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Who gets a CASA? Selective characteristics of children appointed a CASA advocate

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ABSTRACT

Prior research examining the effectiveness of Court-Appointed Special Advocates (CASA) as an intervention for improving the outcomes of children in state custody has been hindered by selection bias, because children may be selected to receive CASA representation based on non-random characteristics. Selection bias poses a strong threat to internal validity, and researchers have struggled to isolate the effects of CASA services on child and case outcomes. The present study examines the extent of selection bias in the CASA assignment process over a 2-year period for a full population of foster children in regions served by CASA programs in Texas (N = 32,349), thereby increasing the capacity to control for selection characteristics and supporting causal inference in ongoing studies. This analysis of CASA and state child welfare administrative data examines differences in the baseline child-, family-, and case-level characteristics of children who were appointed CASA representation compared to children who received child welfare services without CASA representation. Mixed-effect logistic regression modeling identifies independent predictors of CASA appointment while controlling for a range of factors and accounting for data clustering in the selection process. Findings indicate that CASA cases in this population have indicators of greater complexity and severity compared to their non-CASA counterparts. By empirically identifying the factors that predict assignment to CASA at the population level, this study lays the foundation for an advanced quasi-experimental outcome evaluation to examine CASA's effectiveness at improving child and case outcomes while minimizing the influence of selection bias.

1. Introduction

Court Appointed Special Advocates (CASA) is a national network of nonprofit organizations providing trained volunteer advocates to represent the interests of foster children in the U.S. child welfare court system (Piraino, 1999). CASA program models vary widely by state, but in Texas, where this study takes place, CASA advocates (CASAs) are lay volunteers from the community who receive specialized training in mentorship, advocacy, foster care, and the child welfare system prior to being eligible to represent children in court cases related to their entry into state custody. Once appointed to a case, CASAs act as “the eyes and ears” of judges by developing relationships with the children they represent, assessing the children's needs, and making recommendations to the court to promote the children's best interests.

Nationally, the supply of CASA volunteers is not sufficient to allow every child in foster care to have CASA representation; therefore, only some children who enter state custody are appointed a CASA volunteer. Children are selected to receive CASA services at the discretion of the judges who oversee their cases. There is evidence suggesting that judges appoint CASAs to more complicated or severe cases (Caliber Associates, 2004; Litzelfelner, 2000; Siegel et al., 2001). Judges themselves report considering placement instability, case complexity, and the type or extent of maltreatment when appointing CASAs to various cases, particularly in areas with less CASA coverage (Organizational Research Services, 2005). However, there is no standardized set of criteria across court jurisdictions to determine whether a CASA volunteer is appointed.

Although prior studies have reported on baseline differences between children who received CASA services and those who did not, no published studies to date have systematically attempted to generate a comprehensive list of differences between CASA and no-CASA groups, nor have any prior studies offered multivariate statistical analysis of the factors that serve as reliable independent predictors of CASA appointment among children in protective custody. The current study also has the largest sample size of studies on selection bias in CASA appointment to date (N = 32,349), with the sample representing nearly the entire population of children in foster care in Texas who were eligible to be

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served by CASA during a 2-year window. Research elucidating the selection bias within CASA appointment is necessary for determining the causal effects in evaluation of CASA representation and could be helpful in guiding services and training for judges and CASA representatives.

The primary aim of this study is to identify the observed differences in child and case characteristics between children who are appointed a CASA and children who are not appointed a CASA. Although CASA and the child welfare system in Texas differ from these systems in other states, > 10% of the nation's children live in Texas (U.S. Census Bureau, 2018), and at the time of the study over 7% of children in foster care in the United States were in Texas (The Annie E. Casey Foundation, 2018). Texas CASA model is one of the largest in the nation (National CASA Association, 2018; Texas CASA, 2017); therefore, the findings have considerable implications for the CASA program nationally.

