-home care environments, we see additional

³¹Kin placements can also include fictive kin, or adults who are already in a close relationship with a child.

³²A statistical test of these differences generates a $p = 0.011$.



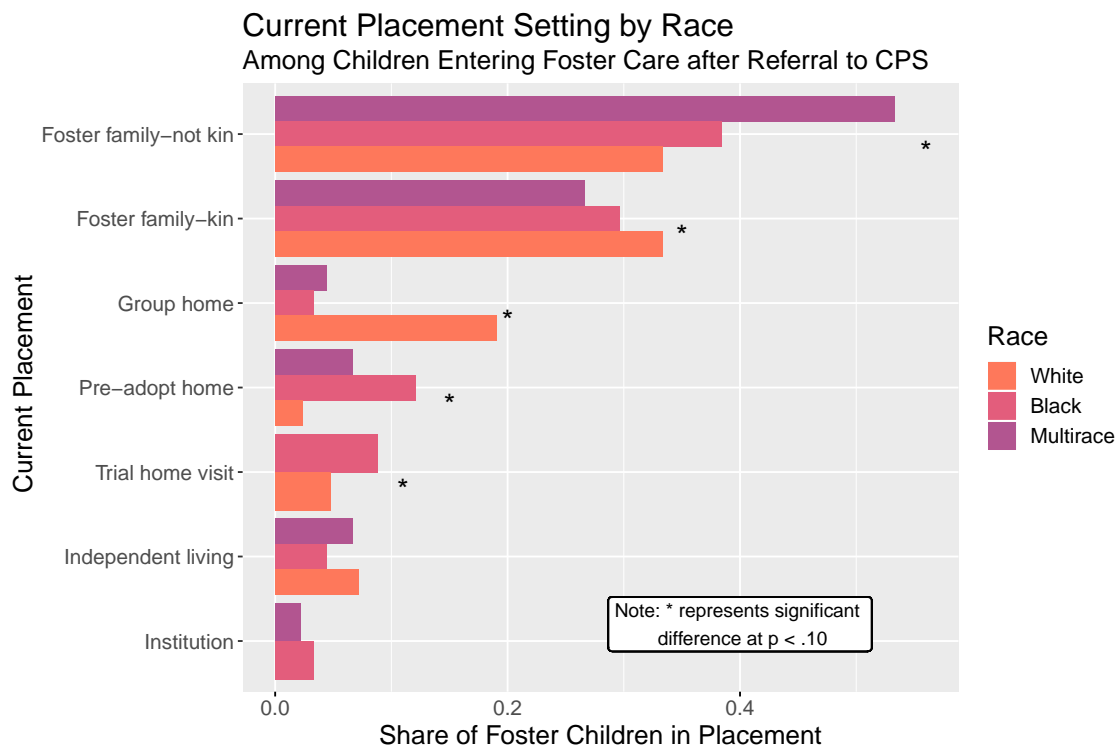


Figure 12: Proportion of children in each placement setting by race

racial differences. White children are more likely than Black or multiracial children to be placed in a group home. Black children are more likely to be in a pre-adoptive home or trial home environment than White or multiracial children.

The differences in placements are shaped by a variety of constraints – the presence of extended family, the resources within a family’s network, the needs of a child – and not a direct result of race. These constraints, though, may themselves vary by race. To better account for some of these differences, we estimated a logit model of placement in kinship care as a function of race and a series of characteristics likely to impact a child’s placement. Kinship care is considered to be the least restrictive setting on the continuum of out-of-home placements and is the first choice of child welfare professionals when a child needs to be removed from his or her home. Building from previous work analyzing kinship care placements (Woodmass et al 2017), we control for a child’s gender, age at removal, and disability status, as well as whether a child comes from a single-parent family and the most frequent removal reasons. The full model is provided in Table A10 in the Appendix.

Figure 13 plots the likelihood that a child would be placed with a kin foster family holding other characteristics equal. Black and multiracial children have very similar average probabilities of kin placement: 29% and 27%, respectively. White children have an average likelihood of kin placement of 34%. While this difference is nontrivial, we have insufficient data to conclude that these differences are reliable.³³

³³A statistical test of these differences generates a $p = 0.546$ for the difference in the average probability between Black and White children, and a $p = 0.498$ for the difference in the average probability between multiracial and White children.



The model does indicate that age is an important predictor – older children are less likely to be placed in kinship care. Children living with a single parent, though, are more likely to be placed in a kin foster setting. The reasons for removal also have an impact: children removed for reasons of neglect are more likely to be in a kinship setting; children removed for reasons of inadequate housing are less likely to be placed with kin. Inadequate housing, in particular, suggests serious economic insecurity. Families that lack appropriate housing may be especially unlikely to have access to a network with the necessary resources to provide support.

We estimated a similar model of placement in a non-kin foster family. Here we continue to see a fairly large difference by race with multiracial children having a much higher probability of placement in a non-relative foster family environment, at 56%. The probability for Black children with similar characteristics is 38%; the probability for White children is 30%.

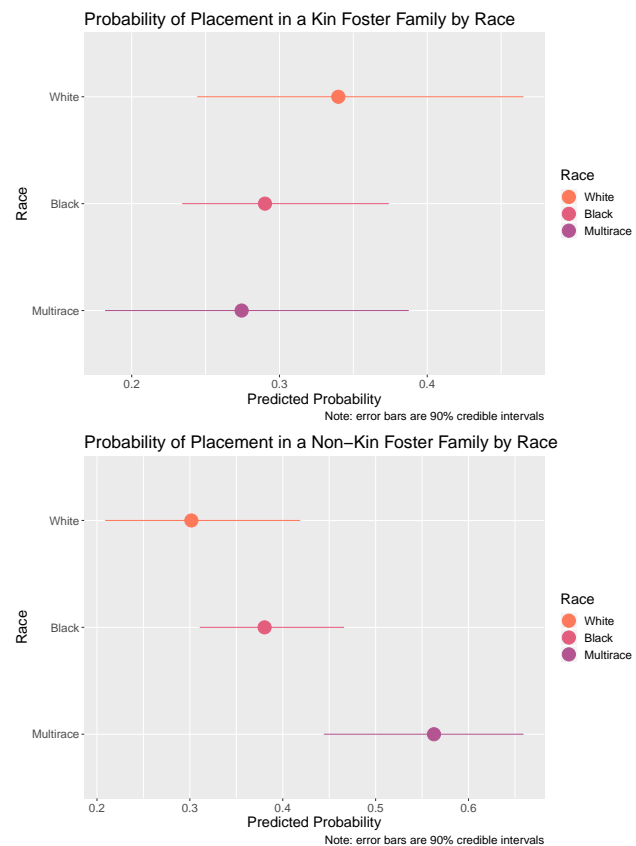


Figure 13: Predicted probability of placement with kin foster family and with non-kin foster family by race based on logit models controlling for gender, age, child disability status, family structure, and reasons for removal.

6.2 PLACEMENT STABILITY

Children in foster care often experience multiple transitions between out-of-home placements. Placement instability – more placement transitions, less frequent stays in a placement – can be traumatic for children and child care professionals work to minimize the number of foster care placements and the overall time spent in foster care.

To assess these outcomes by race, we examine the distribution of number of placements experienced by children in foster care during this study, the number of weeks children spend in each placement, and the number of weeks spent in foster care overall.

The top panel of Figure 14 shows the distribution in number of placements by race. The distributions for each group are overlaid and the median, or middle value of, number of placements is shown. While the median number of placements among multiracial children is higher, at 4 (solid line) compared to 2.2 (dotted line) and 2 (dashed line) for White and Black children, respectively, the differences are not large enough for us to say with confidence that they are generalizable.³⁴ The shape of the distributions is also very similar. There is an unfortunately long tail – generated by one extreme outlier – among multiracial children in foster care, but these distributions provide no evidence of overall racial differences in the placement stability of

³⁴A statistical test of the difference in these medians generates a $p = 0.993$.



children in foster care.

Another dimension of stability is the time spent in each out-of-home placement, with longer stays representing greater stability. This is presented in the middle panel of Figure 14. Again, there is no evidence of substantial racial differences. Multiracial children have the shortest median time in each placement, at 20 weeks (the solid line) and Black and White children have median times in each placement of 24 (dashed line) and 25 (dotted line) weeks.³⁵

The final panel of Figure 14 shows the distribution of overall time in foster care by race. Across all children in foster care, the median time in care is 85 weeks, or about 20 months. This is very similar to the median length of stay in the state overall, 19 months (JLARC 2018). Among multiracial children, the median time spent in all out-of-home care is 94 weeks (the solid line), while Black children have a median time of 82 weeks in foster care (dashed line) and White children have a median of 91 weeks (dotted line).³⁶ The difference in overall time in out-of-home care between multiracial and Black children is more notable here, though we don't have enough information to assert with confidence that these differences are stable.

We estimated models of each of these outcomes, again controlling for additional characteristics like age, gender, disability status, family structure, and key reasons for removal. The full results are provided in Tables A12 - A14 in the Appendix. In each case, we continue to see no discernible differences by the race of a child.

