

Emergency Shelter Care Utilization in Child Welfare: Who Goes to Shelter Care? How Long Do They Stay?

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Emergency shelter care for children entering foster care is widely used as a temporary first placement, despite its contraindications. However, little research has examined predictors of utilization (e.g., entry into care, length of stay in care). A sample of 123 children (ages 6–13) entering foster care was studied to explore the variables associated with an initial placement in shelter care versus kinship care and variables associated with children staying less than 30 days in the shelter versus 30 days or longer. After applying a classification tree analysis (CTA via Optimal Data Analysis), results indicated that variables across the child's ecology—specifically the microsystem, mesosystem, and exosystem—were associated with increased emergency shelter utilization, including older age, entering as a dependency case, more relatives and fictive kin with barriers to involvement in the child's life, and the child welfare agency serving the child. These results suggest that although emergency shelter care utilization may be determined by a complex interaction of variables across the child's ecology, policy and programmatic attention to some of these risk factors might be effective in limiting utilization so that children can enter care with a more long-term, family-based placement.

The use of emergency shelter care¹ to initially house and care for children entering the foster care system has been a part of common child welfare practice for more than 50 years (Oakes & Freundlich, 2005). It is not surprising then that the Child Welfare League of America (CWLA) currently considers emergency shelter care to be a necessary component of the child welfare system, particularly in large cities (CWLA, 2004). However, despite its long history of use, empirical work on emergency shelter care—including outcomes and patterns of use—is among the sparsest in the child welfare literature (Barth, 2002).

The limited research that does exist examining the outcomes of emergency shelter care suggests that its use should be monitored and kept to a minimum. For example, Wulczyn, Chen, and Hilsop (2007) found that children entering care whose first placement was in a congregate care setting, including emergency shelter care, were more likely to experience placement disruptions at later points in care. DeSena et al. (2005) provided the only direct comparison of emergency shelter care and traditional foster care in the empirical literature. Comparing outcomes for Connecticut children experiencing shelter care through the SAFE Homes program versus a comparable sample of children in traditional foster care selected via Propensity Score Analysis revealed that shelter care was over twice as expensive and conferred no outcome advantage.

The null findings, despite ample sample size and statistical power, are particularly noteworthy when considering that the SAFE Homes program was developed and planned with significant attention to best practices in child welfare (e.g., active concurrent planning, children kept in their communities and schools). It is unlikely that emergency shelter care throughout the country is practiced with the same attention to best practices. These aforementioned research efforts along with a broader congregate care literature highlighting the potentially negative effects of restrictive levels of care (Barth, 2002) again suggest that closer examination of the practice patterns and outcomes of emergency shelter care use is warranted.

The relative lack of attention the academic community has paid to emergency shelters can be contrasted with the significant attention it has received in the legal community, as seen in the attention shelter care has received in consent decree litigation.² In a recent analysis of 35 consent decrees from 1995 through 2005, the Child Welfare League of America (CWLA) and the American Bar Association Center on Children and the Law found that six of the 35 consent decrees cited inappropriate emergency shelter care use as one of the primary complaints

¹We use the term emergency shelter care and shelter care throughout to refer to emergency placements in a congregate care setting while a permanent placement is being planned. Emergency shelters are differentiated here from emergency foster care (foster homes serving as a temporary placement) and receiving centers, an ambiguous term in the literature but one generally referring to placements less than 24 hours (Oakes & Freundlich, 2005).

²A consent decree is a settlement agreement between two parties in a civil class action lawsuit.

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(CWLA, 2005).³ Complaints ranged from claims of overcrowding, abuse, and exposure to violence (B.H. v. McDonald, 1988; Ward v. Kearney, 2000) to shelter stays lasting six months and beyond (Brian A. v. Sundquist, 2001). Several of the state consent decrees place concrete limits on shelter utilization. In Illinois, for example, the setting for the current study, the BH v. McDonald consent decree of 1988 mandated, among other things, injunctive relief from overcrowded shelters and long shelter stays. The final decree went so far as to mandate that, except under special circumstances, children should not stay in emergency shelters for longer than 30 days. Although the decree has been independently monitored on a yearly basis since 1998, little attention has been paid in monitoring reports to the question of shelter utilization (Child & Family Research Center, 2012).

Empirical Literature on the Utilization of Shelter Care

Utilization of emergency shelter care varies significantly by community in the United States, with some communities using shelters almost exclusively as children enter the system and others eliminating their use in favor of receiving centers and family based emergency housing models (Oakes & Freundlich, 2005). However, in a qualitative survey of key stakeholders across the country, Oakes and Freundlich (2005) found that children who enter emergency shelter care may be older (i.e., 12 to 17 years old), more likely to be a racial/ethnic minority, and more likely to have mental health or physical challenges; these results are similar to studies of congregate care in general (e.g., group homes, residential treatment centers). Quantitative studies have found racial and ethnic diversity in shelters (Wattenberg, Luke, & Cornelius, 2004), high prevalence of children with health needs (Ensign, 2001) as well as poor well-being, such as low self-esteem (Simmons & Weinman, 1991). However, these studies do not provide a reference group of children entering the child welfare system who did not require a shelter care stay (e.g., went directly to a traditional or kinship foster placement). The lack of comparison groups limits our understanding of the factors associated with entry into shelter care and potential policies that could prevent shelter placements.

In terms of length of stay in the shelter, the research indicates that most stays last a week or less (e.g., Van Hook, 1994; Wattenberg, Luke, & Cornelius, 2004). Oakes and Freundlich's (2005) qualitative study of shelter utilization reported that length of stay in the shelter was associated with being older; African American; having emotional, behavioral, or substance abuse problems; having developmental disabilities; and being a part of a large sibling group. And, in the only known quantitative investigation of shelter care length of stay, Litrownik, Taussig, Landsverk, and Garland (1999) found no relationship between prior service system involvement (e.g., arrest history, psychiatric hospitalizations) and number of days spent in the shelter. However, no empirical study exists using a multivariate quantitative approach to predict shelter length of stay.