1.1. Background

Previous research indicates that CASA is typically well-regarded among judges (Litzelfelner, 2008; Organizational Research Services, 2005; Weisz & Thai, 2003) and attorneys (Litzelfelner, 2008) who oversee child welfare cases. Research does not, however, provide a clear answer to the question of whether CASA improves child outcomes in the domains of safety, permanency, and wellbeing. A prior review and critical analysis of existing research on CASA outcomes found that assertions that CASA is an effective intervention for improving child welfare case outcomes are tentative at best, due to contradictory findings on many outcomes of interest, and pervasive methodological limitations across existing studies, including selection bias, small sample sizes, and flaws in design, analysis, and interpretation of results (Lawson & Berrick, 2013). Most saliently, selection bias is a pervasive problem inhibiting confidence in the findings of prior research. Family and dependency court judges use their discretion to appoint CASA volunteers to represent children. In some cases, the judges may work jointly with local CASA programs to triage which cases receive a CASA volunteer when demand for CASAs exceeds supply. As a result, there are often systematic differences between cases that are selected to receive a CASA and those that are not. If these observed differences are not accounted for in studies aimed at determining the effectiveness of CASA, then the results of the impact studies will be biased and not provide an accurate understanding of CASA's effects on child and case outcomes.

The available research examining baseline, observed characteristics of children who receive CASA representation compared with children who do not indicates that there are often significant differences between the groups across multiple domains at the case, family, and child levels. One of the dimensions on which CASA and no-CASA groups differ is prior child welfare involvement. In several studies, children who receive a CASA have more previous referrals, substantiations, and court involvement in the child welfare system compared to children who do not receive a CASA (Caliber Associates, 2004; Siegel et al., 2001), suggesting that children who receive a CASA may have experienced more serious or chronic maltreatment than children not appointed a CASA. Another study (Caliber Associates, 2004) shows that children appointed a CASA are more likely to have experienced a “severe” level of harm and to have more risk factors identified compared to no-CASA children. This finding is echoed by Waxman, Houston, Profilet, and Sanchez (2009), who show that CASA children have higher levels of assessed risk than children without a CASA. Findings are mixed in regard to whether children who are selected for CASA appointment have experienced systematically different types of maltreatment compared to children not selected for CASA. Prior studies find that compared to children without a CASA, children with a CASA are more likely to have experienced physical abuse (Siegel et al., 2001), sexual abuse (Waxman et al., 2009), and neglect (Litzelfelner, 2000; Waxman et al., 2009). Waxman et al. (2009) also show that the children in their sample who have a CASA have experienced a higher average number of maltreatment types than their no-CASA counterparts.

Significant selection differences between CASA and no-CASA cases exist in family and caregiver characteristics, including higher rates of substance abuse among the caregivers of children with a CASA (Litzelfelner, 2000; Siegel et al., 2001), as well as higher rates of caregiver mental health issues, housing problems, and financial difficulties (Siegel et al., 2001). In addition, a study shows that children who are appointed a CASA have more siblings in care than children not appointed to receive a CASA (Siegel et al., 2001).

At the child level, findings are mixed in regard to differences between CASA and no-CASA children. Two studies show that the CASA children in their samples were younger on average than the no-CASA children (Poertner & Press, 1990; Siegel et al., 2001), but, by contrast, a California study found that children with a CASA were older than the average of all children in state care (Mensing, 2008). As with age, findings related to racial and ethnic differences between CASA and no-CASA children vary by study sample. Caliber Associates (2004) find that CASA children are more likely to be White and less likely to be Hispanic/Latino compared to no-CASA children. Waxman et al. (2009) find that the CASA group is disproportionately White or biracial compared to the no-CASA group, which was disproportionately African American and Hispanic/Latino in their sample. Finally, several studies have found no differences in CASA selection by race or ethnicity (Calkins & Millar, 1999; Leung, 1996; Litzelfelner, 2000; Poertner & Press, 1990).

