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The Effect of CASA on Child Welfare Permanency Outcomes

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Abstract

The present study is the largest and most rigorous study to date on the effects of being appointed a Court Appointed Special Advocate (CASA) on permanency outcomes of children in foster care. The intent-to-treat study accounts for selection bias by applying inverse probability weighting to logistic and sequential logistic regressions in a large sample of children in foster care in the state of Texas ($N = 31{,}754$). Overall, children appointed a CASA have significantly lower odds than children without a CASA of achieving permanency. They have lower odds of being reunified, greater odds of being adopted (if not reunified), and lower odds of being placed in permanent kin guardianship (if not reunified or adopted) than children who are not appointed CASA. This study makes an additional contribution by looking beyond the aggregate effect of CASA on permanency by examining the effect of CASA for different age groups and different types of first placement after removal.

Keywords

child welfare, foster care, adoption, kinship care, intervention studies

As of 2016, an estimated 437,465 children were in the foster care system in the United States, which equates to nearly 6 of every 1,000 children nationwide (Administration for Children and Families, 2017). With an overburdened system attempting to serve so many, there is concern about children becoming "lost" in the system, languishing in inappropriate placements, and not receiving necessary services to meet their needs. Addressing these concerns, the Child Abuse Prevention and Treatment Act (CAPTA) requires states to appoint a trained figure known as a guardian ad litem to gather information and represent the best interests of every child abuse or neglect victim involved in court proceedings (CAPTA, 2017).

Court Appointed Special Advocates (CASAs) are volunteers who may serve either as a child's guardian ad litem or as part of a child's advocacy team. The model and level of advocacy varies by state, court jurisdiction, local resource availability, and individual volunteer. The CASA program grew from a modest beginning in a single court jurisdiction in 1977 to serve more than 260,000 children with over 85,000 volunteers nationally as of 2017 (National Court Appointed Special Advocate Association, 2017). Judges value the input of CASA volunteers during court proceedings and take their recommendations into consideration when making placement and permanency decisions (Litzelfelner, 2008). However, due to a limited supply of volunteers, judges must use their own discretion in deciding which cases are appointed a CASA and which are not. In Texas, the state of the present study, the assignment process is subject to selection bias, as judges are more likely to appoint CASA volunteers to more complex and difficult cases (Osborne, Warner-Doe, & Lawson, 2018).

Previous research has tried to identify the impact of having a CASA on children's experiences in the child welfare system. Numerous studies have examined the impact of CASA advocacy on process outcomes during a child's time in substitute care, but few studies have provided rigorous, generalizable findings regarding the impact of CASA appointment on permanency decisions and final case outcomes.[1] The present study seeks to fill this gap by identifying the differences in permanency outcomes between those cases that are appointed a CASA volunteer and those that are not.

The permanency outcomes in a child welfare case are the circumstances into which a child exits the custody of the state. The preferred permanency outcome in most cases is for children to be reunified with their families of origin whenever this can safely occur, though at least one alternative permanency plan should be made concurrently while working to reunify the family (Child Welfare Information Gateway, 2012; Texas Department of Family and Protective Services, 2017a). When safe reunification is not possible, the preferred permanency

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outcomes are adoption by a relative or nonrelative caregiver or permanent kin guardianship, a legal arrangement in which a relative or relative-like caregiver accepts permanent legal custody but does not adopt the child. When none of these permanent outcomes are possible, children enter into the long-term custody of the state, ultimately "aging out" of care if no permanency is reached before they become legal adults. Long-term state custody, called Permanent Managing Conservatorship (PMC) in Texas, running away, and aging out of the child welfare system are the nonpermanent outcomes considered here.

This study focuses on final permanency case outcomes rather than within-case outcomes, such as service provision or number of placements, for several reasons. Achieving safe permanency is the ultimate focus of the child welfare system, especially for those cases in which safe reunification with the child's family of origin is not possible. A child's particular case outcome upon exiting the system has been shown to have a demonstrated impact on future educational, economic, and social outcomes, even among those who achieve safe permanency (Font, Berger, & Cancian, 2018). Because of the strong influence a case outcome has on a child's life trajectory, it is critical to understand what factors influence a case's final outcome.

The CASA program was designed to help children in foster care, and one way the organization believes it accomplishes this goal is by getting children into safe, stable, permanent placements. The most recent past CEO of the National CASA Association, Michael Piraino, has asserted that the activities performed by CASA volunteer advocates are not covered under the responsibilities of the professionals involved in child welfare cases, who work in notoriously under-resourced systems with typically high caseloads (Piraino, 1999). He argues that because CASA volunteers typically serve only one case at a time, they are able to provide more focused attention and to develop more in-depth relationships with children to effectively learn and advocate for their unique legal and nonlegal interests and needs. Previous research has also shown that serving fewer cases allows CASA volunteers more time to visit and investigate placements and to build close relationships with the family involved in a case (Litzelfelner, 2008). The present study seeks to determine whether having a CASA volunteer is indeed associated with a greater likelihood of having a permanent placement for children exiting the child welfare system, both overall and for each specific type of permanency outcome.