Summary

- Among children in foster care during the study period, 71% were in a foster family environment, with 30% in kinship care. This is much higher than the overall state's rate of kinship care (6%) and in line with the national average (32%).
- Multiracial children are more likely to be in non-relative foster care (56%) compared to be Black and White children (38% and 30%). While White children are slightly more likely to be placed in kinship care, we cannot say with confidence that these differences are reliable.
- There is no evidence of racial differences in placement stability – whether the number of placements or the time spent in a given placement – or in the overall time children spend in foster care.

³⁵A statistical test of the difference in these means generates a $p = 0.749$.

³⁶A statistical test of the difference in these means generates a $p = 0.183$.



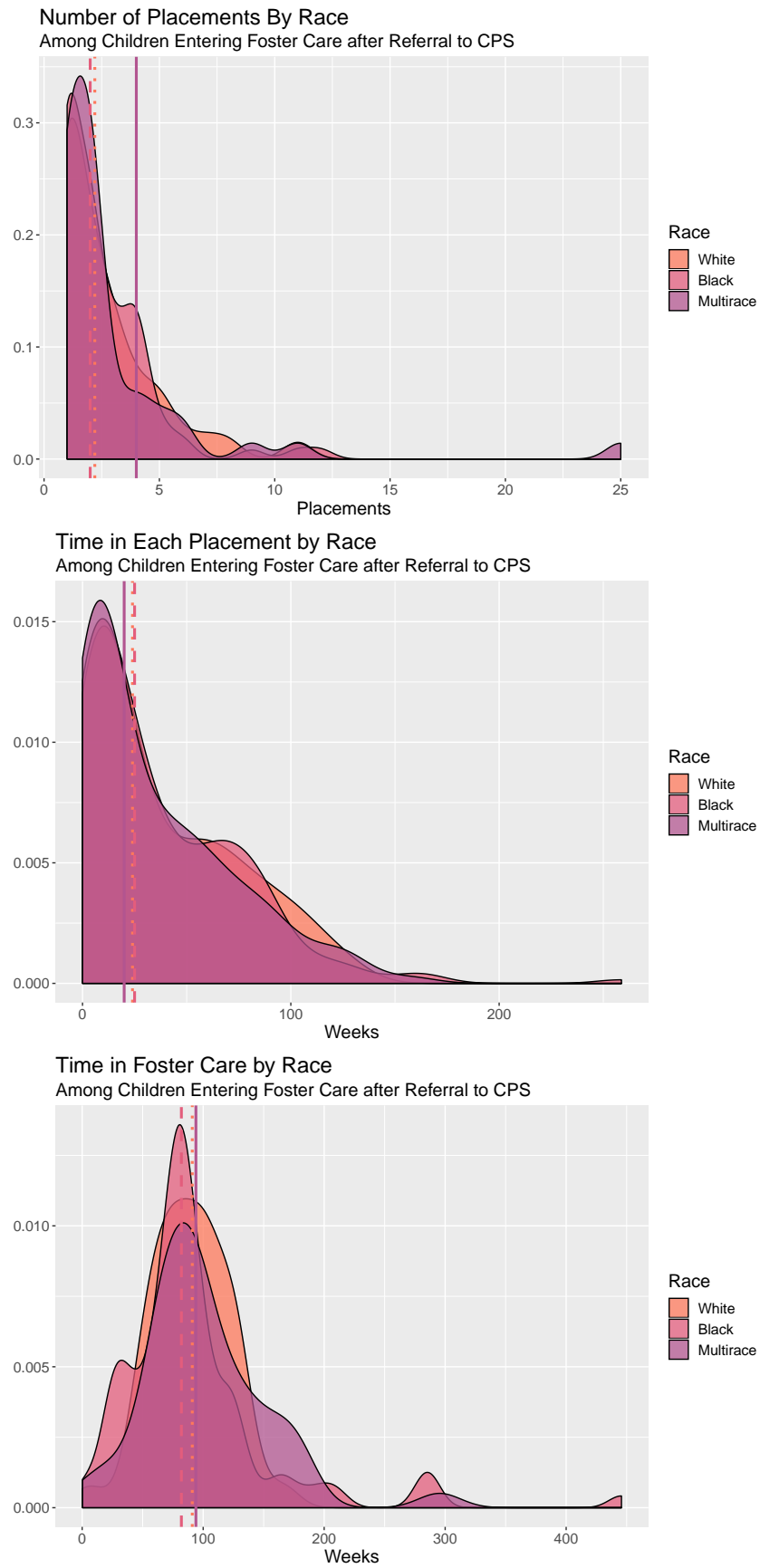


Figure 14: Number of out-of-home placements while in foster care (top panel), distribution of time (in weeks) spent in each out-of-home placement (middle panel), and duration of time (in weeks) spent in foster care overall (bottom panel) by race.



7 LEAVING FOSTER CARE

7.1 CASE GOALS

While in foster care, child welfare professionals work with children and their families to develop a permanency plan detailed in a client’s case goal. Reunification with family is the expected permanency plan for most children, though this is not viable in all circumstances.

Among children entering foster care during this period, reunification was the permanency plan for 36% of cases, followed by adoption (33%), and living with a relative (20%). For purposes of this assessment, each of these are considered permanent outcomes. The remaining case goals are emancipation (the goal in 6% of cases) and long-term foster care (1%). A case goal had not yet been established for five percent of the children who entered care when the data was obtained for this study.

While reunification is the primary goal, some form of permanency for a child is the top priority for children in foster care. Figure 15 displays the proportion of children whose case plan entailed a permanency outcome by race and time in care. Visually and statistically, there is little difference in case goal assignment by race. Permanency outcomes are nearly universal within case goals; only for children who’ve been in foster care for an extended period of time do we see a slight uptick in non-permanency outcomes. The results of additional modeling are provided in Table A15 in the Appendix. These models reinforce the conclusion that a child’s race is not related to the presence of a permanency outcome in the case goal.

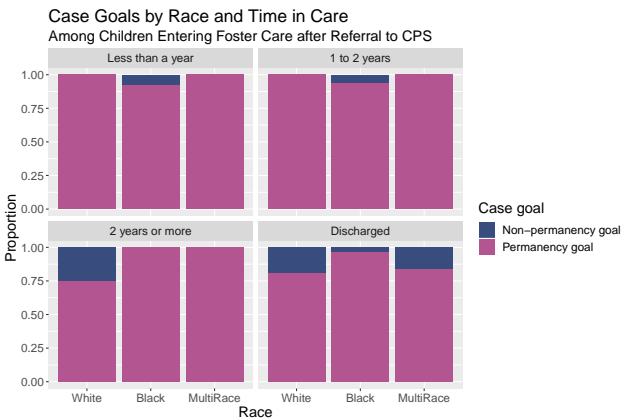


Figure 15: Proportion of children with permanency and non-permanency case goals by race

This does not imply equal outcomes, of course. Case goals may not always describe a child’s actual outcome upon leaving foster care. In order to draw conclusions about how children leave foster care, we turn to an analysis of discharge reasons.

7.2 REASONS FOR DISCHARGE

Among the children who entered foster care during the 2015-2017 time period, 65 were discharged and 113 remained in care at the end of 2017. The children that were discharged experienced one of five possible outcomes: reunification (49%), custody transfer to another relative (20%), adoption (18%), emancipation (11%), and custody transfer to another agency (2%). Because only one child was discharged due to transfer to another agency, that observation was excluded from further analysis.

These outcomes are somewhat better than the overall state outcomes. The JLARC report indicates that 54% of foster care children in Virginia who were 12 or over when entering foster care age out of the fos-



ter care system. Another 26% are reunified with their families. Nationally, the numbers are 25% aging out and 53% exiting to family reunification. For comparison, only 14 children who exited foster care in Charlottesville during the study were 12 or older. Among these, six children – or 43% – aged out of the system and five – or 33% – were reunified with their families.

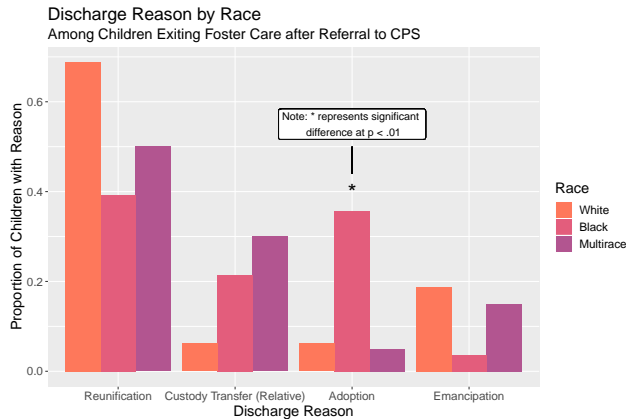


Figure 16: Proportion of children discharged for each reason by race.

Figure 16 shows the proportion of children from each racial group discharged to each outcome. Reunification was the most frequent discharge reason for children of all races. While White children experienced a higher rate of reunification than did Black or multiracial children during this period, the number of observations is small (64 cases), so while sizable, we cannot say with confidence that the differences are generalizable. Multiracial children appear somewhat more likely to exit foster care into the custody of a relative, but again, the number of cases is small enough that we are not confident such differences would obtain in additional data. One

difference is both substantial and statistically significant: Black children are more likely to be adopted relative to White and multiracial children in foster care.