The prior research on CASA suggests that, in the aggregate, cases that are appointed a CASA have indicators of greater severity or complexity compared to cases that are not selected for CASA services (Caliber Associates, 2004; Litzelfelner, 2000; Siegel et al., 2001). A judge may be more likely to appoint CASAs to complex cases because the judge believes that such cases are more likely to benefit from the additional insight and direction provided by a CASA volunteer. Pre-existing differences between children who are and are not appointed CASA representation, if not properly controlled for, can mask the effects of the CASA intervention. Without controlling for selection characteristics separating cases represented and not represented by CASAs, it is impossible to determine whether observed differences in child or case outcomes are attributable to the CASA intervention, or whether the differences reflect pre-existing differences between the groups being compared. Complex research designs (i.e. randomized control trials) or advanced statistical controls are required to adequately address selection bias in evaluations of CASA. Conducting randomized trials within courts can prove difficult, therefore future quasi-experimental research would benefit from a strong research base regarding the types of child, case, and family characteristics that should be controlled for in evaluations of CASA.

1.1.1. Current study objectives

The purpose of the current study is to identify observed differences between foster children who are appointed CASA and those who are not and to examine statistical predictors of CASA assignment in this population. This study uses the most rigorous statistical techniques and largest sample of studies on this topic to date (N = 32,349). The specific research objective is to identify the child-, family-, and case-level factors that predict the appointment of a CASA volunteer to children in state custody while controlling for all relevant factors. This research is poised to advance knowledge on this topic and lay the groundwork for a rigorous quasi-experimental outcomes study to address the question of CASA's effectiveness as a child welfare intervention.

2. Method

2.1. Research design and study sample

This study includes an analysis of administrative data collected by the Child Protective Services (CPS) division of the Texas Department of

Family and Protective Services (DFPS). CPS caseworkers in Texas document case records for every reported child maltreatment case in a statewide database. The parent agency, DFPS, stores and maintains case records pertaining to children and families who come into contact with CPS. For this study, DFPS securely provided an administrative data set comprising all children in Texas who entered state custody ("substitute care") during fiscal years 2013 and 2014 (between September 1, 2012 and August 31, 2014), with follow-up data on this cohort extending through June 30, 2017. Currently, the DFPS administrative data do not reliably record which children in substitute care are appointed a CASA volunteer advocate. Because this information is not captured in the state's information management system, the data set for this analysis was created by linking the DFPS data set with a data set provided by Texas CASA documenting each child who was served by a CASA volunteer during the referent time period.

Texas CASA is the state-level CASA organization that provides technical assistance, training, marketing, and administrative support to local CASA programs. To facilitate this study, Texas CASA requested that each of the 71 local CASA affiliate programs that were in operation at the time the study began (in 2014) securely provide a roster of all children served during the study time frame. In response, 68 local affiliate programs provided the requested data, resulting in a master list of all children who were served by CASA during the study window, except for those in two programs that declined to participate, and children in one program whose roster contained invalid data that could not be included. The rosters provided by CASA programs also included other child and case identifiers (such as dates-of-birth and legal cause numbers) to assist in matching the CASA children to their administrative case records.

We used a probabilistic matching process (the *reclink2* function in Stata) in cascading, iterative stages to link children from the CASA rosters with their corresponding administrative case records. Between each matching stage, quality assurance hand-checks of a sample of cases from each pool were used to verify the positive matches, and to refine the match field specifications for the subsequent *reclink2* stages for remaining unmatched cases. The final result of the matching process was that over 99% of valid cases from the CASA rosters (those representing children who were served by CASA after entering state conservatorship during the study entry cohort time frame) were successfully matched to their corresponding DFPS records.

2.2. Exclusion criteria and final analytic sample

The final analytic sample includes all children (N = 32,349) who entered substitute care in Texas between September 1, 2012 and August 31, 2014 in a service area covered by one of the 68 local CASA affiliates that provided a usable roster of children served during the entry window. The final sample *excludes* children who entered care in a service area in the state not covered by a CASA affiliate and children who entered care in a service area covered by any of three CASA affiliates that did not provide a usable roster of children served. The exclusion of children who entered care in an area of the state either not covered by a CASA program or covered by a CASA program without a usable roster resulted in the exclusion of 3.51% and 2.48% of children in DFPS custody from the analysis, respectively.