Theoretically, CASA volunteers are positioned to increase the likelihood of specific permanency outcomes for a number of reasons. Reunification with the family of origin is often contingent on parents completing a service plan, and research has shown that cases served by CASA volunteers receive significantly more needed services than cases without CASA representation (Caliber Associates, 2004; Condelli, 1988; Litzelfelner, 2000; Poertner & Press, 1990; Siegel et al., 2001), increasing the likelihood that service plans will be successfully completed. CASA volunteers can also increase the likelihood of adoption or permanent kin guardianship outcomes on cases by dedicating more time to searching for adoptive or kinship placements than child welfare professionals with high caseloads would be able to do. For these reasons, we might expect CASA advocacy to be associated with a higher likelihood of achieving a permanent case outcome.

However, there are also reasons to expect that CASA advocacy might be associated with a lower likelihood of achieving permanency for children in the child welfare system. Because CASA volunteers have more time to observe and investigate placements for the children they serve (Litzelfelner, 2008), they have more opportunities to identify characteristics that could lead them to conclude that a given placement is not a safe, stable, permanent option. Additionally, despite the organization's goals, CASA volunteers are relatively limited in their ability to impact legal system proceedings. Judges are ultimately responsible for making permanency decisions, and while many judges value the recommendations of CASAs, those recommendations are not always taken, especially when they are in conflict with the recommendations of Child Protective Services (Litzelfelner, 2008). For these reasons, we might not expect CASA appointment to be significantly associated with permanent outcomes for children in substitute care.

Additionally, it is likely that the effectiveness of a CASA volunteer could vary based on the age and placement type of the children they serve. Child age at removal and first placement type have a strong influence on how children interact with the child welfare system, the actions that may be required of a volunteer advocate serving a case, and the expected placement outcome of a case. Children who enter the child welfare system later in life are more likely to have mental health and behavioral problems due to the length of their exposure to trauma at home, making it more difficult for them to secure a permanent placement (Heflinger, Simpkins, & Combs-Orme, 2000; Tarren-Sweeney & Hazell, 2006). Older children are also less likely to be adopted than younger children, especially infants (Courtney & Wong, 1996). These differences may suggest that volunteer advocates need to customize their advocacy activities to the age-specific needs of a child, which could make the effect of CASA different within different age groups.

The type of setting a child is placed in after removal can also have a strong influence on their experience of the child welfare system and their likelihood of achieving certain permanency outcomes. In this study, the first placement types considered are kinship care, foster care with a nonkin caregiver, congregate care, or other placement type, such as a juvenile detention center.[2] First placement type can serve as a proxy indicator of case complexity, level of psychosocial functioning, and social connectivity to safe individuals, all of which would be expected to have an impact on a case's ultimate permanency outcome (Bell & Romano, 2015; Knorth, Harder, Zandberg, & Kendrick, 2008). Because the needs and experiences of children in different placement types can be so diverse, it is likely that advocacy activities would differ for these groups, which could impact the effect of having a CASA within first placement type groups.

A small but growing body of research has tried to measure the impact of CASA appointment on permanency outcomes, though study limitations have made strong, generalizable conclusions difficult. Several studies have found that cases served by CASA volunteers are significantly less likely to end with reunification with the family of origin and significantly more likely to have adoption as the final case outcome (Abramson, 1991; Pilkay & Lee, 2015; Poertner & Press, 1990). However, two additional studies focusing on permanency outcomes found no significant differences in outcomes between children with and without a CASA volunteer (Litzelfelner, 2000; Siegel et al., 2001). These inconsistent findings make it difficult to draw sound conclusions about the effect of CASA volunteers on case outcomes.

The ambivalence of previous findings is likely due, at least in part, to limitations in the design and execution of prior research on the subject (Lawson & Berrick, 2013). The majority of previous studies have drawn conclusions based on analyses of exceedingly small sample sizes. Sample sizes relate directly to the strength and generalizability of findings, and with a large population, a small sample size may not provide enough statistical power to accurately detect small but practically significant differences between groups, resulting in less precise findings. The inability to accurately detect and control for differences between groups leaves studies vulnerable to selection bias. When selection bias is present and not adequately controlled for, differences in outcomes between the treatment and control groups may be the result of preexisting differences between groups, rather than the result of the intervention being studied. Importantly, the majority of previous studies looking at CASA effectiveness (Abramson, 1991; Caliber Associates, 2004; Litzelfelner, 2000; Pilkay & Lee, 2015; Poertner & Press, 1990; Siegel et al., 2001; Waxman, Houston, Profilet, & Sanchez, 2009) acknowledge that the cases with and without CASA representation in their samples were not equivalent on all relevant characteristics. This makes it difficult to tell if the outcome differences they found were actually the result of CASA representation or simply of preexisting group differences.

Recent research has confirmed that in the same population as the present study, factors related to case complexity do influence the assignment of CASA to a case, indicating that cases with and without CASA representation in Texas are not equivalent (Osborne et al., 2018). The ideal way to eliminate this confirmed selection bias would be the random assignment of CASA volunteers to children in the child welfare system; however, in the real world of social service provision, interventions are not typically assigned randomly. This is true for CASA volunteers in Texas, who are appointed at the discretion of a judge, so analytic measures must be taken to mitigate the effects of selection bias.