We estimated a multinomial logit model to predict the reason for discharge as a function of race while controlling for additional characteristics: gender, age, the presence of a diagnosed disability, family structure and the most frequent reasons for removal from the home. Figure 17 shows the predicted probability of a child from each racial group experiencing each type of discharge reason.

Black children continue to have a higher likelihood of leaving foster care through adoption relative to White and multiracial children after controlling for characteristics like family structure and removal reasons. White children also have a lower average likelihood of exiting due to a custody transfer to a relative, though this difference is not clearly significant. White children have a higher likelihood of reunification compared to Black children in foster care, however. There is no difference in the probability of aging out of foster care (emancipation) by race.

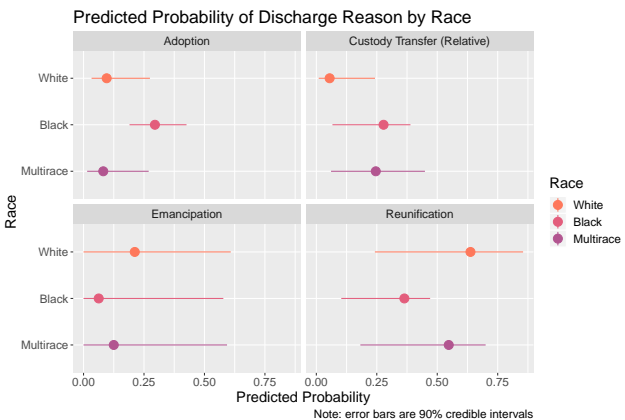


Figure 17: Predicted probability of each discharge reason by race based on a multinomial model controlling for gender, age, child disability status, family structure, and reasons for removal.

As noted earlier (Figure 15), the majority of case goals for children in foster care were permanency goals, with no significant differences by race. Given the importance of securing permanent and stable



homes for children in foster care, we evaluated how often children achieve the expressed case goal.

Finally, Figure 18 shows that in almost all cases, children who have been discharged from foster care experienced outcomes consistent with their case plan goal. The exceptions were primarily children with a reunification goal who, instead, were adopted or whose custody was transferred to a relative. While the achievement of case goals is slightly lower for Black children, the small number of observations involved means we cannot draw strong generalizations that these differences would persist over a larger sample. Overall, this is a positive result; Charlottesville's DSS is generally successful in placing children in permanency outcomes in accord with the collaboratively determined goals.

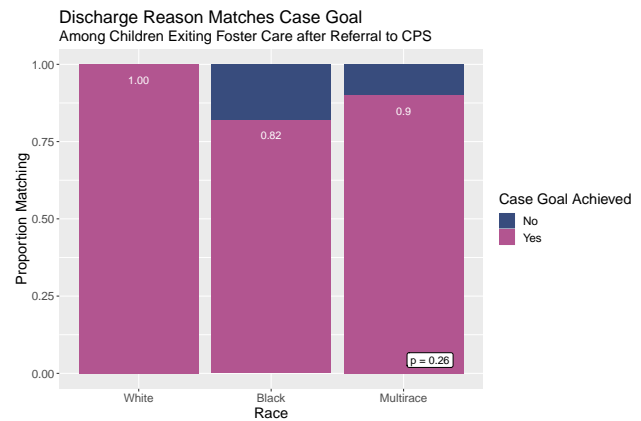


Figure 18: Proportion of children exiting foster care for reasons that match the case goal.

Summary

- Children in foster care are nearly universally working with child welfare professionals towards a permanency goal. This does not vary by race.
- Among the small number of children who exited foster care, almost all experienced outcomes consistent with their case goals.
- Among children who exited foster care during the study period, half were reunified with their families. The rate of reunification was higher among White children. Black children were more likely to be adopted relative to White or multiracial children. Given the limited number of observations, these findings should be considered suggestive.



8 REVIEW & CONCLUSION

This study builds on a 2018 study of racial disparity in Charlottesville’s child welfare system. In the earlier study, we saw that Black and multiracial children are over-represented in the population of children referred to CPS, but that referrals were screened in or out at equivalent rates across racial categories. We noted, as well, that cases involving multiracial and Black children were more likely to be investigated than similar cases involving White children, but that investigated cases were substantiated at equal rates across racial categories. Looking at foster care in 2018, we observed that Black and multiracial children made up a disproportionate percent of children in foster care. Black children were more likely to spend some time in kinship care relative to White children, and experienced a greater number of placements, indicating more transitions, compared to White children, but there was no racial difference in the amount of time spent in foster care.

8.1 REFERRALS

The 2019 study revisited the question of referral disproportionality, this time treating Hispanic ethnicity separately. We continue to see Black and multiracial children making up a disproportionate number of overall referrals to CPS. *More Black and multiracial children are being reported to child safety professionals and these children are reported more frequently. In addition, Black and multiracial children receive the first referral at younger ages.* This remains one of the starkest points of racial difference, and yet it is a decision point over which the Department of Social Services has limited control.

We cannot say to what degree this overrepresentation reflects greater maltreatment risk among Black and multiracial children, greater economic insecurity which could appear to observers like neglect, more frequent interactions with agencies and mandated reporters which amplifies surveillance of Black and multiracial families, or reporter bias such that similar observations among children of a different race or ethnicity elicit different levels of concern. Given the known economic disparities in Charlottesville that intersect with race, there’s little question that systemic, city-wide efforts to ameliorate both economic and racial inequity is necessary to address some part of the racial disproportionality in child welfare referrals. A more robust commitment to funding and services to ensure all children and families can thrive would likely reduce this referral disparity.

That Child Protective Services may be perceived as the central referring entity for all kinds of child and family needs – not just maltreatment – may have the unintended side effect of increasing the exposure of families of color to CPS when other services or providers may be more appropriate. While the Department of Social Services can help families identify these additional services, the strain of interactions with Child Protective Services on families should not be discounted.

Individuals referring children to child protective services are, of course, seeking to ensure a child receives the services he or she needs. It is no doubt uncomfortable to suggest that reporters might be biased in their perceptions of a child’s needs, yet work on implicit bias has clearly demonstrated the widespread presence of embedded and unconscious stereotypes we all bring to bear in our judgments. To the extent



racial disproportionality stems from conscious or unconscious discrimination in the community, it is a challenge for all of us. Local departments have limited agency to effect wide-scale culture change, but this is all the more reason for careful consideration of downstream decisions.

8.2 DECISION FLOWS

In this current analysis, we re-analyzed the post-referral decision flow, this time focusing on the child as the unit of analysis, not the referral. Visualization of children's path through each of the decision points suggests that cases involving Black and multiracial children are screened in at higher rates than cases involving White children, that Black and multiracial children's cases have higher rates of investigation and service provision, and that multiracial children have higher rates of removal from the home. Subsequent analysis looked at each decision in turn, controlling for additional characteristics of a child's case – age, gender, alleged maltreatment types, and prior referrals or screened-in referrals. In statistical models of each decision, we find that Black children have a small but potentially meaningfully greater chance of having cases screened in once referred and, more notably, that cases involving Black and multiracial children have higher probabilities of being investigated. No clear racial difference in substantiation of investigated cases or in determinations of safety emerged from the models.

As in the 2018 study, *the most troubling result here is in the higher likelihood of investigation for multiracial and Black families reported to CPS*. We cannot say that this is a result of bias, though we can say this is not fully accounted for by a different pattern of alleged maltreatment by race or by racial differences in whether children have already received three previously screened-in referrals. There are any number of additional characteristics of the cases or children referred to CPS that may differ by race and which were not included in this data or our analysis. Additional exploratory or qualitative analysis of the fuller array of characteristics of cases that are correlated with a child's case being investigated might help identify the reasons for this difference and whether the likely reasons are warranted or subject to intervention.

8.3 FOSTER CARE ENTRY

Because VDSS matched the records across CPS and foster care for this analysis, we were able to investigate the full flow of a child through the sequence of decisions, including the decision to remove a child from the home. A model of removal reveals that while Black and White children have equivalent likelihoods of removal from the home, *multiracial children are notably more likely to be removed from the home relative to White or Black children with the same profile of maltreatment, screened in referrals, investigation track, findings, and safety determinations*. The magnitude of this difference, more than twice the probability, means a clear understanding what is meant by multiracial in our locality is essential. In our 2018 study, most of the children categorized as multiracial in the administrative data were recorded as being Black-White multiracial. However, this racial categorization is likely to be challenging to capture correctly. Before moving on, it is worth validating this data to ensure it is being recorded appropriately and with reference to the most recent knowledge.



Among children entering foster care during the study period, 21% have a diagnosed disability, somewhat lower than the state-wide rate. The only racial difference that emerges here is for a diagnosis of emotional disturbance, with Black children in foster care about half as likely to have received such diagnoses. Additionally, 70% of children entering foster care in this time frame were from single-parent households, with multiracial children more likely than White or Black children to be from single-parent homes.

The 2019 study also afforded us the opportunity to examine the reasons given for a child's removal from the home. The most common reasons were neglect, parent drug abuse, and inadequate housing. Upon deeper analysis, only removal for inadequate housing generated evidence of racial differences, with this reason being cited more frequently for multiracial children. While less commonly cited as reasons, parental abuse of alcohol, physical abuse, and parental incarceration evidenced some racial differences, with parental alcohol use and incarceration somewhat more likely to be cited as reasons for removal for Black children and physical abuse somewhat more likely to be cited as a reason for removal for White children.