For children who had multiple entries to care during the study window (n = 380), we selected the entry associated with the appointment of the CASA volunteer for children in the CASA group, and the earliest entry for children in the no-CASA group. Duplicate entries (n = 396) were dropped for observations that had the same person ID number (a unique person-level identifier assigned in DFPS data), date-of-birth, and date of removal. We also excluded five children from the analytic sample whose date of removal indicated that they were removed from their homes before their births. An additional 255 children (0.74% of the total sample) were excluded from analysis because they were missing gender or court information necessary to be included in the multivariate model.

2.3. Measures

The dependent variable for this study is a binary indicator of whether each child was appointed a CASA. A wide range of independent variables were selected from the DFPS administrative records to examine associations with CASA appointment. To measure differences at the time of CASA appointment, selection of independent variables was restricted to factors documented during the investigation stage of the case (prior to the opening of the substitute care case) or within 30 days of the removal date. Because the research questions for this study pertain to factors that influence the appointment of a CASA, and because CASA volunteers are typically appointed early in a removal case, this restriction ensured that the analysis captures characteristics present near the time of CASA appointment and was not confounded by factors that may have been the *result* of CASA advocacy efforts after appointment. We selected independent variables that might influence the appointment of a CASA and that were likely to be known by the judge via inclusion in court reports or testimony regarding the risk factors or other circumstances contributing to the child's removal from the home. The variables also had to be available in the DFPS administrative data and not only stored in a case file.

Child-level variables include the child's age at removal (collapsed into categories: 0–1, 2–4, 5–12, 13–17), gender (male/female), race/ethnicity (Black, Hispanic, White, Other). Because of potential differences between rural and urban programs and courts, specifically in terms of limited availability of resources, whether the child was removed from an urban or rural county was also included as a child-level variable (Felix, Agnich, & Schueths, 2017).

Family/caregiver variables include the mother's age at removal of her children (under 18, 18–21, over 21, unknown), an indicator of whether any caregiver in the home had ever been a victim or perpetrator of domestic violence, and the number of additional children removed from the home at the time of the focal child's removal (siblings; 0, 1, 2, 3 or more). The data also include a set of indicators reflecting caregiver risk factors; for each case resulting in a removal, the caseworker selects all that apply (including none, where applicable) from a list of the following caregiver characteristics that contributed to the removal: alcohol abuse, drug abuse, emotional distress, inadequate housing, incarceration, "unable to cope," and death. These indicators were recoded into a single variable calculating the cumulative number of risk factors present (0, 1, 2, 3 or more).

Case-level variables include the number of prior CPS investigations involving the subject child (0, 1, 2, 3 or more), an indicator of whether the child had previously experienced a CPS removal, and the child's first out-of-home placement type upon removal (with kin, in a foster home, in a congregate care setting, or in any other placement type). In addition, we examined the maltreatment types that led to the child's removal. To indicate the reason(s) for removal, caseworkers can select all that apply from eight maltreatment types reflected in Texas child welfare statute: neglectful supervision, physical neglect, medical neglect, physical abuse, sexual abuse, emotional abuse, abandonment, and refusal to accept parental responsibility. There are also a handful of rarely used non-maltreatment removal circumstances (such as lack of needed medical or mental health services) that were collapsed into an "other" category for the analysis. Because initial frequency distributions showed that there were no substantive differences between CASA and no-CASA children within maltreatment types, these indicators were recoded into a single variable measuring the cumulative number of removal reasons selected (1, 2, 3 or more).

2.4. Addressing variation in CASA supply at the local level

After linking the CASA and DFPS data sets to create the analytic file, we calculated the percentage of all children in substitute care who were

served by CASA in each of the 68 participating CASA program service areas across the state. Because each CASA program affiliate is an independent organization with unique staffing, leadership, resources, and supply of volunteers relative to local demand, the proportion of local children in substitute care served by CASA varies substantially by program area, from a low of 9% in one CASA program (reflecting a low CASA supply relative to the demand in that area) to a high of 99% or above in 11 CASA programs (reflecting a CASA supply that is able to fully meet demand). In other words, in some areas of the state that are covered by a CASA program, nearly all children who enter substitute care are appointed a CASA volunteer, and in other areas, relatively few children who enter substitute care are appointed a CASA. To account for regional differences in CASA coverage, we included a covariate to control for the percentage of local children in substitute care served by CASA, categorized into deciles (i.e., 0–9%, 10–19%, 20–29% etc., of local children served by CASA).