Overall then, the shelter care literature is in its infancy. To better support the development of a research base, we propose to look to other established literatures of services with similar features to shelter care to develop evaluation models and re-

search questions. The psychiatric hospitalization services literature would appear to meet this criterion, with its robust utilization research base (e.g., Tulloch, Fearon, & David, 2011). Psychiatric hospitalization is similar to shelter care in that it involves a restrictive congregate care setting, has a fairly concrete entry threshold (e.g., the presence of risk to self/the absence of a long-term placement at time of entry into temporary custody), and "amount" of care is typically tied to days spent in the facility. Of course, there are important differences as well. For example, it is reasonable to hypothesize that entry into shelter care has more to do with the availability of caregiver support in the community, such as the number of relatives able and willing to be a placement resource.

The psychiatric admissions literature has found that clinical variables intuitive to the need for admission, such as danger to self and others and impulsivity, are linked to the decision to admit versus deflect from the hospital (Pavkov, Goerge, & Lee, 1997). However, nonclinical factors have also been linked to admission decision, such as caregiver burden (Bickman, Foster, & Lambert, 1996), referral provider (e.g., residential placement facility; Leon et al., 2000), and race/ethnicity (Leon, 2008). Research predicting hospital length of stay (LOS) tells a similar story. Although clinical variables such as aggression and psychotic symptoms are associated with LOS (Pavkov, Goerge, & Czapkiewicz, 1997), nonclinical factors, such as hospital (Leon, Snowden, Bryant, & Lyons, 2006) and race/ethnicity (Leon, Uziel-Miller, & Lyons, 1999), can also be associated with LOS. Research has also shown that providing feedback to stakeholders about the need to reduce the influence of nonclinical factors can actually diminish the role that these factors (e.g., race/ethnicity) play in future decision-making (Leon, 2008).

What emerges when reviewing the psychiatric hospital literature is that predictors of utilization range from variables "within" the child (e.g., emotional/behavioral issues) to variables that serve as environmental contexts, such as social support (e.g., parent/foster parent burden). Assuming that multiple contexts predict utilization of shelter care, a theoretical model is needed to conceptualize variables for study and direct a program of research in this domain. Ecological Systems Theory (Bronfenbrenner, 1979, 1994) and, more recently the Bioecological Model (Bronfenbrenner, 2005), conceptualizes the biological and ecological environment of the youth as nested systems, with the developing person at the center. The nested systems can all interact in complex ways to affect the individual. For example, the availability of relatives as possible placement resources might be a main effect predictor of shelter utilization, but it might also be the case that relative availability is only associated with shelter utilization for youth who experienced a specific abuse type. Ecological systems theory has been used successfully in a variety of children's service evaluation research contexts (e.g., Cook & Kilmer, 2010).

Describing Bronfenbrenner's theories (1979, 1994, 2005) in more detail, the first, innermost system is the microsystem and is defined as the immediately surrounding setting containing the developing person. The microsystem includes interactions and relationships that

³B.H. v. McDonald (1988); Brian A. v. Sundquist (2001); Hill v. Erickson (1988/1994); Katie I. v. Kimbrough (1991); Norman v. Suter (1991); Ward v. Kearney (2000).

occur in the immediate setting of the youth including the home, school, and neighborhood setting. Bronfenbrenner emphasized the bidirectional nature of relationships within the microsystem, such that the microsystem not only influences the youth, but the youth influences the microsystem. The second system, the mesosystem, consists of interactions between two or more microsystems. In this population, for example, the interaction between the inpatient unit serving the youth and the youth's family would be included in the mesosystem. The third system, the exosystem, represents the impact of greater ecological system forces, such as the availability of community resources, on the developing person. These external environments impact the youth, but in an indirect manner such that the youth does not directly interact with the exosystem, but is affected by what happens within the exosystem. The final system, the macrosystem, represents the influence of larger cultural beliefs and values, laws, and public policies on the youth. Included in the macrosystem, for example, would be the impact of managed care policies on access to services.

Current Study

Emergency shelter care use has been a subject in legal initiatives such as child welfare consent decrees for almost two decades. In fact, several recent best practices and funding initiatives in child welfare—such as practices involving the timely assignment of caseworkers and foster parent recruitment initiatives—are in part a response to negligent and publicly embarrassing emergency shelter practices brought to light by media accounts and consent decree litigation. In comparison, scant attention has been paid to the subject in the academic literature. The current study seeks to fill a gap in the literature by exploring the variables associated with placement in the shelter versus kinship placements and the variables associated with length of time spent in the shelter. This study seeks to employ variables at multiple ecological contexts, and to examine the extent to which these variables may interact in nuanced ways to predict who goes to the emergency shelter and how long they stay. We hypothesize that—consistent with the inpatient literature—variables intuitively tied to a need for an emergency shelter placement (e.g., conduct disturbance, characteristics of the extended family) as well as variables that should be unrelated to a shelter stay (e.g., child welfare agency serving the child) will be associated with utilization.

Method

Participants

Children and adolescents ($N = 123$) between the ages of six and 13, who entered the care of the Illinois Department of Children and Family Services (DCFS) in Cook and Will Counties between October 1st, 2011 and March 1st, 2014, were eligible for the study. Participants were further selected to create two groups: (a) those who entered care and were immediately placed with a relative (kinship placement; $n = 100$, 81.3%) and (b) those who entered a kinship placement after spending time in an emergency shelter ($n = 23$; 18.7%). Participants were 52.7% female, 57.1% African American, 20.5% Latino, 11.6% biracial (i.e., African American and Caucasian or African American and Latino), 8.9% Caucasian, and 1.2% Asian American. The mean age at entry into foster care was 9.40 years ($SD = 2.45$). The most common reason for

referral to DCFS care was neglect, at 75%, followed by physical abuse (25%), sexual abuse (10.7%), and dependency (7.3%). These sample statistics are the result of a procedure whereby a random selection of one child from each family who entered as sibling group was chosen to avoid violating the assumption of independence.