Among these reasons to remove a child from the home, inadequate housing is especially concerning. Adequate affordable housing has been a long-running concern in the Charlottesville community, and with regards to children's welfare, seems to be impacting multiracial children in foster care more strongly. This is another reminder that the welfare of children in our community is tied to the health and well-being of our community more broadly. Improving child welfare is not strictly the responsibility of the Department of Social Services, but relies on the collective investment in and services to promote the economic security of all our citizens.

8.4 FOSTER CARE EXPERIENCES

We re-examined foster care placement, stability, and exit, this time including reasons for removal and additional family characteristics in the analysis. The majority of children entering foster care during the study period are placed in a foster family setting, with 30% in kinship care – far above the statewide rate of 6% – and 41% in a non-relative foster family – far below the state wide rate at 81% (JLARC 2018). Models of placement in relative foster care, controlling for removal reasons and family/child characteristics, revealed small racial differences, with White children slightly more likely to be in kinship care; this difference, though, was not strong enough for us to be confident that it reflects a broader pattern. Models of placement in non-relative foster care, though, suggests more notable racial differences, with multiracial children considerably more likely to experience a non-relative foster family placement setting.

Analysis of placement stability – the number of placement transitions experienced by a child, of placement duration – the length of time children spent in a given foster setting, or overall time spent in foster care generated no evidence of racial disparity.

Finally, nearly all children in foster care are working with child welfare professionals towards a permanency goal, regardless of race. Among children who exited foster care during the study period, nearly half were reunified with their families, 20% had custody transferred to a relative, 18% were adopted, and 11% aged out of foster care. These outcomes compare favorably to outcomes in the Commonwealth. There were, though, a few racial differences. Black children in foster care had a higher probability of exiting to



adoption compared to White and multiracial children, while White children had a slightly higher rate of reunification compared to Black children.

While the goal of families and child care professionals is reunification, this is not always possible. The models of discharge reasons additionally suggest that children removed due to inadequate housing are more likely to exit foster care to adoption or relative custody than reunification; similarly, children removed due to parental substance abuse are more likely to be discharged from foster care to relative custody or emancipation than reunification. These suggest, again, larger system-wide needs within the community, particularly to address the more challenging barriers to thriving families – substance abuse, housing, and mental health. For instance, early work on the effects of supportive housing suggests some benefit to families trying to keep their families intact (Dohler et al 2016).

Given the consensus in the research on the importance of family economic and social conditions in child welfare outcomes, and in understanding racial disparity in those outcomes, that we cannot control for income or economic insecurity remains a limitation of our analysis. Nevertheless, the study highlights some clear questions on which researchers and practitioners might fruitfully focus.

1. What accounts for referral disproportionality? Is disproportionality more apparent by some types of referrals, for some types of maltreatment, or in some places or locations? If so, this could suggest possible targets of interventions.
2. What accounts for the higher rates of investigation among cases involving multiracial or Black children? Do investigated cases share similarities, beyond those included in this study, that could help identify mechanisms? Qualitative case studies or more expansive exploration of case characteristics might help hone in on the reasons, a necessary step in developing a response.
3. What does multiracialism mean in this community? Is this category heterogeneous or dominated by particular multiracial combinations? Is the way race is captured in the data valid for these children and families, insofar as a simple measure of a complex construct allows?
4. To the extent that multiracial category is capturing a real segment of the Charlottesville population, are there attributes or challenges these families are especially likely to experience that might account for the higher rates of entry into foster care or of removal due to inadequate housing? More information about this population, from case studies or enhanced administrative data could shed more light on these findings.



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UVA PUBLIC INTEREST DATA LAB

The UVA Public Interest Data Lab is led by Michele Claibourn and jointly sponsored by the University of Virginia Library, and the Frank Batten School of Leadership and Public Policy as part of the Community Policy, Analytics, and Strategy Lab. This Lab provides data science experience to University of Virginia students in service of the public interest. Lab members

- gain practice exploring, cleaning, analyzing, modeling, visualizing, and communicating about data;
- while working collaboratively, openly, and reproducibly and attending to the ethical implications of our work;
- on a project that serves the needs of community partners working for justice and equity.

Towards those ends, we have shared our syllabus, code, and decisions developed and made during the course of this research on our [GitHub Repository: Data for Democracy, Public Interest Data 2019](#). Please direct questions regarding the Lab or the work represented in our repository to Michele Claibourn, mclai-bourn@virginia.edu.

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UVA COMMUNITY POLICY, ANALYTICS, & STRATEGY LAB

The Community Politics, Analytics and Strategy Lab (CommPAS) sponsors the community-oriented work and collaboration between the Batten School of Leadership and Public Policy and the UVA Library's Stat-Lab. Through courses and research projects, the CommPAS Lab works in partnership with local agencies, nonprofits, and citizen groups to produce actionable research and resources. The CommPAS Lab brings students into community-engaged research where they learn about local challenges and while developing and applying their policy and data science skills in the service of our community partners.



APPENDIX

MODEL RESULTS: REFERRALS

Table A1: Number of Referrals to CPS

The following model estimates the effect of race and other variables on the number of times a child is referred to CPS among children who received at least one referral during the study period. We incorporated variables sequentially into the negative binomial model, first including race, gender, and age and age-squared (Model 1), then adding alleged maltreatment types (Model 2). The model presents the effect of each variable on the expected count.

- **Race:** Across both model specifications, Black and multiracial children experience significantly more referrals compared to White children. Hispanic children receive fewer referrals relative to White children. Asian American children do not differ from White children in the expected number of referrals.
- **Gender:** When controlling for alleged abuse types, which may themselves differ by gender, boys experience slightly more referrals on average than do girls.
- **Age:** Age strongly predicts the number of reports made on a child, with older children receiving more reports up to a point; the effect of squared age indicates that beyond a certain age, the effect of age declines.
- **Alleged Abuse Type:** Children who are believed to be physically abused, neglected, or sexually abused receive more referrals on average.



Table A1: Negative Binomial Model of Number of Referrals

	(1)	(2)
Black	0.149*** (0.053)	0.141*** (0.052)
Multiracial	0.429*** (0.072)	0.311*** (0.070)
Hispanic	-0.174* (0.106)	-0.172** (0.103)
Asian	-0.204 (0.266)	-0.314 (0.261)
Male	0.040 (0.043)	0.057* (0.041)
Gender Unknown	-0.013 (0.288)	0.187 (0.282)
Age Missing	-0.585*** (0.120)	-0.402*** (0.121)
Age	0.050*** (0.015)	0.043*** (0.015)
Age-squared	-0.004*** (0.001)	-0.003*** (0.001)
Alleged Physical Abuse		0.433*** (0.047)
Alleged Physical Neglect		0.392*** (0.049)
Alleged Sexual Abuse		0.456*** (0.084)
Alleged Mental Abuse		0.002 (0.050)
Alleged Substance Exposed Infant		0.056 (0.119)
Constant	0.521*** (0.069)	0.123* (0.081)
Observations	1,396	1,396
Log Likelihood	-2,352.659	-2,261.358
Akaike Inf. Crit.	4,725.317	4,552.716
Note:	*p<0.2; **p<0.1; ***p<0.05	



MODEL RESULTS: POST-REFERRAL OUTCOMES

Tables A2 - A5: Cases of Referred Children Ever Screened In, Investigated, Founded, or Unsafe

The following models estimate the effect of race and ethnicity along with other variables on the probability that a child is ever screened in among children referred to CPS, that a child ever has their case assigned to an investigative track among children screened in, that a child has ever received a substantiated finding of abuse or neglect among children screened in and investigated, and that a child has ever received a determination that they are unsafe among children screened in. We incorporated variables sequentially into the logit/ordered logit models, first including race, gender, and age (Model 1), then adding alleged maltreatment types (Model 2), and finally adding the number of referrals a child received during the study period (for the screened in model), or whether a child has had 3 screened in reports within a year (for the investigation and substantiation models), or whether a child has had 3 screened in reports within a year, has had their case investigated, and has had a substantiated finding (for the determination of safety model) (Model 3). The models present the effect of each variable on the probability that a given decision is made in the child's case.

Table A2: Child Ever Screened In

- **Race:** Across all of our model specifications, Black children referred to CPS are more likely to be screened in relative to White children with similar characteristics. Multiracial, Hispanic, and Asian children appear more likely to be screened in relative to White children when only demographics are used as predictors; once alleged maltreatment and number of referrals are included in the model, these effects disappear.
- **Gender:** Boys are somewhat less likely to be screened in relative to girls when controlling for only demographics and alleged maltreatment; the effect weakens when the number of referrals is added to the model.
- **Age:** Age has a strong relationship with the probability a child reported to CPS has their case screened in, with older children less likely to be screened in than younger children.
- **Maltreatment types:** Every type of alleged maltreatment increases the likelihood that a case is screened in relative to the absence of that maltreatment type. Physical neglect and physical abuse appear to be the most strongly related.
- **Number of referrals:** Holding demographics and alleged maltreatment constant, a greater number of referrals over the study period reduces the likelihood that a child's case is screened in.