2.5. Analytic strategy

We examined frequency distributions for all variables to produce descriptive statistics for the full sample. We then conducted unadjusted bivariate logistic regressions for each predictor variable against the binomial dependent variable indicating whether a CASA was appointed, to examine observed differences between groups. Finally, we used mixed-effects logistic regression to identify predictors of CASA appointment while simultaneously controlling for all independent variables.

Because CASA appointments are made by the judges who oversee the legal cases of children who are placed in substitute care, the data are clustered at the court level. Judges use their own criteria to determine when to appoint a CASA to a case; therefore, the baseline probability of any child being appointed a CASA varies by court. In other words, the selection of which children are appointed a CASA is nested within individual courts and the judges who preside in those courts. To account for the data clustering at the court level, we used a mixed-effects logistic model (Stata's *xtmelogit* function) regressing all of the predictor variables on the binary CASA outcome variable while including a random intercept for court ID (a unique identifier of the court overseeing each case).[1]

3. Results

3.1. Sample description and CASA appointment by case characteristics

In the final analytic sample (N = 32,349), slightly more than half of children (n = 18,119; 56.01%) were appointed a CASA volunteer advocate. The large majority of children are under age 13, with children in the 5 to 12 age range comprising over one-third (36.01%) of the full sample. The children in the sample are predominantly Hispanic (43.07%), followed by White (31.98%), and African American (18.96%). Frequency distributions for the full sample and by CASA and no-CASA groups are summarized in Table 1.

In regard to child demographic characteristics, there are differences between CASA and no-CASA groups in the distributions of race/ethnicity and child age. Children ages 5 to 12 are overrepresented in the CASA group, whereas infants (under 2) are underrepresented, and young children (ages 2 to 4) and teenagers (ages 13 to 17) are about equivalent between the CASA and no-CASA groups. There are also differences by race and ethnicity; Hispanic children are

Table 1
Variable frequency distributions and associations with CASA appointment.

	Full sample		CASA appointed	CASA not appointed
	N	%	%	%
Total	**32,349**		**56.01**	**43.99**
CHILD-LEVEL FACTORS				
Child Age at Removal				
Under 2***	9490	29.34	26.86	32.49
2 to 4	7088	21.91	21.97	21.83
5 to 12***	11,649	36.01	38.35	33.04
13 to 17	4122	12.74	12.83	12.64
Child Gender				
Female	15,965	49.35	49.58	49.07
Child Race/Ethnicity				
White***	10,344	31.98	37.77	24.60
African American***	6132	18.96	18.12	20.02
Hispanic***	13,933	43.07	37.99	49.54
Other	1940	6.00	6.12	5.85
Rural***	4577	14.15	19.09	7.86
FAMILY-LEVEL FACTORS				
Past or current DV indicated***	19,360	59.85	60.89	58.52
Number of siblings in substitute care				
0 siblings***	7893	24.40	22.52	26.80
1 sibling	8320	25.72	26.03	25.33
2 siblings***	7522	23.25	24.75	21.35
3 or more siblings	8614	26.63	26.71	26.53
Mom age at removal				
Under 18*	319	0.99	0.88	1.12
18 to 21***	2731	8.44	7.55	9.58
Over 21***	28,544	88.24	89.26	86.94
Unknown/missing	755	2.33	2.31	2.36
Number of caregiver risk factors				
0 risk factors***	6539	20.21	18.68	22.17
1 risk factor*	16,687	51.58	51.05	52.26
2 risk factors***	6403	19.79	20.90	18.39
3 or more***	2720	8.41	9.38	7.17
CASE-LEVEL FACTORS				
Number of prior CPS investigations				
0 prior cases***	23,685	73.22	71.47	75.45
1 prior case*	3433	10.61	10.96	10.17
2 prior cases*	1929	5.96	6.24	5.61
3 or more prior cases***	3302	10.21	11.34	8.77
Prior removal***	901	2.79	3.45	1.94
Number of maltreatment types (removal reasons)				
1 maltreatment type***	22,785	70.43	69.06	72.19
2 maltreatment types**	7684	23.75	24.42	22.91
3 or more maltreatment types***	1880	5.81	6.52	4.91
Initial placement type				
Kinship/relative home***	11,544	35.69	34.65	37.01
Foster***	12,247	37.86	39.52	35.75
Congregate***	5187	16.03	16.83	15.02
Other***	3371	10.42	9.01	12.22
Percent of local children in substitute care with a CASA				
10–19%***	1821	5.63	1.56	10.82
20–29%***	1858	5.74	2.67	9.66
30–39%***	5284	16.33	11.02	23.11
40–49%***	11,205	34.64	28.86	42.00
50–59%*	712	2.20	2.03	2.42
60–69%***	1375	4.25	4.67	3.72
70–79%***	2131	6.59	8.74	3.85
80–89%***	2902	8.97	13.30	3.46
90–100%***	5061	15.64	27.17	0.97