Procedures

This study was part of an overall project designed to identify and promote the involvement of extended kin and fictive kin in the lives of children once they enter the child welfare system. A list of eligible participants for the study was provided by the Illinois DCFS to the first author. A research team at Loyola University Chicago reviewed information on the Illinois DCFS Statewide Automated Child Welfare Information System (SACWIS) database to collect data on the child's demographics and family (see below). The primary section of the SACWIS record reviewed by the team was the psychosocial history developed as part of what is known as the Integrated Assessment (IA). As required by the state of Illinois, the IA is completed within 45 days of youth coming into DCFS care through Temporary Custody. An IA screener, a licensed mental health professional, conducts in-person interviews with each youth and his or her parent(s) and foster parent(s) to examine the medical, social, developmental, mental health, familial, and educational domains of both the child and the adults involved in rearing the child. The main objective of the IA is to make appropriate placement decisions and to develop a service plan that meets needs of families. The IA also provides information on the youth's family composition, history of abuse or neglect, and placement history. After reviewing the IA on each participant, research assistants conducted phone interviews with child welfare workers to confirm the information collected from the SACWIS database. The Institutional Review Boards at both DCFS and Loyola University Chicago approved this study.

Measures

Demographics and family identification. A tool developed for this study, the Kin Identification and Level of Engagement Form, was used to obtain information regarding participants' race/ethnicity, gender, age, family composition, foster care placement information (i.e., initial placement, types of placement, length of stay in each placement), the youth's kin (e.g., maternal grandmother, paternal aunt), and the type of kinship support provided to youth by each of the identified kin. The categories of kinship support included visitation, phone calls, homework help, mentoring, transportation assistance, coaching, sending birthday cards or letters, invitations to family events, attendance at important events, and providing respite as well as support to biological parents and foster parents.

The completion of the Kin Identification and Level of Engagement Form occurred in two phases. In Phase I, the Loyola evaluator searched the Illinois DCFS SACWIS system to identify kin and fictive kin and record information regarding their support to the youth. In Phase II, the evaluation team contacted the child's

child welfare worker to conduct a 30-min interview to review and (a) confirm the kin and fictive kin identified by the file review and (b) determine whether the worker was aware of any kin/fictive kin not identified through the SACWIS file review or aware of any family involvement in the child's life among those already identified. As part of this call, workers were asked to report on the types of support the kin or fictive kin engage in with the youth and any barriers that may exist to involvement (e.g., out of state, prior DCFS indication).

On the basis of data gained from the Kin Identification and Level of Engagement Form, we computed 16 family related variables for study:

1. Total number of relatives, a sum of the number of kin and fictive kin identified;
2. Total number of relatives with "barriers," which included the following barriers: substance abuse, perpetrator, criminal history, prior DCFS involvement, lives out of state, whereabouts unknown, cognitive disability, medical disability, mental illness, incarceration, domestic violence history, limited financial resources, and "other" barriers;
3. Relative Barrier Ratio, a proportion of relatives with an identified barrier to involvement to the overall total number of relatives;
4. Childcare involvement, the total number of relatives involved in childcare;
5. Visits, the total number of relatives who visit the child;
6. Phone calls, the total number of relatives who call the child;
7. Support to the biological parent, the total number of relatives who provide social/instrumental support to the biological parent;
8. Foster parent support, the total number of relatives who provide social/instrumental support to the foster parent;
9. Total Maternal Great Grandparent, the total number of kinship support categories offered by this relative group;
10. Total Paternal Great Grandparent/Great Aunt or Uncle Support;
11. Total Maternal Grandparent Support/Great Aunt or Uncle Support;
12. Total Paternal Grandparent Support/Great Aunt or Uncle Support;
13. Total Maternal Aunt/Uncle Support;
14. Total Paternal Aunt/Uncle Support;
15. Total Maternal Cousin Support; and
16. Total Paternal Cousin Support.

The Child and Adolescent Needs and Strengths (CANS).

The CANS was completed as a part of the Integrated Assessment (IA) during the first 45 days upon entering care by the IA worker as part of the Integrated Assessment process. The CANS version used in this study was a 105-item structured instrument to assess the needs and strengths of a youth across seven areas of youth functioning, including Trauma Experience, Traumatic Stress Symptoms, Youth Strengths, Life Domain Functioning, Acculturation, Youth Behavioral/Emotional Needs, and Youth Risk Behaviors. For each item on the CANS, severity ratings are reported on a 4-point Likert scale of 0 to 3, where a score of "0" indicates no evidence of any needs or the presence of significant strengths, a score of "1" indicates a need for monitoring or preventive activities, a score of "2" indicates a need for addressing the problem, and a score of "3" indicates a need for immediate or intensive action. To complete a CANS as part of the IA, workers must first establish a reliability of 85% rating accuracy (State of Illinois DCFS).

CANS items with more than 25% missing data were deleted from further analysis. Through a principal components factor analysis, the following three scales were developed: Externalizing Behavior, consisting of six items (e.g., Danger to Others, Conduct Disturbance; $\alpha = .78$), Strengths, consisting of eight items (e.g., Talents/Interests, Well-being, Community Involvement; $\alpha = .87$), and Violence/Trauma, consisting of six items (e.g., Physical Abuse, Witnessing Community Violence, Adjustment to Trauma, Hypervigilance; $\alpha = .73$). A total of 27 items did not load onto any of the three factors and were therefore entered as individual items in the subsequent analyses.

Placement and length of stay. Placement and length of stay was determined using the Child and Youth Centered Information System (CYCIS). CYCIS was implemented by IDCFS in 1982 to track youths' status current living arrangements, service plan status, pending events, and goal achievement. CYCIS also includes information on all out-of-home care providers, with detailed identifying information and payment rate histories. CYCIS data are entered by the youths' caseworkers. There is also an automated interface between the CYCIS and the Management Accounting and Reporting System (MARS), which generates payments to out-of-home care providers and serves to promote the reliability of CYCIS. Because CYCIS is the primary database responsible for monitoring the movement of youth through the State of Illinois child welfare system, it has frequently been used to track youth outcomes related to placement changes, time in care, family reunification, and reentry into foster care. On the basis of CYCIS data, participants were selected if their first placement was either a kinship placement or if it was a shelter placement followed by a kinship placement. For children with a shelter care stay, length of stay was determined on the basis of intake and discharge dates and dichotomized into the following categories: (a) length of stay less than 30 days; and (b) length of stay 30 days or longer.