Table A3: Child's Case Ever Investigated

- **Race:** Across all of our model specifications, multiracial and black children who have been screened in during the study period are more likely to have their cases assigned to an investigation track than are White children with similar characteristics (including the presence of three or more screened in referrals within a year). Asian children are less likely to have their cases investigated relative to White children.
- **Gender:** Boys are more likely to have their cases assigned to investigation relative to girls; the effect remains consistent across all specifications.
- **Age:** Age does not appear related to the probability that a child's case is assigned to investigation.
- **Maltreatment types:** Allegations of physical abuse, physical neglect, and sexual abuse all increase the odds that a child whose referral has been screened in will have their case investigated. Allegations of sexual abuse are the most strongly predictive.
- **Three or more screened in referrals in a year:** Children who have had three screened in referrals within a 12-month period are more likely to be assigned to investigation.

Table A4: Child's Case Ever Substantiated



- Race: There is no apparent racial difference in the likelihood that an investigated case yields a substantiated finding.
- Gender: The investigation of cases involving boys is slightly more likely to generate a substantiated finding than investigated cases involving girls.
- Age: Age has no effect on whether an investigated case ends with a substantiated finding of maltreatment.
- Alleged Abuse Type: Investigated cases that included allegations of physical neglect or of sexual abuse are more likely to result in a substantiated finding.
- Three or more screened in referrals in a year: Investigations involving children who have had three or more screened in referrals within a year are considerably more likely to generate a substantiated finding.

Table A5: Child's Case Determined Unsafe

- Race: There is no apparent difference in the likelihood that a case involving a Black child receives a determination of unsafe relative to a case involving a white child. However, cases involving multiracial children are less likely to receive a determination of unsafe, relative to those involving White children, when controlling for the presence of an investigation and substantiated findings. In other words, in cases with similar maltreatment allegations and in which the investigation track and substantiated findings are the same, multiracial children are less likely to be deemed unsafe than White children.
- Gender: There is no persistent effect of gender on whether a child's case is determined to be unsafe.
- Age: Age has no effect on whether a child's case is determined to be unsafe.
- Alleged Abuse Type: Cases involving allegations of mental abuse are less likely to receive a determination of unsafe. Cases involving physical neglect are more likely to receive a determination of unsafe initially, but this effect disappears when the presence of an investigation and a finding are included in the model. Cases involving allegations of physical abuse appear less likely to receive a determination of unsafe once the presence of an investigation and a finding are controlled for.
- Three or more screened in referrals in a year: There is no effect of having three or more screened in referrals within a year on the likelihood that a case receives a determination of unsafe.
- Ever investigated, ever substantiated: A substantiated finding strongly increases the likelihood that a child will be determined unsafe.



Table A2: Logit Model of Ever Screened In

	(1)	(2)	(3)
Black	0.331*** (0.147)	0.445* (0.318)	0.633** (0.341)
Multiracial	0.615*** (0.243)	-0.331 (0.523)	0.173 (0.535)
Hispanic	0.475** (0.280)	0.475 (0.614)	0.530 (0.657)
Asian	2.045** (1.064)	0.984 (1.688)	0.946 (1.807)
Male	-0.254*** (0.129)	-0.501** (0.285)	-0.383 (0.301)
Unknown Gender	-2.424*** (1.061)	-1.494 (1.948)	-1.459 (2.395)
Age Missing	-2.381*** (0.255)	-2.303*** (0.558)	-2.994*** (0.653)
Age	-0.123*** (0.013)	-0.162*** (0.030)	-0.186*** (0.033)
Alleged Mental Abuse		4.363*** (1.104)	4.511*** (1.129)
Alleged Physical Abuse		5.038*** (0.446)	5.781*** (0.516)
Alleged Physical Neglect		6.070*** (0.384)	7.002*** (0.483)
Alleged Sexual Abuse		3.791*** (0.572)	4.588*** (0.658)
Number of Referrals			-0.501*** (0.073)
Constant	1.871*** (0.186)	-1.019*** (0.372)	-0.463 (0.398)
Observations	1,396	1,396	1,396
Log Likelihood	-747.320	-199.434	-179.762
Akaike Inf. Crit.	1,512.641	424.869	387.523

Note: *p<0.2; **p<0.1; ***p<0.05



Table A3: Logit Model of Ever Investigated among Children Screened In

	(1)	(2)	(3)
Black	0.285** (0.161)	0.383*** (0.170)	0.390*** (0.171)
Multiracial	0.842*** (0.236)	0.748*** (0.249)	0.755*** (0.250)
Hispanic	-0.207 (0.289)	-0.071 (0.304)	-0.042 (0.304)
Asian	-0.899* (0.695)	-1.451* (0.980)	-1.426* (0.980)
Male	0.294*** (0.130)	0.364*** (0.136)	0.365*** (0.137)
Age Missing	0.873*** (0.382)	0.643* (0.398)	0.684** (0.399)
Age	0.013 (0.014)	-0.004 (0.015)	-0.001 (0.015)
Alleged Mental Abuse		-0.077 (0.151)	-0.108 (0.152)
Alleged Physical Abuse		1.055*** (0.183)	1.038*** (0.184)
Alleged Physical Neglect		1.150*** (0.230)	1.120*** (0.231)
Alleged Sexual Abuse		4.645*** (1.035)	4.636*** (1.035)
3+ screened in referrals in year			1.637*** (0.640)
Constant	-0.361*** (0.183)	-1.682*** (0.299)	-1.695*** (0.300)
Observations	995	995	995
Log Likelihood	-672.501	-619.063	-614.632
Akaike Inf. Crit.	1,361.002	1,262.127	1,255.264

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A4: Ordered Logit Model of Ever a Finding among Children Screened In and Investigated

	(1)	(2)	(3)
Black	-0.099 (0.242)	-0.134 (0.244)	-0.094 (0.247)
Multiracial	0.267 (0.300)	0.203 (0.306)	0.255 (0.308)
Hispanic	0.256 (0.444)	0.339 (0.446)	0.422 (0.448)
Male	0.284* (0.186)	0.349** (0.190)	0.367** (0.191)
Age Missing	-1.870*** (0.755)	-1.806*** (0.764)	-1.717*** (0.765)
Age	-0.023 (0.020)	-0.022 (0.021)	-0.016 (0.021)
Alleged Mental Abuse		0.197 (0.201)	0.150 (0.203)
Alleged Physical Abuse		-0.171 (0.210)	-0.169 (0.211)
Alleged Physical Neglect		0.580** (0.335)	0.543* (0.337)
Alleged Sexual Abuse		0.837*** (0.332)	0.852*** (0.335)
3+ screened in referrals in year			1.227*** (0.414)
Observations	530	530	530
Log Likelihood	-497.385	-492.106	-487.875
Akaike Inf. Crit.	1012.77	1010.211	1003.750

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A5: Logit Model of Ever Unsafe among Children Screened In

	(1)	(2)	(3)
Black	-0.248 (0.335)	-0.200 (0.340)	-0.400 (0.474)
Multiracial	0.010 (0.446)	0.066 (0.451)	-0.922* (0.586)
Male	0.371* (0.289)	0.345 (0.291)	-0.234 (0.382)
Age	-0.042* (0.031)	-0.024 (0.031)	0.033 (0.042)
Alleged Mental Abuse		-0.603** (0.341)	-1.199*** (0.423)
Alleged Physical Abuse		-0.130 (0.374)	-0.949*** (0.450)
Alleged Physical Neglect		2.218*** (1.034)	-0.520 (1.314)
Alleged Sexual Abuse		-15.541 (919.113)	-18.767 (1, 254.924)
3+ screened in referrals in year			0.691 (0.611)
Ever Investigated			-0.329 (1.267)
Ever a Finding			6.619*** (1.348)
Constant	-2.550*** (0.382)	-4.510*** (1.095)	-5.351*** (1.592)
Observations	885	885	885
Log Likelihood	-200.995	-191.876	-93.376
Akaike Inf. Crit.	411.990	401.752	210.753

Note:

*p<0.2; **p<0.1; ***p<0.05



MODEL RESULTS: FOSTER CARE

Table A6: Entering Foster Care

The following model estimates the effect of race and ethnicity along with other variables on the probability that a child enters foster care among children with screened in referrals. We incorporated variables sequentially into the logit model, first including race, gender, and age (Model 1), then adding alleged maltreatment types (Model 2), and finally adding indicators for whether a child had three or more screened in referrals within a year, had an investigated case, a substantiated finding, and a determination that they were unsafe (Model 3). The model presents the effect of each variable on the probability that a child is removed from their home and taken into foster care.

- **Race:** Across all model specifications, multiracial children are more likely to enter foster care relative to White children. Hispanic children are less likely to enter foster care than are White children with similar characteristics.
- **Gender:** While the initial model, controlling only for demographic characteristics, shows evidence that boys are somewhat more likely than girls to enter foster care, this effect disappears when maltreatment allegations, and the presence of three or more screened in referrals, an investigation, a finding, or a determination of unsafe are controlled for in the model.
- **Age:** Age does not have any discernible effect on the likelihood that a child enters foster care.
- **Alleged Abuse Type:** Allegations of physical abuse and of substance-exposed infants increase probability that a child enters foster care.
- **Three or more screened in referrals in a year:** The presence of three or more screened in referrals in a year reduces the likelihood that a child enters foster care when also accounting for whether a case is investigated and substantiated. While this is a counter-intuitive result, we expect that the predictive force of multiple screened in referrals is already captured in the investigation and substantiation, as these multiple screened in referrals increased the likelihood of each of these outcomes.
- **Ever investigated, substantiated, or unsafe:** Cases that are investigated, that are substantiated, and that receive a determination of unsafe are all more likely to result in a child entering foster care.