Note. Independent sample *t*-tests were conducted at each level of categorical variables to compare the proportion of participants with that characteristic between those appointed a CASA and those not appointed a CASA.
***$p < 0.001$, **$p < 0.1$, *$p < 0.5$

[1] During the analysis process, we recognized that a single family court (Court "x") in a large urban area was unevenly appointing CASAs across racial and ethnic groups in a manner that was especially disproportionate to the racial distribution for that geographic area. This outlier was substantially impacting model estimates even when random effects for court ID were included in the model. To account for this anomaly, we included an interaction between race/ethnicity and court "x" in the final model.

underrepresented and White children are overrepresented in the CASA group. Children appointed a CASA are also disproportionately rural compared to their no-CASA counterparts (19.09% v. 7.86%).

Differences in the distribution of CASA appointments are also seen at the family and case levels. Children with no siblings in care are underrepresented in the CASA group compared to children with any number of siblings in care. A greater percentage of children with a CASA have two or more caregiver risk factors than children without a CASA. Involvement in prior CPS investigations also differs between CASA and no-CASA groups; children with any number of prior CPS cases, regardless of disposition or outcome, are overrepresented in the CASA group. A similar pattern is seen in regard to the cumulative number of maltreatment types that led to the child's removal. Among children in the CASA group, 30.94% have two or more maltreatment types or reasons for removal, whereas 27.82% of children in the no-CASA group have experienced two or more types of maltreatment prior to entering substitute care. Perhaps counterintuitively, children with younger mothers are underrepresented in the CASA group, although this may be related to the imbalance in the age groups, as only 9.43% of children in the sample had mothers who were under 21 at the time of the child's entry to care.

3.2. Predictors of CASA appointment

We conducted bivariate and multivariate analyses to determine which factors serve as independent predictors of CASA appointment while controlling for all child-, family-, and case-level characteristics. All variables tested in the bivariate analyses were included in the mixed-effects logistic model. The multivariate model also includes a random intercept for court ID. Although the results of the bivariate analyses are provided along with the results of the multivariate model in Table 2, the following section summarizes the multivariate results, which are the primary results of interest.

At the child level, children in all three age groups above the infant referent group have higher odds of CASA appointment, with children 5 years and older having approximately 50% higher odds of being appointed a CASA compared to the youngest children. Gender is not significant as a factor; boys and girls are equally likely to be appointed a CASA ($OR = 1.02, p = 0.434$). Although in the bivariate analysis, racial and ethnic minority children are less likely than White children to be appointed a CASA, these differences are attenuated in the multivariate analysis, indicating that racial and ethnic minority children have more of the risk factors that predict CASA appointment. Similarly, children in rural areas are more likely to be appointed a CASA volunteer when no other factors are taken into consideration; however, when other factors are considered, children in rural counties are less likely to be appointed a CASA ($OR = 0.76$, $p = 0.040$).