Statistical Analyses

We used Classification Tree Analysis via Optimal Data Analysis (CTA via ODA; Soltysik & Yarnold, 1993; Yarnold & Soltysik, 2005) to create a multivariate classification "tree" model for predicting emergency shelter admission decisions and length of

stay in the shelter; length of stay was dichotomized before the analyses. For each equal interval or ordinal (i.e., continuous) predictor, ODA identifies an optimal classification cut point (e.g., if age ≥ 12 , then predict shelter first; if age < 12 , then predict home of relative first) that maximizes overall PCA. For each nominal or binary (i.e., categorical) predictor, ODA identifies an optimal classification rule (e.g., if gender = female, then predict shelter first; if gender = male, then predict home of relative first) that maximizes overall PCA. Thus, ODA can accommodate multicategory nominal predictors, such as race, without dummy-coding these variables. Unlike other statistical methods for constructing tree models (e.g., regression-based CART or chi-square-based CHAID), ODA uses an exact permutation probability with no distributional assumptions, assesses the expected cross-sample generalizability of classification rules through a built-in jack-knife resampling procedure, and finds main effects and nonlinear interactions that optimally classify outcomes.

We used ODA analyses to construct a hierarchically optimal multivariable “tree” model in which successive predictors served to classify with maximum accuracy a gradually decreasing proportion of the total sample. This type of optimal classification tree model has proven accurate and informative in numerous prior applications, including the areas of adolescent risky sexual behavior (Donenberg, Bryant, Emerson, Wilson, & Pasch, 2003), substance abuse (Mueser et al., 2000), attention-deficit/hyperactivity disorder (Ostrander, Weinfurt, Yarnold, & August, 1998), and geriatric medicine (Yarnold, 1996). Following established procedures to construct this hierarchically optimal tree model, at each node of the classification tree model, we selected the predictor (and accompanying decision rule) with the strongest effect strength for sensitivity (ESS; see Donenberg et al., 2003; Mueser et al., 2000; Ostrander et al., 1998; Yarnold, 1996). ESS is an absolute index of effect size for which 0 = performance expected by chance and 100 = perfect classification accuracy. According to Yarnold and Soltysik (2005, p. 61), ESS values $< 25\%$ are *weak*; $25\%–50\%$ are *moderate*; $50\%–75\%$ are *relatively strong*; $75\%–90\%$ are *strong*; and $> 90\%$ are *very strong*. To determine the statistical significance of each predictor in the final model, we performed a nondirectional Fisher’s exact probability test on the 2×2 cross-tabulation of actual and predicted admission status (i.e., deflected vs. admitted) using the optimal decision rule for each predictor in the final classification tree model.

In constructing the optimal tree model, we used two statistical procedures to increase confidence in the final results. First, a leave-one-out (LOO) jackknife analysis was performed on each attribute at each potential decision point in the classification tree model. In LOO analyses, each observation is removed from the sample one at a time, an ODA model is obtained for the remaining subsample, the optimal cut point or decision rule is used to classify the single removed observation, and the classification results are stored and tabulated iteratively across all observations. At each node of the classification tree model, we included only the predictor with highest ES whose overall classification accuracy was stable in the LOO analysis at $p < .05$ to maximize the expected cross-sample generalizability of the final model.

As a second strategy to increase confidence in the final classification tree model, we used a sequentially rejective Bonferroni procedure to prune the classification tree, to ensure an experiment-

wise Type I error rate of $p < .05$ (Klockars, Hancock, & McAweeney, 1995; Yarnold & Soltysik, 1991). Specifically, we used a Sidak step-down adjustment procedure (Soltysik & Yarnold, 1993; Yarnold & Soltysik, 2005) to prune nodes from the tree if their Type I error exceeded 0.05, controlling for the number of nodes in the final tree model. This statistical procedure was used to increase confidence that the results of the final tree model do not capitalize on chance.

Lastly, we evaluated the overall predictive performance of the final CTA model using the following five performance statistics: (a) overall classification accuracy (i.e., the percentage of the total sample correctly classified by the tree model); (b) sensitivity (i.e., the percentage of the actual members of a given category correctly classified); (c) predictive value (i.e., a prognostic index indicating the percentage of the predicted classifications into a given category that were correct); (d) mean performance (i.e., the mean of sensitivity and predictive value across classes); and (e) effect strength for sensitivity.

Results

Initial Placement: Shelter Versus Kinship Placement

As described previously, the UniODA analysis assigns optimal cut points to all continuous independent variables and then calculates a set of classification statistics for each variable. In the case of dichotomous predictors, no cut point is derived, but classification statistics can still be computed according to how well the binary independent variable differentiates membership in the binary outcome group. Across 61 UniODA analyses, four variables were able to classify placement decisions at an alpha of .01 (see Table 1). First, the child welfare agency providing casework services was associated with decision to place in a shelter versus immediately into a home of relative. Of 24 agencies providing child welfare services, eight were associated with entry into a shelter whereas 16 were associated with a home of relative placement directly after entry to foster care. In terms of reason for entry into the system, dependency cases were also more likely to be placed into a shelter than cases entering for neglect or abuse. Two related family variables derived from SACWIS file reviews were the final univariate predictors. First, total number of relatives who experience barriers in being able to be involved with the child (e.g., incarceration, substance abuse, lives out of state) was associated with shelter placement; children from families with 11 or more relatives with barriers were more likely to experience a shelter placement before finally being placed with a relative. Further, the ratio of total number of relatives in the family with barriers to total number of family members identified (Relative Barrier Ratio) was associated with shelter placement; families in which 70% or more of the relatives in the overall family have barriers to involvement with the child were more likely to experience a shelter placement compared to children from families with fewer than 70% of relatives with barriers.