Table A6: Logit Model of Removal to Foster Care among Children Screened In

	(1)	(2)	(3)
Black	-0.070 (0.241)	-0.003 (0.246)	-0.123 (0.306)
Multiracial	1.267*** (0.278)	1.231*** (0.284)	1.286*** (0.345)
Hispanic	-2.279*** (1.029)	-2.228*** (1.031)	-2.081*** (1.057)
Asian	0.316 (0.812)	0.471 (0.830)	0.456 (0.981)
Age	0.013 (0.019)	0.018 (0.021)	0.028 (0.026)
Male	0.245* (0.188)	0.238 (0.192)	0.028 (0.234)
Alleged Mental Abuse		-0.333* (0.223)	-0.321 (0.272)
Alleged Physical Abuse		0.938*** (0.214)	1.111*** (0.255)
Alleged Physical Neglect		0.496** (0.284)	-0.113 (0.310)
Alleged Substance Exposed		1.143*** (0.385)	1.446*** (0.472)
3+ Screened in Referrals in Year			-1.185* (0.769)
Ever Investigated			0.794*** (0.296)
Ever a Finding			1.469*** (0.287)
Ever Unsafe Determination			3.044*** (0.480)
Constant	-2.072*** (0.273)	-2.846*** (0.407)	-3.591*** (0.479)
Observations	959	959	959
Log Likelihood	-382.233	-369.022	-266.969
Akaike Inf. Crit.	778.466	760.045	563.938

Note:

*p<0.2; **p<0.1; ***p<0.05



MODEL RESULTS: REMOVE REASONS

Tables A7 - A9: Most Common Removal Reasons

The following models estimate the effect of race and other variables among children removed from the home, on the probability that a child is removed from the home for the most frequently recorded reasons: removal for neglect, inadequate housing, and parent drug use. We incorporated variables sequentially into the logit models, first including race, gender, and age (Model 1), then adding child disability diagnosis and family structure (Model 2), then adding alleged maltreatment types, whether there was a substantiated finding and at what severity, and whether a determination of an unsafe environment was made (Model 3). The models present the effect of each variable on the probability that a given reason is recorded as a reason for removal relative to the absence of that reason.

Table A7: Removal for Neglect

- Race: Across all of our model specifications, there are no clear racial effects on the likelihood of children being removed for neglect, the most frequent reason recorded for children in foster care.
- Gender: Gender does not predict removal for neglect under any specification.
- Age at removal: Age at removal does not predict removal for neglect.
- Family structure: Coming from a single-parent home is not related to the likelihood of removal from the home due to neglect.
- Maltreatment types: Only alleged sexual abuse is related to removal for neglect, with reporter identification of potential sexual abuse increasing the probability a child is ultimately removed for neglect.
- Substantiation/Finding: Presence of a low or moderate finding increases the odds that removal for neglect will be recorded for a child.
- Safety determination: When a caseworker indicates that a child's environment is unsafe, the odds that a child will be removed for neglect decrease.

Table A8: Removal for Inadequate Housing

- Race: For removals for inadequate housing, multiracial children are somewhat more likely than White children to be removed for this reason based on Model 3, the model controlling for maltreatment, findings, and safety determination.
- Gender: Gender does not predict removal for inadequate housing under any specification.
- Age at removal: Age at removal is associated with removal for inadequate housing, with older children being less likely to be removed for this reason.
- Family structure: Coming from a single-parent home is not related to the likelihood of removal from the home due to inadequate housing.
- Maltreatment types: Allegations of mental abuse and physical abuse in the referral is associated with a lower probability of removal for inadequate housing.
- Substantiation/Finding: A moderate or high finding reduces the probability that removal for inadequate housing will be recorded for a child.
- Safety determination: When a caseworker indicates that a child's environment is unsafe, the odds that a child will be removed for reasons of inadequate housing increase.

Table A9: Removal for Parental Drug Use

- Race: For removal due to parental drug use, there's initial evidence that multiracial children are less likely to be assigned this removal reason (Models 1 and 2), but when controlling for maltreatment and findings, this effect weakens, suggesting that some of the initial difference may be driven by differences in the preceding outcomes like determination of safety.



- Gender: Males are more likely to be removed for parental drug use.
- Age at removal is associated with removal for parent drug use, with older children being less likely to be removed for this reason.
- Family structure: Coming from a single-parent home is not related to the likelihood of removal from the home due to parental drug use.
- Maltreatment types: The likelihood of removal for parental drug use is related to allegations of physical abuse, which lowers the probability of this reason, to allegations of physical neglect, which increases the odds of this reason, and to substance exposed infants, which increases the probability a child is removed due to parental drug use.
- Substantiation/Finding: A moderate finding reduces the chance that parental drug use will be recorded for a child.
- Safety determination: When a caseworker indicates that a child's environment is unsafe, the odds that a child will be removed for parental drug use increase.



Table A7: Logit Model of Removal for Neglect

	(1)	(2)	(3)
Black	-0.114 (0.381)	-0.107 (0.384)	-0.087 (0.415)
Multiracial	-0.077 (0.437)	-0.017 (0.447)	-0.203 (0.500)
Male	0.155 (0.308)	0.158 (0.313)	0.018 (0.335)
Age at removal	0.013 (0.029)	0.017 (0.030)	0.018 (0.035)
Child Disabled		-0.160 (0.388)	-0.318 (0.437)
Single Parent Family		-0.206 (0.347)	-0.351 (0.385)
Mental Abuse Allegation			0.175 (0.487)
Physical Abuse Allegation			-0.313 (0.376)
Sexual Abuse Allegation			1.369** (0.754)
Physical Neglect Allegation			0.092 (0.430)
Substance Exposed Infant			-0.453 (0.662)
Finding: Low			1.007** (0.601)
Finding: Moderate			1.366*** (0.580)
Finding: High			17.095 (789.689)
Unsafe Determination			-1.037** (0.542)
Constant	0.208 (0.418)	0.337 (0.471)	0.192 (0.594)
Observations	178	178	178
Log Likelihood	-120.920	-120.650	-109.383
Akaike Inf. Crit.	251.839	255.300	250.766

Note: *p<0.2; **p<0.1; ***p<0.05



Table A8: Logit Model of Removal for Inadequate Housing

	(1)	(2)	(3)
Black	0.058 (0.458)	0.100 (0.462)	0.003 (0.502)
Multiracial	0.555 (0.501)	0.539 (0.512)	0.866* (0.595)
Male	-0.172 (0.358)	-0.236 (0.367)	-0.175 (0.410)
Age at removal	-0.054* (0.034)	-0.066** (0.037)	-0.080** (0.043)
Child Disabled		0.497 (0.448)	0.760* (0.510)
Single Parent Family		-0.012 (0.408)	-0.048 (0.450)
Mental Abuse Allegation			-1.504** (0.816)
Physical Abuse Allegation			-1.218*** (0.503)
Sexual Abuse Allegation			-0.412 (0.940)
Physical Neglect Allegation			0.038 (0.500)
Substance Exposed Infant			-0.731 (0.760)
Finding: Low			-0.445 (0.728)
Finding: Moderate			-1.562*** (0.772)
Finding: High			-2.317* (1.416)
Unsafe Determination			1.174** (0.688)
Constant	-0.829** (0.485)	-0.827* (0.554)	-0.057 (0.692)
Observations	178	178	178
Log Likelihood	-96.322	-95.717	-84.310
Akaike Inf. Crit.	202.645	205.435	200.621

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A9: Logit Model of Removal for Parental Drug Use

	(1)	(2)	(3)
Black	-0.248 (0.426)	-0.275 (0.432)	-0.600 (0.515)
Multiracial	-0.750* (0.528)	-0.756* (0.536)	-0.741 (0.664)
Male	0.738*** (0.366)	0.768*** (0.376)	0.937*** (0.446)
Age at removal	-0.142*** (0.037)	-0.137*** (0.038)	-0.077** (0.045)
Child Disabled		-0.192 (0.495)	0.192 (0.575)
Single Parent Family		0.045 (0.395)	-0.079 (0.460)
Mental Abuse Allegation			0.496 (0.575)
Physical Abuse Allegation			-0.813** (0.492)
Sexual Abuse Allegation			-15.798 (983.116)
Physical Neglect Allegation			0.821* (0.593)
Substance Exposed Infant			2.640*** (0.940)
Finding: Low			-0.475 (0.710)
Finding: Moderate			-1.580*** (0.717)
Finding: High			-0.089 (1.103)
Unsafe Determination			1.506*** (0.617)
Constant	-0.021 (0.461)	-0.046 (0.529)	-0.923 (0.759)
Observations	178	178	178
Log Likelihood	-94.912	-94.829	-76.717
Akaike Inf. Crit.	199.825	203.659	185.433

Note:

*p<0.2; **p<0.1; ***p<0.05



MODEL RESULTS: CURRENT PLACEMENT

Tables A10 - A11: Placement in Foster Care

We incorporated variables sequentially into the binomial logit models of whether a child is placed in a kinship foster family and whether a child is placed in a non-kin foster family, first including race, gender, and age (Table A10, Model 1), then adding the diagnosis of a disability and parent household structure (Model 2), and finally adding the top five reasons for removal from the home - neglect, parental alcohol use, inadequate housing, parental drug use, and physical abuse (Model 3). The models, incorporating observations on children removed from their homes during the study period, present the effect of each variable on the probability a child in foster care is placed with kin relative to all other placement environments (nonkinship foster family, group home or institution, pre-adoptive home or trial visit, and independent living) or on the probability a child in foster care is placed with a non-kin foster family relative to all other placement environments.