Using a quasi-experimental intent-to-treat design with a substantially large sample size, the present study seeks to overcome the methodological and analytic shortcomings of previous research to determine the impact of CASA appointment on final case outcomes. The final analytic sample for this study ($N = 31{,}754$) is the largest used in a study of CASA effectiveness to date by a margin of thousands and represents nearly the full population of children who entered substitute care in a region served by CASA during the study timeframe. This large sample size allows us to control for the full range of relevant covariates that influence the assignment of CASA to a case (Osborne et al., 2018). Inverse probability weighting (IPW) accounts for known selection characteristics, allowing for an isolated examination of the effect of CASA volunteers on the outcomes of the cases to which they are appointed.

This study makes an additional contribution by looking beyond the aggregate effect of CASA on permanency to determine whether the effect of CASA is significant for children of different ages and with different types of first placement after removal. By accounting for selection bias with a more advanced methodology and analyzing a large sample broken down by subgroups and specific outcomes, the present study makes a significant contribution to the literature on the influence of having a CASA on permanency outcomes.

Method

Data Sources

The data used in this study are from two primary sources. Child Protective Services (CPS) caseworkers collect and record demographic and case information on every child welfare case opened in the state in the Information Management Protecting Adults and Children in Texas (IMPACT) database. The data for this study include IMPACT case records for all sampled children, with data extending through April 30, 2018. The data for this study were securely procured through a collaboration with Texas CASA and the Texas Department of Family and Protective Services (DFPS, the parent agency of CPS).[3]

IMPACT does not contain consistent records of CASA representation; therefore, Texas CASA requested that each local CASA program affiliate provide a roster of all children they were appointed to represent during the study sampling time frame (September 2012 through August 2014), and 68 of 71 local CASA programs securely provided usable rosters identifying children they were assigned to serve. Two small programs declined to supply a roster, and one small program provided a roster that was of insufficient quality to use. We matched the children identified in the 68 usable program rosters to the children in the IMPACT database using a probabilistic matching function in Stata 13, supplemented by intensive hand-matching and quality assurance review. We successfully matched over 99% of children on the CASA rosters to their IMPACT records.

Sample

The analytic sample was developed from the population of all children who entered Texas state custody (substitute care) between September 1, 2012, and August 31, 2014 ($N = 34{,}684$).[4] Two regional exclusion criteria were applied to this population: (1) children who entered into care in any of the 47

Texas counties in which there was no local CASA program operating at the beginning of the study were excluded (n = 1,217) and (2) all cases from the three small areas where the local CASA programs did not provide sufficient roster information to determine a child's CASA status were excluded (n = 859). Beyond that, several additional exclusion criteria were applied, resulting in 854 additional children being removed from the sample.[5] Finally, 281 children were excluded because they were missing gender or court ID, which were necessary for propensity score generation. After all exclusion criteria were applied, the analytic sample included 31,754 children of whom 56.17% received a CASA.

Measures

Outcome measures. Permanency outcomes were measured at the time a final decision is made about a child's permanent placement, which typically occurs at the end of substitute care. In this study, substitute care is considered to end when DFPS relinquishes custody of the child because the child (1) returns home (reunification; n = 9,592), (2) is adopted (n = 9,490), (3) enters the guardianship of a family member or family-like caregiver (permanent kin guardianship; n = 9,867), or (4) becomes a legal adult or runs away from substitute care without returning (no permanency; n = 2,805). For the purposes of this study, children who had completed Temporary Managing Conservatorship (TMC) and remained in PMC to the state (PMC to state; n = 1,243) at the end of the study period were also included in the no permanency outcome.[6]

Independent variables. The overarching aim for this study is to understand whether the permanency outcomes of children who are appointed a CASA differ from similar children who are not appointed a CASA; therefore, the primary independent variable of interest is CASA status. CASA status is a binary indicator of whether or not a CASA was appointed to a child's case, according to CASA program rosters (0 = *no-CASA*, 1 = *CASA*). We generated a propensity score for each child predicting CASA appointment, as described below. Additional variables were included as predictors of CASA status and as covariates in the final analytic models.

Child characteristic variables include child age at removal (continuous and categorical—babies: 0 to less than 1 year old, toddlers: 1 to less than 3 years old, preschoolers: 3 to less than 5 years old, grade school: 5 to less than 12 years old, teens: 13 to less than 18 years old); child gender (0 = *male*, 1 = *female*), race/ethnic group (White, African American, Hispanic, Other); whether the child was removed from a rural county (0 = *not rural*, 1 = *rural*); and whether the child was removed from a border county (0 = *not border*, 1 = *border*). Family and case characteristic variables include prior CPS investigations (binary: 0 = *no prior investigations*, 1 = *one or more prior investigation*; categorical: 0, 1, 2, 3, or more), prior removals (0 = no prior entries into substitute care, 1 = one or more prior entry into substitute care), whether domestic violence was present in the home within the year prior to removal (0 = *no domestic violence*, 1 = *domestic violence present*), number of caregiver risk factors (0, 1, 2, 3, or more), number of reasons for removal (1, 2, 3, or more), number of siblings removed from home (0, 1, 2, 3, or more), and first placement type after entering substitute care (kinship, foster, congregate, other).