Figure 1 illustrates the final CTA model. From the original univariate ODA analyses, Relative Barrier Ratio was the single most accurate classification variable, which is why it is at the top of the tree and serves as the first branching variable (see Figure 1). After it was determined that Relative Barrier Ratio was the most

Table 1. Univariate ODA Results: Variables Associated With Children's First Placement in an Emergency Shelter Versus a Kinship Foster Home

Variable	Emergency shelter first	Kinship care first	Overall classification accuracy	Effect strength	Sensitivity emergency shelter first	Sensitivity kinship care first	Specificity emergency shelter first	Specificity kinship care first	p value
Barriers	≥ 11	< 11	68.75%	36.21%	77.27%	66.67%	36.17%	92.31%	< .001
Barriers to total number of relatives	> .70	≤ .70	72.32%	42.92%	81.82%	70.00%	40.00%	94.03%	< .001
Agency	8 agencies	18 agencies	77.48%	42.06%	86.36%	75.28%	46.34%	75.28%	< .001
Reason for entry (dependency)	Yes	No	81.82%	32.58%	22.73%	96.59%	62.50%	83.33%	< .01

Note. CANS = Child and Adolescent Needs and Strengths. The following variables were not statistically significant predictors of placement. CANS variables: Sex Abuse, Emotional Abuse, Neglect, Medical Trauma, School Violence, Traumatic Grief/Separation, Avoidance (trauma), Numbing (trauma), Dissociation (trauma), Educational Problems, Developmental Delays, Legal Problems, Medical Issues, Physical Development, Sexuality, School Achievement, School Attendance, Psychosis, Depression, and Substance Use. CANS Scales: Externalizing Behavior, Violence Trauma, and Strengths. Demographic Variables: Age, Gender, Ethnicity. Reason for entry into care: Physical Abuse, Neglect, Sexual Abuse, Family Variables: Total Maternal Grandparent, Total Paternal Grandparent, Total Maternal Grandparent/Great Aunt or Uncle, Total Paternal Grandparent/Great Aunt or Uncle, Total Maternal Aunt/Uncle, Total Paternal Aunt/Uncle, Total Maternal Cousins, Total Paternal Cousins, Total Number of Positively Attached Relatives, size of sibling group.

important predictor ($\geq .70$ = predict shelter placement, $< .70$ = predict home of relative placement) we next attempted to fill out the left side of the tree, representing the subsample of children from families with a Relative Barrier Ratio of less than .70. Among this subsample, the single CANS variable of Emotional Abuse best classified a shelter versus home of relative first placement. Children with no or little rated emotional abuse were predicted to be placed in a home of relative upon entry into care (see node A), whereas children who experienced moderate to severe emotional abuse prior to entry into the system were predicted to experience a shelter placement (node B). Node A was 100% accurate, indicating that all children in this category were predicted to enter care with a kinship placement, and all 48 children did in fact enter care by being placed directly with a kinship foster parent.

We next attempted to fill out the right side of the tree, representing the subsample of children who came from families with Relative Barrier Ratios of .70 or greater. Among this subsample, a reason for entry into care of dependency best classified a shelter versus home of relative first placement; those who entered care as a dependency case were predicted to experience a shelter placement (node F). Among those who did not enter care as a dependency case, the CANS variable Neglect best classified shelter versus relative placements. Children who experienced little or no neglect were more likely to enter a home of relative placement (node C). Among children who experienced moderate to significant neglect, school achievement was associated with shelter versus nonshelter placement. Children with moderate to severe difficulties in the area of school achievement were more likely to go directly to a home of relative (node D) compared with those without difficulties in this area (node E).

Overall classification accuracy for the CTA model was 89.12%. ESS was 67.01%, which is considered a relatively strong effect (Yarnold & Soltysik, 2005). For predicted shelter placement, sensitivity and predictive value were 91.67% and 94.29%, respectively. For predicted placement in home of relative, sensitivity and predictive value were 80.00% and 72.73%, respectively.

Length of Stay: Less Than 30 Days Versus 30 Days or Longer

Because length of stay is obviously a continuous variable, it required a dichotomization to run any ODA or CTA analyses. As mentioned previously, this variable was dichotomized into "less than 30 days" and "greater than or equal to 30 days." For the UniODA analyses, six variables were able to classify placement decisions that met the criteria of being both LOO stable and statistically significant at an alpha of .01 (see Table 2). The only CANS variable associated with dichotomized length of stay was Neglect. Children with low to mild neglect were more likely to stay fewer than 30 days while children in the moderate to severe range were more likely to stay 30 days or more. In terms of number of youth removed, being in a larger sibling group (two or more) was associated with a stay shorter than 30 days. As with the placement prediction analyses (shelter vs. home of relative), agency once again predicted dichotomized length of stay. Five agencies were associated with stays lasting 30 days or longer, and 13 were associated with stays lasting less than 30 days. Dependency status was again a significant predictor as well; dependency cases were associated with longer stays compared to abuse and

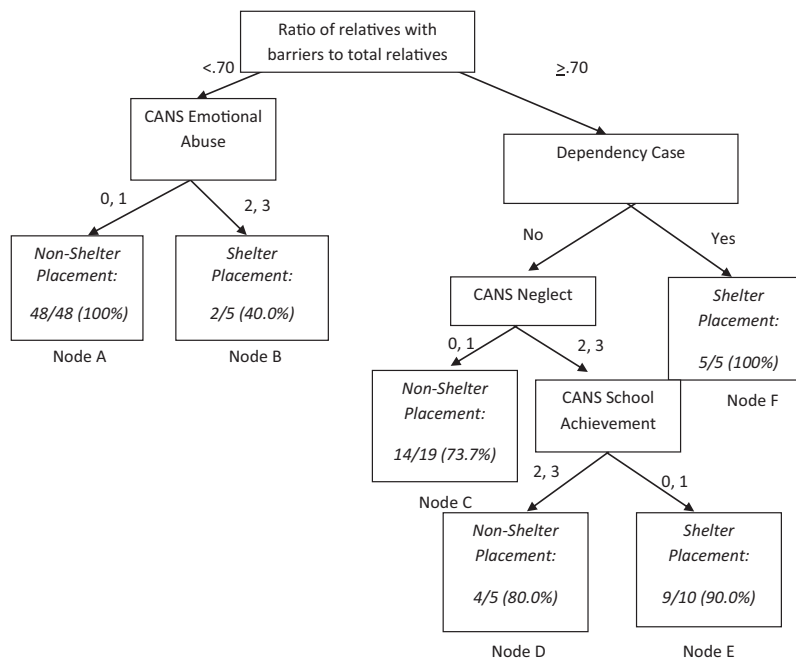


Figure 1. Multivariate ODA table classifying children who experienced shelter versus kinship placements upon entry into care. CANS = Child and Adolescent Needs and Strengths.

neglect cases. Children older than 12 were more likely to stay 30 days or longer. Finally, the Relative Barrier Ratio variable once again significantly predicted utilization; children from families with close to their entire family experiencing barriers ($>.98$ Ratio of Relatives to Total Relatives) were more likely to remain in the shelter for 30 days or longer.