Table A10: Placement in Kinship Foster Care

- **Race:** Race was not a significant predictor of placement in kinship care.
- **Gender:** Gender was a marginally significant predictor in model (2), when controlling for race, age, child disability status and family structure, with males marginally more likely to be placed with kin; but the effect disappears when adding controls for removal reasons. We don't review this result as robust.
- **Age at removal from home:** There is some evidence, Models 1 and 3, that as a child gets older they are decreasingly likely to be placed in kinship care.
- **Presence of a diagnosed disability:** A disability diagnosis is not related to the probability that a child is placed with relatives.
- **Single parent household:** Coming from a single parent household is a strong and positive predictor of foster placement with kin. Coming from a single-parent household increases the odds that a child is placed in kinship care.
- **Removal reasons:** Among the most common removal reasons, removal for inadequate housing is most strongly related to the probability of being placed in kinship care, with children removed for this reason less likely to be in a kin environment. Removal for neglect is also predictive of placement, though less strongly, with children removed for reasons of neglect more likely to be placed in a kinship environment. Removal due to parental drug or alcohol use or due to physical abuse were not predictive of placement in kinship foster care.

Table A11: Placement in Non-Kin Foster Care

- **Race:** Multiracial children have a higher probability of placement in a non-kin foster family relative to White children across all model specifications.
- **Gender:** Boys are less likely to be placed in a non-relative foster family than are girls.
- **Age at removal from home:** As a child gets older they are less likely to be placed in non-relative foster family environment.
- **Presence of a diagnosed disability:** A disability diagnosis is not related to the probability that a child is placed in a non-kin foster family.
- **Single parent household:** Coming from a single parent household is not related to placement in a non-kin foster home.
- **Removal reasons:** Among the most common removal reasons, removal for physical abuse, for parental alcohol abuse, and for inadequate housing all increases the likelihood that a child is placed in a non-relative foster family.



Table A10: Logit Model of Placement with Kin

	(1)	(2)	(3)
Black	-0.192 (0.405)	-0.322 (0.424)	-0.271 (0.449)
Multiracial	-0.280 (0.475)	-0.581 (0.499)	-0.362 (0.534)
Male	0.338 (0.338)	0.495* (0.353)	0.348 (0.375)
Age at removal	-0.042* (0.032)	-0.044 (0.034)	-0.052* (0.037)
Child Disabled		-0.210 (0.448)	-0.106 (0.476)
Single Parent Family		1.328*** (0.446)	1.454*** (0.467)
Removal: Neglect			0.792*** (0.379)
Removal: Parental Alcohol			0.123 (0.549)
Removal: Inadequate Housing			-1.237*** (0.512)
Removal: Parental Drug			0.379 (0.417)
Removal: Physical Abuse			0.382 (0.616)
Constant	-0.562 (0.445)	-1.456*** (0.558)	-1.930*** (0.705)
Observations	178	178	178
Log Likelihood	-106.642	-101.371	-94.437
Akaike Inf. Crit.	223.285	216.742	212.873

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A11: Logit Model of Placement with Non-Kin Foster Family

	(1)	(2)	(3)
Black	0.292 (0.403)	0.330 (0.406)	0.409 (0.440)
Multiracial	0.901*** (0.455)	1.021*** (0.469)	1.266*** (0.503)
Male	-0.567** (0.320)	-0.608** (0.328)	-0.739*** (0.354)
Age at removal	-0.072*** (0.031)	-0.071*** (0.032)	-0.059** (0.034)
Child Disabled		-0.023 (0.414)	-0.229 (0.442)
Single Parent Family		-0.414 (0.359)	-0.357 (0.388)
Removal: Neglect			-0.345 (0.342)
Removal: Parental Alcohol			1.164*** (0.554)
Removal: Inadequate Housing			1.020*** (0.397)
Removal: Parental Drug			0.083 (0.406)
Removal: Physical Abuse			1.190*** (0.583)
Constant	0.103 (0.434)	0.364 (0.490)	-0.122 (0.619)
Observations	178	178	178
Log Likelihood	-114.394	-113.722	-105.767
Akaike Inf. Crit.	238.787	241.444	235.534

Note:

*p<0.2; **p<0.1; ***p<0.05



MODEL RESULTS: PLACEMENT STABILITY

Tables A12 - A14:

The following models estimate the effect of race and other variables among children removed from the home on the number of different placements children experience in foster care, the time spent in each placement on average, and the overall time spent in foster care. We incorporated variables sequentially into the negative binomial and duration models, first including race, gender, and age (Model 1), then adding child disability diagnosis and family structure (Model 2), then adding common removal reasons (Model 3). The models present the effect of each variable on the expected count of placement transitions or the expected weeks spent in foster care.

Table A12: Number of Foster Care Placements

- Race: There is no evident effect of race on the number of placements experienced by children in foster care.
- Gender: Boys experience fewer placement transitions on average than do girls.
- Age at removal: Age affects the number of average placements experienced by children in foster care, such that older children have more placements.
- Child disability: Children diagnosed with a disability experience more placement transitions, on average.
- Family structure: Coming from a single-parent home is not related to the number of placements children experience in foster care.
- Removal reasons: Only removal for inadequate housing has any relationship with number of placements, such that children removed for this reason have a slightly lower average number of placement transitions.

Table A13: Duration of Time in Individual Placements

- Race: There is no evident effect of race on the average time children spend in individual placements.
- Gender: There is no effect of gender in the average time children spend in individual placements.
- Age at removal: The older a child is at the time they enter foster care, the longer the average time spent in each placement.
- Child disability: Child disability has no apparent effect on the average time children spend in a given placement.
- Family structure: Coming from a single-parent home is not related to the time spent in individual placements.
- Removal reasons: Children taken into foster care due to parental alcohol abuse or drug abuse have a higher average length of time in a given placement.
- Placement type; Placement in a kin or non-kin foster family, relative to other placement types, does not affect the average time spent in a given placement.

Table A14: Duration of Time in Foster Care

- Race: There is no evident effect of race on the average time children spend in foster care.
- Gender: There is no consistent effect of gender on the average time children spend in foster care.
- Age at removal: The older a child is at the time they enter foster care, the longer the average time spent in care on average.
- Child disability: Child disability has no consistent effect on the average time children spend in foster care.
- Family structure: Coming from a single-parent home increases the average time children spend in foster care.
- Removal reasons: Children taken into foster care due to parental alcohol abuse or drug abuse have a higher average length of time in foster care.



Table A12: Negative Binomial Model of Number of Placements in Foster Care

	(1)	(2)	(3)
Black	-0.020 (0.116)	-0.002 (0.117)	-0.017 (0.119)
Multiracial	0.080 (0.128)	0.090 (0.132)	0.057 (0.135)
Male	-0.226*** (0.094)	-0.257*** (0.095)	-0.236*** (0.097)
Age at removal	0.058*** (0.009)	0.055*** (0.009)	0.052*** (0.009)
Child Disabled		0.220*** (0.106)	0.234*** (0.108)
Single Parent Family		-0.064 (0.105)	-0.061 (0.106)
Removal for Physical Neglect			-0.033 (0.094)
Removal for Parental Alcohol Abuse			-0.213 (0.171)
Removal for Inadequate Housing			-0.157* (0.117)
Removal for Parental Drug Abuse			-0.046 (0.119)
Removal for Physical Abuse			-0.151 (0.166)
Constant	0.575*** (0.135)	0.603*** (0.147)	0.731*** (0.175)
Observations	178	178	178
Log Likelihood	-356.654	-354.447	-352.071
Akaike Inf. Crit.	723.308	722.893	728.141

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A13: Duration Model of Time in Individual Placement

	(1)	(2)	(3)
Black	0.077 (0.253)	0.044 (0.255)	0.077 (0.273)
Multiracial	-0.233 (0.290)	-0.300 (0.296)	-0.005 (0.316)
Male	-0.014 (0.211)	0.001 (0.216)	-0.250 (0.233)
Age at removal	0.058*** (0.020)	0.055*** (0.021)	0.059*** (0.024)
Child Disabled		0.037 (0.237)	0.183 (0.247)
Single Parent Family		0.260 (0.240)	0.091 (0.259)
Removal for Physical Neglect			0.265 (0.225)
Removal for Parental Alcohol Abuse			0.800*** (0.319)
Removal for Inadequate Housing			-0.011 (0.262)
Removal for Parental Drug Abuse			0.421* (0.261)
Removal for Physical Abuse			0.056 (0.365)
Placement is Non-Kin Foster Family			-0.045 (0.345)
Placement is Kin Foster Family			0.214 (0.347)
Observations	476	476	476
Log Likelihood	-451.436	-450.801	-444.024
LR Test	9.482** (df = 4)	10.751** (df = 6)	24.306*** (df = 13)