Propensity scores. Each child's propensity score represented the probability the child had of being appointed a CASA volunteer, based on the child's unique combination of observed individual, family, and case characteristics. All of the characteristics included in the propensity score generation model occurred prior to CASA appointment or at the beginning of a case and therefore could not be influenced by CASA.[7] To account for data clustering at the court level, including differences in CASA availability, differences in judges' approaches to CASA appointment, and other unmeasured locale-based differences, we used a mixed-effects logistic model (Stata's *xtmelogit* function), regressing all predictor variables on the binary CASA outcome variable while including a random intercept for court ID.[8]

All CASA and no-CASA children were assigned a propensity score during this process. In general, children with a CASA volunteer had higher average propensity scores than children without one, which reflects findings from a previous study that children with a CASA have more complex case factors than children without a CASA (Osborne et al., 2018). Both groups, however, contained a wide range of scores reflecting the natural variation in the unique combinations of characteristics among the children in each group. Some children with a low propensity score were appointed a CASA, and conversely, some children with a high propensity score were not appointed a CASA.

IPW. To account for the characteristics identified as being significantly different between the CASA and no-CASA groups at the time they enter TMC in a previous study of children from this population (Osborne et al., 2018), we used IPW. IPW uses propensity scores to simulate randomized assignment to the treatment group, creating a pseudo-population in which there is no association between the explanatory variables of interest and the treatment itself (Hernán & Robins, 2019). The pseudo-population is created by assigning greater weight to treatment observations that look more like comparison cases and to comparison observations that look more like treatment observations.

We used stabilized inverse probability weights to normalize the probability weights, limiting the influence of outlier individuals (Hernán & Robins, 2019). We further controlled for the effect of extreme outliers by assigning children with weights below and above the 5th and 95th percentiles to the weight values at the respective trimmed percentile. The final weights ranged from 0.48 to 2.00. After generating propensity scores, we conducted a series of standardized difference tests (Stata's *pbalchk* command) to determine whether the application of stabilized and trimmed IPWs accounted for the preexisting differences between the CASA and no-CASA groups on

selection characteristics (Austin & Stuart, 2015). The standardized differences in the unweighted sample exceeded 10% for three covariates (standardized differences: number of caregiver risk factors = 12.3%, Hispanic = 24.1%, rural = 33.8%), whereas only the standardized difference for the rural county indicator exceeded 10% in the weighted sample (standardized difference: rural = 17.7%). This indicates that the application of IPWs improved the balance between the CASA and no-CASA groups on several baseline characteristics. The weights were applied to the logistic regression models, along with the covariates, to account for the influence of child, family, and case characteristics on outcomes and to isolate the effect of CASA appointment.[9] Children in the same family often have the same case outcomes; that is, outcomes of siblings within the same family are often correlated with each other. To maintain independence of subjects, regressions were clustered by case identifier with robust standard errors.[10]

Analytic models. To complete the analyses, we first employed logistic regressions to predict a child reaching permanency of any kind (reunification, adoption, or permanent kin guardianship) versus not reaching permanency (remaining in PMC to state, aging out, or running away). We then used sequential logistic regressions predicting three transitions: (1) reunification with home of removal versus not reunified ($N = 31{,}754$), (2) adopted versus not adopted (if not reunified; $n = 22{,}162$), and (3) permanent kin guardianship versus no permanency (if not reunified or adopted; $n = 12{,}672$). A sequential logistic regression was appropriate for this study as it involves the removal of individuals at each transition. For example, children who are reunified are not eligible for any of the other permanency outcomes and therefore are removed from the model prior to testing the odds of adoption and permanent kin guardianship. The order of the transitions in the sequential logistic regression was based on both a policy-driven order of preference and the extent of legal permanency. Federal guidelines require a reasonable effort to reunify families (Social Security Act, 2006). Adoptive parents can be kin or nonkin but are automatically afforded more rights than permanent guardians.

Subgroup analysis. We also examined the effect of having a CASA volunteer advocate within several subgroups of children. Specifically, we performed an analysis for each outcome for each of the five age groups and each of the four types of first placements.

Table 1. Permanency Outcomes and Sample Characteristics by CASA Status.