Figure 2 illustrates the final CTA model. From the original univariate ODA analyses, age was the single most accurate classification variable, which is why it is at the top of the tree and serves as the first branching variable (see Figure 2). After it was determined that age was the most important predictor (≥ 12 = predict 30 days or longer, < 12 = less than 30 days), we next attempted to determine whether further branching optimally classified children. Among children younger than 12, no variables significantly classified the children into the two groups (node A).

We next attempted to fill out the right side of the tree, representing the subsample of children 12 years or older. Among this subsample, children who came from sibling groups larger than five were predicted to stay less than 30 days. Among those from larger sibling groups, a kinship support variable, amount of childcare support provided by kin, further classified the groups. Children from families with at least one individual who helps with childcare were more likely to stay less than 30 days (node B) compared with children from families where no kin provided childcare support (node C).

Overall classification accuracy for the CTA model was 91.2%. ESS was 67.72%, which is considered a relatively strong effect (Yarnold & Soltysik, 2005). For predicted shelter length of stay of 30 days or longer, sensitivity and specificity were 83.33% and 71.43%, respectively. For predicted shelter length of stay of less than 30 days, sensitivity and specificity were 92.86% and 96.30%, respectively.

Discussion

This study had two aims: (a) to examine the variables associated with children entering the child welfare system who first experience a shelter stay before moving on to a home of relative placement versus children who are immediately placed with a relative and (b) to examine the variables associated with children who stay less than 30 days in the shelter versus children who stay 30 days or longer. Using Optimal Data Analysis (ODA) and Classification Tree Analysis, this study found that variables associated with the child (e.g., age), the child's reason for entry (e.g., dependency), agency, and the child's family (e.g., barriers in the family) all are associated with shelter utilization.

Univariate (ODA) Analyses

Univariate ODA analyses revealed that three variables were associated with both entry into shelter care and time in the shelter: The child welfare agency serving the child, reason for entry into care (dependency vs. neglect or maltreatment), and the overall ratio of relatives in the child's family who were rated by reviewers and caseworkers as experiencing "barriers" to support and involvement to the total number of family members identified in the study (Relative Barrier Ratio). Each of these is discussed in order.

The organization providing child welfare services has consistently been found in the literature to be associated with outcomes. For example, Glisson and Hemmelgarn (1998) found significant variability in child welfare service agency organizational climate, variation that was associated with children's well-being outcomes; subsequent research has replicated these findings on a larger scale using National Survey of Child and Adolescent Well-being data (Glisson, Dukes, & Green, 2011). Regarding placement, Yoo and

Table 2. Univariate ODA Results: Variables Associated With Children Staying in the Shelter Less Than 30 Days or 30 Days or More

Variable	30 days or longer	Less than 30 days	Overall classification accuracy	Effect strength	Sensitivity emergency shelter first	Sensitivity kinship care first	Specificity emergency shelter first	Specificity kinship care first	p value
Age	≥12	<12	79.41%	47.29%	81.48%	71.43%	91.67%	50.00%	<.001
CANS Neglect	0,1	2,3	69.47%	36.27%	68.00%	75.00%	91.07%	38.46%	<.001
Agency	6 agencies	12 agencies	54.90%	30.59%	45.68%	90.48%	94.87%	30.16%	<.01
Size of sibling group	<2	≥2	76.47%	33.05%	82.72%	52.38%	87.01%	44.00%	<.01
Reason for entry (dependency)	Yes	No	79.41%	31.55%	90.12%	38.10%	84.88%	50.00%	<.01
Barriers to total number of relatives	<98%	≥98%	83.33%	44.62%	98.77%	23.81%	83.33%	83.33%	<.01

Note. CANS = Child and Adolescent Needs and Strengths. The following variables were not statistically significant predictors of placement. CANS variables: Sex Abuse, Emotional Abuse, Medical Trauma, School Violence, Traumatic Grief/Separation, Avoidance (trauma), Numbing (trauma), Dissociation (trauma), Educational Problems, Developmental Delays, Legal Problems, Medical Issues, Physical Development, Sexuality, School Achievement, School Attendance, Psychosis, Depression, and Substance Use. CANS Scales: Externalizing Behavior, Violence Trauma, and Strengths. Demographic Variables: Gender, Ethnicity. Reason for entry into care: Physical Abuse, Neglect, Sexual Abuse. Family Variables: Total Maternal Great Grandparent, Total Paternal Great Grandparent, Total Maternal Grandparent/ Great Aunt or Uncle, Total Paternal Grandparent/ Great Aunt or Uncle, Total Maternal Aunt/Uncle, Total Maternal Cousins, Total Paternal Cousins, Total Number of Positively Attached Relatives, Total Number of Relatives with Barriers.

Brooks (2005) found that social service agencies varied significantly in their capacity to provide effective family preservation services. Further, Ryan, Garnier, Zyphur, and Zhai (2006) found that caseworkers and agencies in Illinois varied across a number of variables (e.g., turnover, caseworker education) and that these variables were associated with length of stay in the system and likelihood of reunification. The current study adds to this literature in finding that the private or public regional child welfare agency serving the child can be associated with both entry into the shelter⁴ and time spent in the shelter. Future research should seek to explore whether variables at the organizational level are associated with differences in shelter utilization. Because shelter placements happen early and quickly in the case, caseworkers must often work quickly to prevent a shelter placement. A caseworker’s capacity to work with speed and intensity to prevent a shelter placement might be impacted by variables such as caseload and burnout (Juby & Scannapieco, 2007).