Note:

*p<0.2; **p<0.1; ***p<0.05



Table A14: Duration Model of Time in Foster Care

	(1)	(2)	(3)
Black	0.204 (0.245)	0.076 (0.251)	0.183 (0.256)
Multiracial	-0.359 (0.284)	-0.527** (0.293)	-0.276 (0.303)
Male	0.144 (0.198)	0.262* (0.203)	0.016 (0.218)
Age at removal	0.050*** (0.021)	0.056*** (0.021)	0.077*** (0.022)
Child Disabled		-0.336* (0.239)	-0.187 (0.249)
Single Parent Family		0.509*** (0.224)	0.519*** (0.239)
Removal for Physical Neglect			0.110 (0.209)
Removal for Parental Alcohol Abuse			0.695*** (0.313)
Removal for Inadequate Housing			-0.222 (0.247)
Removal for Parental Drug Abuse			0.779*** (0.247)
Removal for Physical Abuse			0.130 (0.335)
Observations	178	178	178
Log Likelihood	-468.158	-464.663	-454.918
LR Test	9.870*** (df = 4)	16.860*** (df = 6)	36.351*** (df = 11)

Note:

* p<0.2; ** p<0.1; *** p<0.05



MODEL RESULTS: LEAVING FOSTER CARE

Table A15: Case Goal

We estimated a logit model for the presence of a permanency outcome in a child's case goal among children removed from the home. We incorporated variables sequentially into this model, first including race, gender, and age (Table A15, Model 1), then adding whether a child is diagnosed with a disability, the family structure of their birth home, and the number of weeks a child has been in foster care (Model 2), then adding common removal reasons (Model 3). The models present the effect of each variable on the probability of a child's case goal being a permanency outcome (reunification, adoption, living with a relative) relative to a non-permanency outcome (emancipation, long-term foster care).

- **Race:** Race has no evident relationship with whether a child's case goal involves a permanency outcome across any model.
- **Gender:** There are no differences by gender in whether a child's case goal involves a permanency outcome across any model.
- **Age at Current Removal:** The age of a child when removed from the home is consistently related to the presence of a permanency goal in a child's case plan, with older children less likely to have a permanency outcome as a goal.
- **Child Disability:** Disability is not related to whether a child's case goal involves a permanency outcome.
- **Family structure:** The family structure of a child's birth family is related to permanency goals; children from single-parent homes are more likely to have a permanency outcome as a case goal.
- **Weeks in Care:** The number of weeks a child has been in the foster care system is not related to whether a child's case goal involves a permanency outcome.
- **Removal reasons:** The reason for a child's removal from the home are also predictive of a permanency goal as part of the case plan. Children removed due to parental drug use, parental alcohol use, or inadequate housing are all less likely to have a permanency goal.



Table A15: Logit Model of Permanency Case Goal

	permanency		
	(1)	(2)	(3)
Black	-0.216 (0.602)	-0.243 (0.628)	-0.434 (0.797)
Multiracial	0.364 (0.735)	0.045 (0.770)	-0.236 (0.966)
Male	0.236 (0.495)	0.203 (0.513)	0.651 (0.695)
Age at Removal	-0.154*** (0.049)	-0.156*** (0.052)	-0.346*** (0.088)
Child Disabled		0.114 (0.590)	0.084 (0.726)
Single Parent Family		0.857* (0.542)	1.238** (0.686)
Weeks in Care		0.002 (0.003)	-0.002 (0.004)
Removal: Neglect			-0.568 (0.686)
Removal: Parental Drug			-1.245* (0.784)
Removal: Inadequate Housing			-2.400*** (0.706)
Removal: Parental Alcohol			-2.312*** (0.843)
Constant	3.385*** (0.786)	2.707*** (1.004)	7.070*** (1.798)
Observations	177	177	177
Log Likelihood	-58.325	-56.972	-40.306
Akaike Inf. Crit.	126.649	129.944	104.612

Note:

*p<0.2; **p<0.1; ***p<0.05



Tables A16 and A17: Discharge Reason

We estimated a multinomial logit model for discharge reason among children who exited foster care during the study period, to estimate the relationship of case characteristics with the likelihood of each of the four outcomes (reunification, adoption, custody transfer to a relative, and emancipation) simultaneously. We incorporated variables sequentially into this model, first including race, gender, and age (Table A16, Models 1-3), then adding whether a child is diagnosed with a disability and the family structure of their birth home (Table A16, Models 4-6). Finally, we present a model incorporating reasons for removal (Table A17). The results for emancipation in this third model are quite fragile, given the small number of observations that experienced this outcome (only 7), so the results for this outcome should not be treated as robust or meaningful. The models present the effect of each variable on the probability of emancipation relative to reunification, on adoption relative to reunification, and on custody transfer relative to reunification.

- **Race:** Across all model specifications, Black children were more likely than White children to exit foster care through adoption and custody transfer versus reunification. Multiracial children were more likely than White children to exit to custody transfer versus reunification.
- **Gender:** Across all models, males were less likely to exit to custody transfer than reunification compared to girls. The effects of gender on probability of emancipation and adoption were inconsistent across model specifications.
- **Age at removal from home:** As a child gets older, they become less likely to achieve any of these discharge outcomes (reunification, adoption, and custody transfer) and more likely to age out of the system without achieving permanency. In addition, older children are consistently less likely to be adopted relative to reunification.
- **Presence of a diagnosed disability:** Model (4) suggests that children who have been diagnosed with a disability were more likely to be emancipated versus reunified with families, but the chances of adoption or custody transfer compared to reunification were not affected by their diagnosis.
- **Family structure:** There was no effect of coming from a single parent home on the reason for discharge.
- **Removal reasons:** Focusing on adoption and custody transfer compared to reunification, removal in response to parental drug use increased the odds that a child lives with a relative rather than reunifies with parents. Removal for inadequate housing also increases the probability of adoption and transfer to a relative over reunification. Removal for neglect has no reliable relationship with discharge reason.





Table A16: Multinomial Logit Model of Discharge Reasons

	Emancipation (1)	Adoption (2)	Custody Transfer (Relative) (3)	Emancipation (4)	Adoption (5)	Custody Transfer (Relative) (6)
Black	0.429 (1.732)	2.799*** (1.355)	1.930* (1.191)	-2.244 (3.266)	3.097*** (1.387)	1.872* (1.212)
Multiracial	0.357 (1.455)	0.499 (1.656)	2.068** (1.207)	-1.367 (2.051)	-0.841 (2.186)	1.851* (1.284)
Male	-2.060* (1.458)	1.921** (1.041)	-1.209* (0.749)	-3.637* (2.570)	1.187 (1.158)	-1.310** (0.789)
Age at Removal	0.662*** (0.285)	-0.329*** (0.135)	0.073 (0.078)	0.767*** (0.333)	-0.459*** (0.186)	0.105 (0.086)
Child Disabled				3.531* (2.498)	2.393 (1.954)	-1.097 (1.301)
Single Parent Family				3.408 (3.490)	-1.391 (1.214)	0.874 (1.005)
Constant	-9.589*** (4.480)	-2.715** (1.447)	-2.590*** (1.246)	-13.783*** (6.476)	-1.353 (1.794)	-3.235*** (1.496)
Observations	64	64	64	64	64	64
Residual Deviance	98.645	98.645	98.645	84.847	84.847	84.847
Akaike Inf. Crit.	128.645	128.645	128.645	126.847	126.847	126.847

Note:

*p<0.2; **p<0.1; ***p<0.05

Table A17: Multinomial Logit Model of Discharge Reasons

	Emancipation (1)	Adoption (2)	Custody Transfer (Relative) (3)
Black	-75.731*** (0.00005)	3.946** (2.137)	2.669** (1.390)
Multiracial	-35.910*** (0.127)	-0.075 (2.586)	2.163* (1.488)
Male	2.943* (2.292)	1.689 (1.537)	-1.582** (0.938)
Age at Removal	26.596 (35.916)	-0.491*** (0.241)	0.138* (0.097)
Child Disabled	77.536*** (0.00005)	2.786 (2.572)	-1.457 (1.492)
Single Parent Family	202.353*** (2.419)	-1.339 (1.575)	1.210 (1.172)
Removal for Parental Drug Use	8.839*** (2.292)	-0.788 (1.714)	1.949** (1.065)
Removal for Neglect	166.662*** (0.015)	0.699 (1.535)	-0.613 (0.947)
Removal for Inadquate Housing	-137.456*** (0.00000)	3.786*** (1.729)	2.371*** (1.176)
Constant	-619.838*** (2.419)	-3.291 (2.731)	-4.775*** (1.993)
Observations	64	64	64
Residual Deviance	98.645	98.645	98.645
Akaike Inf. Crit.	117.405	117.405	117.405

Note:

*p<0.2; **p<0.1; ***p<0.05