	CASA %	No-CASA %
Permanency outcomes		
Reunified	29.12	31.60***
Adopted	31.06	28.38***
Kin guardianship	30.51	31.80*
No permanency	9.32	8.21***
	CASA *M* or %	No-CASA *M* or %
Sample characteristics		
Age at removal	6.10	5.67***
Age-group		
Babies	18.12	22.77***
Toddlers	16.69	17.87**
Preschool	14.10	13.69
Grade school	38.27	33.14***
Teens	12.83	12.54
First placement type		
Kinship	34.67	37.17***
Foster	39.60	36.01***
Congregate	16.84	14.97***
Other	8.90	11.85***
Race/ethnicity		
White	38.01	24.69***
African American	18.11	19.95***
Hispanic	37.71	49.60***
Other	6.17	5.77
Female	49.67	49.18
Rural county	19.18	7.79***
Border county	5.19	12.62***
Prior investigations	27.70	23.85***
Prior removals	3.39	1.90***
Domestic violence	59.92	57.41***
Number of siblings removed	1.80	1.73***
Number of caregiver risk factors	1.24	1.13***
Number of removal reasons	1.39	1.34***

Note. *t* Tests computed for continuous variables, and proportions tests computed for dichotomous and categorical variables. Significance tests not adjusted for covariates or IPWs. CASA: $n = 13{,}918$; no-CASA: $n = 17{,}836$. IPWs = inverse probability weightings; CASA = Court Appointed Special Advocate.
*$p < .05$. **$p < .01$. ***$p < .001$.

Results

Descriptive Statistics

Table 1 shows the descriptive distribution of permanency outcomes by CASA status for the full sample, not controlling for any other factors, with proportions tests comparing the proportion of each outcome between the two groups (distributions for subgroups can be found in the Online Supplementary Materials). In the full sample, most children experienced permanency of some kind, with 90.68% of CASA children and 91.79% of no-CASA children experiencing reunification, adoption, or permanent kin guardianship. The results of proportions tests without covariates or IPW adjustments indicate that there are significant differences in the proportion of children with each outcome between CASA and no-CASA children. At the descriptive, observed level, children appointed a CASA are significantly less likely to be reunified with their home of removal and significantly less likely to be placed in permanent kin guardianship at the end of their case. CASA children are also significantly more likely to be adopted and more likely not to experience legal permanency than no-CASA children.

Table 1 also displays sample characteristics by CASA status, with results from *t* tests and proportions tests comparing between the two groups. Significant differences between the CASA and no-CASA groups are present in almost every demographic and case characteristic tested. CASA children in the sample were significantly older on average than their no-CASA counterparts. CASA children were significantly more likely than no-CASA children to have a first placement in foster care or congregate care and were less likely to be first placed with kin or in other first placement types. CASA children were more likely to be White, and less likely to be African American or Hispanic, more likely to be removed from a rural county, and less likely to be removed from a border county. CASA children were also more likely to have had prior investigations or removals and have experienced domestic violence. On average, CASA children had a greater number of siblings removed, a greater number of caregiver risk factors, and a greater number of removal reasons than no-CASA children. These results confirm the presence of selection bias in CASA appointment and the importance of controlling for selection bias when examining the effects of CASA.

Multivariate Results: Any Permanency Outcome

Full sample. The logistic regressions test whether differences exist in the odds of experiencing permanency (reunification, adoption, or permanent kin guardianship) between CASA and no-CASA children. Results reveal that CASA children have 19% lower odds than no-CASA children of achieving any type of permanency ($OR = 0.81$, $p = .002$; Table 2).

Subgroups. Results from the logistic regressions predicting any permanency within subgroups by age and first placement reveal that within most subgroups, there are no significant differences between CASA and no-CASA children (Table 3). Three exceptions exist. CASA grade school children and teens have significantly lower odds of experiencing any type of permanency outcome compared to similar aged no-CASA children (grade school: $OR = 0.81$, $p = .049$; teens: $OR = 0.78$, $p = .002$), and CASA children first placed with kin also have significantly lower odds of experiencing any type of permanency outcome than no-CASA children first placed with kin ($OR = 0.72$, $p = .039$).

Table 2. Logistic Regression Predicting Permanency in Full Analytic Sample.

	Permanency Vs. No Permanency
CASA status	0.81**
Age-group	
Babies	Referent
Toddlers	0.56**
Preschool	0.33***
Grade school	0.13***
Teens	0.02***
First placement type	
Kinship	Referent
Foster	0.49***
Congregate	0.36***
Other	0.39***
Race/ethnicity	
White	Referent
African American	0.54***
Hispanic	0.77**
Other	0.78
Rural county	1.14
Prior investigations	0.75***
Prior removals	0.82
Domestic violence	1.01
Number of siblings removed	
0	Referent
1	1.79***
2	1.79***
3 or more	1.40***
Number of caregiver risk factors	
0	Referent
1	1.11
2	1.01
3 or more	1.35*
Number of removal reasons	
1	Referent
2	0.87
3 or more	0.78

Note. Clustered by case ID with IPWs. $N = 31{,}754$. Coefficients are odds ratios. IPWs = inverse probability weightings; CASA = Court Appointed Special Advocate.
*$p < .05$. **$p < .01$. ***$p < .001$.

Multivariate Results: Individual Permanency Outcomes

Full sample. Results of the sequential logistic regression with the full analytic sample reveal significant differences between CASA and no-CASA children at each transition in the model (Table 4). Specifically, children in the CASA group have 16% lower odds of reunifying with their home of removal than children in the no-CASA group ($OR = 0.84$, $p < .001$). Of those not reunified, children in the CASA group have 17% greater odds of being adopted as their final permanency outcome than their no-CASA counterparts ($OR = 1.17$, $p = .001$). Finally, of children who are neither reunified nor adopted, CASA children have 22% of lower odds than no-CASA children of ending in permanent kin guardianship ($OR = 0.78$, $p = .003$) and therefore have higher odds of leaving care by aging out or running away or remaining in PMC to state at the end of the study period.