Dependency status was associated with experiencing a shelter stay and also with longer time in the shelter. Children can enter into care as a dependency case for a number of wide-ranging reasons. For example, children can come into care as a dependency case when their parents have died, when their parents are unable to care for them because of severe physical or emotional and behavioral difficulties, or when the child’s physical, emotional or behavioral difficulties are so severe that the parent has become “neglectful” in a way the court determines is not their fault (“no fault dependency”). It might be that children who come into care because either they or their parents have a significant physical, emotional, or behavioral disability go to the shelter more often and stay longer because relatives need more time to weigh the issues involved in being a foster parent under such circumstances. This conclusion suggests that when working with relatives to gain their commitment to be kinship foster parents in dependency cases, child welfare agencies may need to provide more support and counseling to prevent shelter utilization.

Relative Barrier Ratio was the final variable associated with both placement in shelter care and duration in this study. Families with higher proportions of family members with barriers to engagement may be associated with a shelter placement for a variety of reasons. First, it likely means that there are fewer placement options available, making finding an appropriate family member more challenging. Second, the literature has posited that family support is key to successful kinship placements (Johnson-Garner & Meyers, 2003). If kinship foster parents have fewer appropriate family members who are available to provide support, this may mean they are more hesitant to commit to being a placement, leading to a stay in the shelter. It is important to note that the children in this sample either entered a home of relative placement immediately or after their shelter stay, but all the children eventually ended up with a home of relative placement. This raises the question of why the children who came through the shelter first did not immediately enter kinship care, and one explanation we offer

⁴The decision to place a child in the shelter often occurs before the caseworker agency or caseworker has been assigned. Therefore, it may be more likely that the child protection worker or regional child protection agency is associated with placement in the shelter, which covaries with the eventual caseworker/caseworker agency.

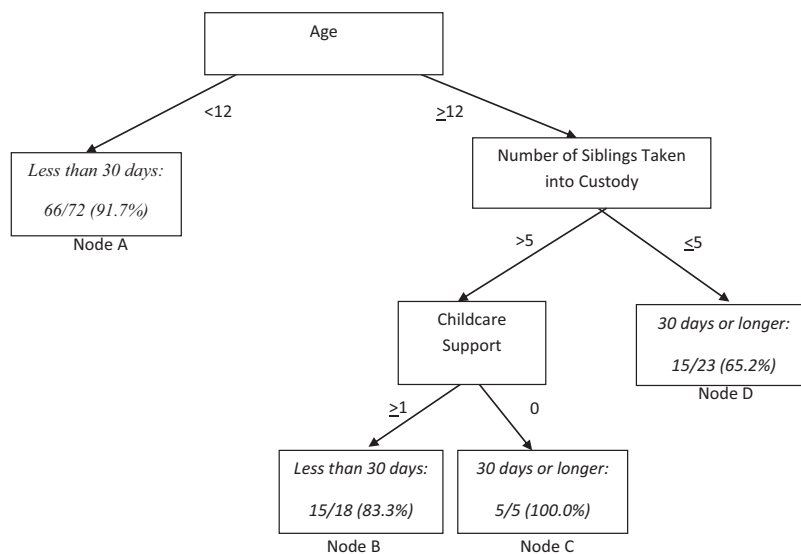


Figure 2. Multivariate ODA table classifying children who stayed less than 30 days or 30 days or longer in an emergency shelter.

is that critical support may have been lacking. It may also be the case that families with more barriers may have a stigma associated with them, making the caseworker more tentative in considering or effecting the placement. However, caution on the part of the caseworker is also likely justified in many cases. For example, common barriers in the current sample included relatives with criminal histories and/or prior child welfare indications. This suggests that the decision to place children with kinship families in which relatives have these barriers is more complex and requires a more detailed and thoughtful plan regarding how to ensure the child's safety. Nonetheless, these results might suggest that more can be done administratively (e.g., faster background checks) and in terms of planning (e.g., safety planning) to better reduce shelter utilization. Clearly, however, future research should seek to explore the role that any of these explanations may be playing in shelter utilization in families with members who have more barriers to supporting the child.

Multivariate Analyses

Placement in the shelter. The univariate ODA analyses showed that Relative Barrier Ratio was the best predictor of placement in a shelter versus home of relative. However, the Relative Barrier Ratio variable left a number of youth improperly classified, and this study found that additional variables were able to improve upon classification accuracy. Among those with children from families with fewer relatives with barriers, emotional abuse from the parent before entry into care improved classification accuracy such that children who did not experience emotional abuse were predicted to enter directly into kinship care compared with children who experienced mild, moderate, or severe emotional abuse. Parental emotional abuse of the child may be a proxy for the biological parent's emotional abusiveness in general, which may be leading to antagonistic relationships with family members, thereby affecting their motivation to be a kinship foster parent to

the child. For example, a parent who was emotionally abusive to his or her child might have been emotionally abusive to any family members who are considering becoming a foster parent. Again, this conflict might give relatives pause when considering their ability to make a commitment. However, as with earlier explanations, this suggestion is speculative. Once again, future research might seek to explore this finding further, possibly with qualitative methods.

Among families with relatively higher barriers, (right side of tree, Figure 1), the reason for entry into care was able to further classify which children would enter the shelter. Children who entered care as a dependency case or who experienced moderate to significant neglect were more likely to enter care by way of the shelter. As suggested earlier, dependency cases, which often result from significant physical, emotional, or behavioral needs in either the child or parent, may require more time on the part of the relative when considering the decision to be the placement. In terms of neglect, it may be that parents who are unable to appropriately care for their children have lost or exhausted connections with their extended kin network; that is, they have "neglected" their family as a whole. Then, once the children enter care, it would take more time to reestablish those connections and develop a commitment among the family members to be a foster parent. This reestablishment of connection may be made all the more difficult in families in which a majority of the other family members are experiencing a barrier that would limit their ability to support the child in care. Interestingly, however, one additional variable predicted entrance into shelter care among children from families with higher barriers and who experienced moderate or severe neglect. Children in this subsample with moderate to severe difficulties in school achievement were *more* likely to go directly to a kinship foster placement while children with fewer academic needs were more frequently placed in the shelter first. It might be the case that children with more academic needs create a greater sense of urgency in caseworkers or potential kinship placements.