Among family-level characteristics, several factors are associated with higher odds of CASA appointment. Past or current domestic violence within the home is associated with 10% higher odds of being appointed a CASA ($OR = 1.10$, $p = .001$). Compared with having no siblings in care, having any number of siblings is associated with significantly higher odds of CASA appointment, and having three or more nearly doubles the odds of CASA appointment ($OR = 1.90, p < 0.001$). Mother's age at removal is not significantly associated with higher or lower odds of CASA appointment in the multivariate analysis. The number of caregiver risk factors that the caseworker selected as contributing to the removal is associated with 21% higher odds of CASA appointment when there are three or more risk factors compared to no risk factors ($OR = 1.21$, $p = 0.002$).

At the case level, having a prior history of CPS investigations is not significantly associated with higher odds of CASA appointment, when controlling for other factors. However, having a history of at least one prior removal is associated with over double the odds of being appointed a CASA ($OR = 2.21, p < 0.001$). Children who enter substitute care may have experienced multiple types of abuse and neglect that contributed to their removal, and children whose case records indicate two or more maltreatment types resulting in their removal have significantly higher odds of being appointed a CASA than children with only one maltreatment type contributing to their removal (Two: $OR = 1.08$, $p = 0.035$; Three or more: $OR = 1.41$, $p < 0.001$). Initial placement type is also significantly associated with CASA appointment. Children in foster and congregate care placements upon entering care have 17 and 18% greater odds of CASA appointment, respectively, than children in kinship placements (Foster: $OR = 1.17$, $p < 0.001$; Congregate: $OR = 1.18$, $p < 0.001$). Children in "other" types of first placements have lower odds of CASA appointment ($OR = 0.89$, $p = 0.021$), although this group is quite mixed and represents small percentages of various sorts of placements.

Finally, not surprisingly, the supply of local CASA volunteers relative to demand is an important predictor of CASA appointment. Controlling for all other factors, compared to the referent category of 40–49% coverage, children in areas with 10–29% coverage have approximately 72% lower odds of CASA appointment, and children in areas with 50% to over 90% coverage have significantly higher odds of CASA appointment.

4. Discussion

CASA volunteers play a unique role in the care of children who are placed in substitute care, however the true impact of the value of CASA services has proven difficult to measure given the unaccountable selection bias that has plagued prior studies. This study employs a rigorous multivariate analysis and large sample size ($N = 32{,}349$) to determine the observed selective characteristics associated with CASA appointment in Texas.

The findings indicate that, consistent with prior research on small samples from various states and jurisdictions around the country, there are child-, family-, and case-level differences between children who are appointed to CASA services and those who are not. The findings further suggest that judges are more likely to appoint CASA volunteers to represent cases that involve a greater degree of severity or complexity. Many of these differences persist after controlling for all variables simultaneously, suggesting that there is differential selection of children for CASA services based on non-random factors.

These results offer a considerable contribution to the existing research on the topic because of the overall size of the study. This study far surpasses the scope of previous studies on the topic of selection bias in CASA programming by conducting analyses on a sample which represents almost the entire population of CASA-eligible cases within the second most populous state in the U.S., over a 2-year period. This study is not without limitations, however. The analytic sample does exclude children in areas served by three smaller CASA programs which declined to participate or provided unusable data. These excluded program areas may differ from the included areas in how CASAs are appointed, but it is unlikely that judges are appointing CASAs in a manner that is systematically different from the 68 included areas. The excluded children made up < 3% of the CASA-eligible children in the entire state, and therefore, the impact of exclusions is likely small in scope. The wide variation in child welfare service delivery within local contexts means that the patterns and predictors of CASA appointment may look different within individual communities, however we accounted for this by controlling for court jurisdiction and the proportion of local children served by CASA. Finally, although a host of observed characteristics are included in this study, it is likely that CASA and no-CASA cases differ on unmeasurable characteristics that could still bias quasi-experimental research.