Subgroups. CASA toddlers, preschool children, grade school children, and teens all have significantly lower odds of being reunified compared to no-CASA children in the same age-group (babies: $OR = 0.93$, $p = .306$; toddlers: $OR = 0.85$, $p = .035$; preschool: $OR = 0.82$, $p = .017$; grade school: $OR = 0.83$, $p = .004$; teens: $OR = 0.77$, $p = .004$; Table 5). Of those who do not reunify, significant differences in the odds of adoption are present among preschool children, grade school children, and teens, but not among babies or toddlers. CASA children from these older age groups have significantly greater

Table 3. Logistic Regressions Predicting Permanency in Subgroups by Age and First Placement Type.

	Permanency Vs. No Permanency
Age-group	
Babies[a]	.79
Toddlers	.97
Preschool	.99
Grade school	.81*
Teens	.78**
First placement type	
Kinship	.72*
Foster	.79
Congregate	.85
Other	.88

Note. Clustered by case ID with IPWs, controlling for covariates. Only odds ratio for CASA status displayed. Coefficients are odds ratios. IPWs = inverse probability weightings; CASA = Court Appointed Special Advocate.
[a]Prior removals' covariate was excluded from the model for babies. Babies: $n = 6{,}400$, toddlers: $n = 5{,}464$, preschool: $n = 4{,}419$, grade school: $n = 11{,}437$, teens: $n = 4{,}034$, kinship: $n = 11{,}356$, foster: $n = 12{,}075$, congregate: $n = 5{,}087$, and Other: $n = 3{,}236$.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Sequential Logistic Regression Predicting Permanency Outcomes in Full Analytic Sample.

	Reunified Vs. Not Reunified	If Not Reunified: Adopted Vs. Not Adopted	If Not Reunified or Adopted: Kin Guardianship Vs. No Permanency
CASA status	0.84***	1.17**	0.78**
Age-group			
Babies	Referent	Referent	Referent
Toddlers	1.61***	.59***	.68*
Preschool	1.73***	.45***	.44***
Grade school	1.81***	.28***	.19***
Teens	1.33***	.06***	.03***
First placement type			
Kinship	Referent	Referent	Referent
Foster	1.52***	1.28***	.35***
Congregate	1.54***	1.09	.24***
Other	1.23**	.99	.31***
Race/ethnicity			
White	Referent	Referent	Referent
African American	.75***	.94	.56***
Hispanic	.92	1.18**	.72***
Other	.89	1.01	.76
Rural county	1.16*	.91	1.13
Prior investigations	.70***	1.00	.84*
Prior removals	.66**	1.47**	.75
Domestic violence	.79***	1.13*	1.05
Number of siblings removed			
0	Referent	Referent	Referent
1	1.28***	1.12*	1.79***
2	1.36***	1.12	1.72***
3 or more	1.33***	1.25**	1.14
Number of caregiver risk factors			
0	Referent	Referent	Referent
1	.61***	1.51***	1.20
2	.52***	1.66***	1.09
3 or more	.54***	1.79***	1.54*
Number of removal reasons			
1	Referent	Referent	Referent
2	.96	1.01	.91
3 or more	.89	1.03	.88

Note. Clustered by case ID with IPWs. $N = 31{,}754$. Coefficients are odds ratios. IPWs = inverse probability weightings; CASA = Court Appointed Special Advocate.
*$p < .05$. **$p < .01$. ***$p < .001$.

odds than no-CASA children from these age groups of being adopted (babies: $OR = 0.88$, $p = .062$; toddlers: $OR = 1.16$, $p = .070$; preschool: $OR = 1.23$, $p = .022$; grade school: $OR = 1.31$, $p < .000$; teens: $OR = 1.61$, $p = .006$). Among those who do not reunify and who are not adopted, CASA grade school children and teens have significantly lower odds than no-CASA grade school children and teens of ending in permanent kin guardianship (babies: $OR = 0.86$, $p = .564$; toddlers: $OR = 0.80$, $p = .444$; preschool: $OR = 1.01$, $p = .977$; grade school: $OR = 0.77$, $p = .026$; teens: $OR = 0.73$, $p = .002$). CASA grade school children and teens have higher odds than no-CASA grade school children and teens of aging out or running way or remaining in PMC to state at the end of the study period.