For example, caseworkers and potential kinship placements might be concerned that a shelter placement will exacerbate school-related achievement difficulties.

Length of time in the shelter. Age was the single strongest variable associated with time spent in the shelter, with children 12 and older more likely to stay 30 days or longer in care. Age consistently predicts a wide range of outcomes in the child welfare and behavioral health services literature. Age has been linked to time spent in care (Akin, 2011) and likelihood of placement disruptions (Smith, Stormshak, Chamberlain, & Bridges Whaley, 2001). In terms of congregate care settings, age has been found to predict both length of stay in the hospital (Leon et al., 1999) and duration of treatment in residential treatment (Redding, Fried, & Britner, 2000). However, in a finding that is most likely specific to the emergency shelter congregate care setting, among children who were 12 or older, size of the sibling group further classified children. Children 12 and older who were a part of a sibling group of five or more children were *less* likely to spend 30 days or longer in the shelter compared with children taken into custody as part of a sibling group with fewer than five children. However, among children 12 and older who were part of larger sibling groups, amount of childcare support provided to the kinship foster parent from other family relatives further classified group membership. Children in this subsample who had at least one extended family member to provide childcare support to the kinship foster parent were less likely to spend 30 or more days in the shelter compared to children from families where this support was lacking.

The finding that children 12 and older who were part of larger sibling groups were actually less likely to spend 30 days or longer in the shelter may be explained by characteristics associated with kinship caregiver decision-making or dynamics in the child welfare system. For example, this finding may suggest that whatever resistance kinship caregivers have to becoming a placement for older children—resistance that leads to longer lengths of stay in the shelter—this resistance may be mitigated when other, presumably younger, children are a part of the child's sibling group. This likelihood increases with more children in the sibling group. From a systemic perspective, it may be the case that larger sibling groups place a greater demand on the child welfare system to ensure shorter lengths of stay. In effect, a quicker placement out of the shelter reduces the numbers of children in the shelter more significantly when larger sibling groups are targeted.

It is interesting that the child's clinical characteristics such as internalizing and externalizing behavior did not play a significant role in predicting shelter utilization. Clinical characteristics have traditionally played a significant role in predicting a range of utilization and placement outcomes, such as inpatient length of stay (e.g., Leon et al., 2006) and child welfare placement disruptions (e.g., Leathers, 2006). We hypothesized that clinical characteristics might prevent or delay a relative when considering whether to be a kinship placement upon entry into care, which would suggest that these variables would be associated with shelter utilization. Instead, it was variables "outside" of the child, the only exception being age, that predicted utilization. Chief among these variables were characteristics associated with the broader extended family, such as the proportion of family members with barriers to engagement with the child.

Limitations

Because of the limited research on shelter care utilization, we chose to employ an exploratory data analysis strategy using a large number of variables. Our approach, CTA via ODA, finds distinct subsamples that all classify the dichotomous variable (e.g., shelter first vs. kinship first), but do so through the nuanced interaction of often unique sets of variables. This is how, for example in Figure 1, one subsample of youth who are less likely to enter the shelter come from extended families with relatively fewer barriers and low levels of parental emotional abuse (node A) and another subsample comes from families with higher proportions of relatives with barriers, does not enter care as a dependency case, and experienced low levels of neglect (node C).

Although the benefit of such an approach is that it produces highly distinct, contextualized subsamples, being exploratory, it is not theory-driven. This is why our discussion of many of the results were admittedly more speculative than in models where a limited number of variables are chosen and are only entered into a statistical model when theoretically justified. As a result, the findings here are more meant as a point of departure for what should be greater empirical attention to shelter care utilization. None of the many possible explanations of the findings here necessarily deserves more support. Instead, future research should be sure to include the breadth of variables that were significantly associated with our utilization variables.

Our original sample was made smaller by the fact that children often come into care in sibling groups. CTA via ODA does not allow for the nesting of variables (e.g., children into families), and therefore children were randomly selected from sibling groups so as not to violate the independence assumption. More traditional statistical models that can account for dependencies in the data (e.g., Generalized Estimating Equations) have the benefit of representing a larger proportion of the sample, with the potential of producing more generalizable results.

Finally, one of our primary measures, the Kin Identification and Level of Engagement Form, was developed for this research and has not been used previously. Future research should establish the validity of this tool in measuring extended family support and engagement with children. Further, this tool represents what might be considered a measure of "actual," versus "perceived," social support, and future research might measure perceived support as well.

Conclusions

Overall, this study suggests that, as is the case in other service settings, shelter utilization is associated with a range of variables throughout the child's ecology. We found evidence in this study for the role of the microsystem, mesosystem, and exosystem in the utilization of shelter services. For example, the family context, particularly the number of relatives with barriers to the total number of relatives, likely exerts a microsystem effect by limiting the pool of available relatives to foster the child. However, if potential caregivers are reluctant to agree to be a kinship placement because they are strained by the needs of other family members, then this variable might better be described as a mesosystem variable. Our hope is that future research will move beyond

the exploratory design of this study to provide better insight into the systems at work in driving shelter care utilization.

If results similar to those found here replicate with new samples, then one implication is that we can identify children entering the system who are at greater risk of a shelter placement and/or a long shelter placement and target early casework efforts to these at-risk groups. And, these results suggest that a significant risk/protective factor involves the child's extended family, including the representation of relatives in the extended family with barriers to engagement and support of the child and number of relatives who provide childcare support to the kinship foster parent. More support may need to be available early in the case to help the kinship foster parent and/or caseworker weigh some of the challenges involved in being a foster parent among some of the children we found to be at-risk for a shelter placement or a prolonged stay. The finding that, at the exosystem level, caseworker agency was associated with both placement in the shelter and likelihood of staying 30 days or longer suggests that future work in the cultural/organization climate literature might examine the effect these provider-level variables may have on shelter utilization.

Keywords: child welfare; emergency shelter care; kinship foster care

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