This study provides detailed information on a comprehensive set of factors that are associated with the likelihood of CASA appointment in the state of Texas. The results confirm that children in Texas are not selected at random to receive CASA services. Rather, there appear to be systematic differences between children who are appointed a CASA and

Table 2
Odds of CASA appointment.

	Bivariate odds ratio	Multivariate odds ratio
CHILD-LEVEL FACTORS		
Child Age at Removal		
Under 2	Referent	Referent
2 to 4	1.22***	1.24***
5 to 12	1.40***	1.50***
13 to 17	1.23***	1.49***
Child Gender		
Female	1.02	1.02
Child Race/Ethnicity		
White	Referent	Referent
African American	0.59***	1.03
Hispanic	0.50***	0.94
Other	0.68***	0.89
Child Race/Ethnicity*Court "X"		
White	–	3.13
African American	–	2.17
Hispanic	–	0.54
Other	–	2.10
Rural	2.77***	0.76*
FAMILY-LEVEL FACTORS		
Past or current DV indicated	1.10***	1.10**
Number of siblings in substitute care		
0 siblings	Referent	Referent
1 sibling	1.22***	1.45***
2 siblings	1.38***	1.83***
3 or more siblings	1.20***	1.90***
Mom age at removal		
Under 18	Referent	Referent
18 to 21	1.01	0.85
Over 21	1.32*	0.89
Unknown/missing	1.25	0.83
Number of caregiver risk factors		
0 risk factors	Referent	Referent
1 risk factor	1.16***	1.02
2 risk factors	1.35***	1.09
3 or more risk factors	1.55***	1.21**
CASE-LEVEL FACTORS		
Number of prior CPS investigations		
0 prior investigation	Referent	Referent
1 prior investigations	1.14***	1.04
2 prior investigations	1.17**	1.11
3 or more prior investigations	1.36***	1.09
Prior removal	1.81***	2.21***
Number of maltreatment types (removal reasons)		
1 maltreatment type	Referent	Referent
2 maltreatment types	1.11***	1.08*
3 or more maltreatment types	1.39***	1.41***
Initial placement type		
Kinship	Referent	Referent
Foster	1.18***	1.17***
Congregate	1.20***	1.18***
Other	0.79***	0.89*
Percent of local foster children with a CASA		
10–19%	0.21***	0.27**
20–29%	0.40***	0.28***
30–39%	0.69***	0.92
40–49%	Referent	Referent
50–59%	1.22**	5.36***
60–69%	1.83***	5.33***
70–79%	3.30***	4.44***
80–89%	5.58***	10.81***
Over 90%	40.77***	124.43***

RANDOM EFFECTS PARAMETER	Estimate	Standard Error	95% Confidence Interval
Court ID sd(cons)	1.17	0.07	[1.04, 1.32]

Note. N = 32,349; Wald $X^2(39) = 1485.41$; $p < 0.001$. LR test vs. logistic regression: $\bar{\chi}^2(01) = 3235.52$; $p < 0.001$.
***$p < 0.001$, **$p < 0.1$, *$p < 0.05$

children who are not, and the circumstances of children appointed a CASA have indicators of greater complexity or difficulty. Previous qualitative research on satisfaction with CASAs indicated that some judges, attorneys, and child welfare workers report that CASA volunteers could benefit from more training and education on the child welfare and legal systems (Litzelfelner, 2008). The findings from this study further suggest that CASA programs may benefit from reviewing their volunteer training processes to ensure that volunteer advocates are well-prepared to handle the complexities of the cases that they are assigned.

Uncovering the selection bias in CASA representation is vital to future research evaluating the influence of CASA programming on child and case outcomes. Without acknowledging the systematic differences between CASA and no-CASA cases, comparing the outcomes of these two groups would likely produce biased findings, given that more serious or complicated cases could be associated with worse outcomes, thereby masking the potential impact of the CASA intervention. Having a better understanding of how CASA and no-CASA cases differ on a range of observed characteristics will lead to better studies that aim to measure the impact of CASA on child wellbeing.

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Declaration of interest

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