CASA children first placed in foster care and first placed in congregate care have significantly lower odds of being reunified than no-CASA children in those first placement types (foster: $OR = 0.78$, $p < .001$; congregate: $OR = 0.81$, $p = .041$), whereas no significant differences exist for reunification for children first placed in kinship or other types of first placements (kinship: $OR = 0.95$, $p = .522$; Other: $OR = 0.84$, $p = .125$). If not reunified, CASA children first placed in foster care and children first placed in other placements have significantly higher odds than no-CASA children in those first placement types of being adopted (foster: $OR = 1.26$, $p = .002$; Other: $OR = 1.47$, $p = .004$). CASA children first placed with kin or in congregate care, however, do not significantly differ in their odds of adoption from no-CASA children in these first placement types (kinship: $OR = 1.07$, $p = .365$; congregate: $OR = 1.07$, $p = .641$). Finally, if not reunified or adopted, CASA children first placed with kin have significantly lower odds of ending in permanent kin guardianship than no-CASA children first placed with kin (kinship: $OR = 0.66$, $p = .015$). No differences in odds of permanent kin guardianship exist between CASA and no-CASA children first placed in foster, congregate, or other types of placements (foster: $OR = 0.77$, $p = .074$; congregate: $OR = 0.89$, $p = .435$; Other: $OR = 0.83$, $p = .309$).

Discussion

The present study is the largest and most rigorous study to date to isolate the effect of CASA appointment on the permanency outcomes of children in the child welfare system. This intent-to-treat study provides detailed information on differences in

Table 5. Sequential Logistic Regressions Predicting Permanency Outcomes in Subgroups by Age and First Placement Type.

	Reunified Vs. Not Reunified	If Not Reunified: Adopted Vs. Not Adopted	If Not Reunified or Adopted: Kin Guardianship Vs. No Permanency
Age-group			
Babies[a]	.93	0.887	0.865
Toddlers	.856*	1.16	0.805
Preschool	.82*	1.232*	1.017
Grade school	.83**	1.310***	0.779*
Teens	.778**	1.610**	0.735**
First placement type			
Kinship	.957	1.076	0.667*
Foster	.78***	1.264**	0.779
Congregate	.81*	1.076	0.893
Other	.843	1.474**	0.838

Note. Clustered by case ID with IPWs. Only odds ratios for CASA status displayed. Coefficients are odds ratios. IPWs = inverse probability weightings; CASA = Court Appointed Special Advocate.

[a]Prior removals' covariate was excluded from the model for babies. Babies: $n = 6,400$, toddlers: $n = 5,464$, preschool: $n = 4,419$, grade school: $n = 11,437$, teens: $n = 4,034$, kinship: $n = 11,356$, foster: $n = 12,075$, congregate: $n = 5,087$, and Other: $n = 3,236$.

*$p < .05$. **$p < .01$. ***$p < .001$.

legal permanency case outcomes between children in substitute care who are appointed a CASA volunteer and children in substitute care who receive only conventional child welfare services without a CASA. The analyses addressed selection bias using IPW to minimize the potential effects of systematic differences between children who were appointed a CASA and those who were not, allowing us to detect the effect of CASA representation on case outcomes more precisely.

Our findings largely confirm the conclusions of prior research on CASA. Key findings indicate that compared to children without a CASA, children who have been appointed a CASA volunteer are less likely to reach any type of permanency as a final case outcome. When looking at specific permanency outcomes, we find that children with CASA volunteers have lower odds of being reunified with their families of origin, higher odds of being adopted, and lower odds of being placed in permanent kin guardianship than children without a CASA. The effect of CASA appointment is not significant for children of all ages and first placement types.

This study does not provide insight into the reasons for the differences in permanency outcomes between CASA and no-CASA children. It is important to consider that reunification primarily relies on judges' discretion and parents' completion of case plans, and permanent kin guardianship relies on the availability of suitable kin. However, subsequent surveys and focus groups with judges, CASA staff and volunteers, and CPS caseworkers suggest that some CASAs may have different standards for permanency than CPS caseworkers. Further research is needed to understand the mechanisms driving the CASA and no-CASA differences in permanency outcomes, both within and between the subgroups examined here.

It is also beyond the scope of this study to examine the long-term effects of different case outcomes, though it may be valuable to consider that certain permanency outcomes can be associated with a variety of both positive and negative long-term effects. For example, recent research has looked at differences in future educational and economic outcomes for those who exit the child welfare system into different permanency circumstances and found that, contrary to commonly held assumptions, children who reunify do not fare better on these outcome measures than those who reach no permanent outcome while in care (Font et al., 2018). Services provided to those with certain permanency outcomes could also have long-term effects. Youth who are likely to age out of the child welfare system receive services to help prepare them for adult living and additional services after aging out of care, some of which are not provided to those youth who reach a permanent outcome before age eighteen (Texas Department of Family and Protective Services, 2017b). Additional research is needed to explore the long-term impacts of CASA under these different circumstances.

Limitations

Despite its large sample size and rigorous methodology, the present study nonetheless has limitations. First, the sample is limited to CASA programs in Texas. CASA program models and services vary both within and across states; therefore, the results of this study do not necessarily generalize to other states and cannot speak to any differences between advocacy models.

Additionally, this study uses an intent-to-treat analysis on a population designated to receive a CASA volunteer rather than a treatment-on-the-treated analysis on those who were known to have received a minimum dosage of the CASA intervention. Consequently, we are unable to account for the quality or quantity of CASA services actually provided to each child. For example, some cases appointed a CASA volunteer by a judge may have been served by CASA staff rather than volunteers, and some children may never have been served at all despite a judge's appointment. Further, some cases with a CASA volunteer may also have an additional person acting as a guardian ad litem, a practice that varies locally by court. This potential variation in quantity or quality of advocacy services could affect the differences we find between CASA and no-CASA groups.

The analyses also focus on legal permanency outcomes only, and the unweighted differences in legal permanency outcomes between groups were statistically significant but relatively small. With the power afforded by a large sample, it is easier to detect significant but practically small differences between the treatment and control groups. When adjusting for selection bias, the differences within the multivariate analyses do appear to be more practically meaningful in size. CASA may also have additional impacts on children that are not measurable in our data. While traditionally legal permanency has been the primary focus of the child welfare system, there has been a recent shift by some toward a focus on wellbeing and

social support outside of permanent placement (Texas CASA, 2018). CASA could be significantly influencing other outcomes such as social supports or sources of consistency and normalcy on a case, but these outcomes are outside the scope of the present study and not measurable using administrative data.

Another limitation of the present study is the lack of demographic information available about the CASA volunteers. CASAs' age, experience, ethnicity, and socioeconomic background could influence their activities or their interpretation of what is in the best interest of a child. Without access to this information, we are unable to explore the influence of CASA characteristics. This topic would benefit from further study.

As with any study which aims to account for preexisting differences between treatment and control groups, this study is vulnerable to bias from unmeasured variables. We applied inverse probability weights to our models to dramatically reduce the preexisting differences between the CASA and no-CASA groups, but it is likely that there remain unobserved differences between the groups in our sample. As such, the findings of this study represent the best attempt to date at isolating the effects of CASA appointment on case outcomes in the child welfare system.

Conclusion and Next Steps

The present study provides important information on the influence of CASA volunteer advocates on the legal permanency outcomes of the children to which they are appointed. Overcoming methodological limitations of previous research by applying a more advanced analytic method accounting for selection bias to a large sample, this study contributes sound findings to the literature on CASA effectiveness. Further questions remain to be answered, however. Future studies should examine the influence of CASA on outcomes other than legal permanency and work to understand why CASA advocacy makes a significant difference for some age groups and placement types but not others. The effect of CASA on teens in particular merits future examination because of the additional nonpermanency outcome of aging out available to teens and the unique needs and services that accompany aging out of the child welfare system. Additionally, further research should explore the effect of timing and dosage of advocacy activities in a treatment-on-the-treated study to find where CASA is working well. This study lays an important foundation for such future work.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. See Lawson and Berrick (2013) and Youngclarke, Dyer Ramos, and Granger-Merkle (2004) for systematic reviews of the evidence.
2. The first placement type "other" is an amalgam of placement types that are too low in numbers to comprise their own category. Such placements include, but are not limited to, hospitals, psychiatric hospitals, juvenile detention centers, runaways, unauthorized placements, and independent living arrangements.
3. The conclusions or interpretations expressed herein do not represent the conclusions interpretations, or policies of DFPS.
4. For children who had multiple entries to care during the study window, the entry that aligned with the date that Court Appointed Special Advocate (CASA) was appointed to the case for children who received a CASA was selected, and the earliest entry into care was selected for children who did not receive a CASA.
5. All outcomes in this study required that children had finished the Temporary Managing Conservatorship (TMC) phase of their case, a 365-day period (extendable up to 540 days) that begins upon a child's removal from his or her home and ends with a final decision about whether or not to reunify the child with his or her family of origin. Therefore, the following were excluded from the sample: 99 children with no recorded TMC phase, 63 children with unexplained gaps in their TMC phase, and 149 children who were missing outcomes at the end of TMC. Because we examined each outcome by first placement type, we exclude 108 children whose first placement was not certain (their first recorded placement in substitute care started more than a month after their recorded entry into substitute care). We excluded nine children because of an unusual age at removal (i.e., they were recorded as entering care before their birth or after age 18). Another 145 children were excluded from the sample because of their unique case outcomes: deaths ($n = 79$) and transfers to other agencies ($n = 66$). Neither of these outcomes could be directly related to CASA appointment, and the outcomes were too infrequent to analyze separately.
6. Permanent Managing Conservatorship (PMC) to the state is a feature unique to the Texas child welfare system in which the state takes long-term legal guardianship of a child. Future final case outcomes, such as adoption or permanent kin guardianship, are possible from PMC to state. We conducted a sensitivity analysis excluding those remained in PMC to state, and results were consistent with the results presented in this article.

7. The independent variables included in the propensity score generation model were age at removal, age at removal squared, gender, race/ethnicity, rural county indicator, border county indicator, race/ethnicity × border, race/ethnicity × court "x," number of prior investigations, prior removal indicator, domestic violence indicator, number of caregiver risk factors, number of removal reasons, and first placement type. 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 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 propensity score generation model.
8. Court ID is a unique identifier of the local court overseeing each case.
9. Covariates included: age-group at removal, race/ethnicity, rural county indicator, prior investigations indicator, prior removal indicator, domestic violence indicator, number of siblings removed, number of caregiver risk factors, number of removal reasons, and first placement type.
10. Children removed from the same home or site are typically assigned the same case identifier.

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