

Measurement Error in the Reported Reasons for Entry into the Foster Care System *

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ABSTRACT

To date, much of the research on foster dependence hinges on the validity of the reasons for entry into the foster care system. Yet, no one has tested these data. Since these reasons for entry help to assess individual differences in foster care children, the purpose of this study is to more closely examine these reasons. Using data from the Adoption and Foster Care Analysis Reporting System, we begin with exploratory factor analysis on the reported reasons for entry. Next, we specify and test a structural measurement error model of reasons for entry. The reported reasons for entry are not mutually exclusive. Rather, there are five significant commonalities across these various indicators. The commonalities are combined across the reported reasons for entry into the foster care system to create a set of mutually exclusive factors that represent reasons. We apply these factors to a model of dependence on the foster care system. Compared to a model that includes all of the individual indicators, we are able to get a better idea of the kinds of children that are at risk for delayed exits from foster care.

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The federally funded US foster care system is available to children who are orphaned, neglected or delinquent in out-of-home care. While the system is designed to provide insurance against inadequate living arrangements for children, it is a social assistance program available to any children in need of a home. Once in the foster care program children are in the care of social workers. The objective of the social workers is to maximize the well-being of individual children in their care. In order to do this, decisions need to be made based on the child's specific circumstances that have placed them in care initially. The purpose of this study is to more closely examine the data available for assessing individual differences in foster care children. Indicators of reasons for entry into the system may provide us with a lot of information about unobserved differences in these children. Therefore, much of the research to date hinges on these data. To date, nobody has tested the validity of the data.

Because of the loose eligibility requirements, the children who participate in the program are heterogeneous. Their reasons for entry into the program differ and consequently, their experiences within the program differ. There are a number of reasons for entry that we place into one of three categories. A child enters the foster care system when a parent is no longer able to care for him or her adequately. This may occur if a child is more challenging to care for than the average child. Consequently, we would say the reason for entry into the system is a "Child Reason". Children also end up on the system because their parents abuse them or their parents are not suited to care for them, and we say these children enter for "Parent Reasons". "Other Reasons" for entering the foster care system may include the absence of adequate care due to death of a parent or financial inability to care for the child.

The kind of care these children need, and specifically the amount of time they spend on the system, should vary based on their situation upon entry into the system. Therefore, many of the studies to date hinge on these "reasons for entry" as explanatory variables in determining the length of stay in the system or other outcomes (Benedict *et.al*, 1987; Benedict & White, 1991; Dwyer & Noonan, 2000; Fanshel, 1971; Goerge, 1990; Jenkins, 1967; Lawder *et.al*, 1986; Noonan, 2000; Seaburg & Tolley, 1986). This is because a key source of heterogeneity across children entering the foster care system can be identified through their reasons for entry. A child who enters because of a drug addiction problem at age 13 is very different from a newborn whose parents died in an automobile accident. Clearly treatments must vary across each of these cases in order to maximize the child's well-being.

Studies to date primarily focus on the length of stay and dependence on the foster care system and some of the main determinants in these models are the "reasons for entry". This is because foster care policies are aimed at reducing the length of stay.¹ We rely on these survey measures or entry reasons to capture unobserved child and parent characteristics. Theoretically this makes sense. Yet, these measures have never been tested. Since conclusions and policy implications hinge on these measures, the purpose of this paper is to test their validity as indicators of heterogeneity across foster care children. There is no reason to believe that the reasons are mutually exclusive. Our priors would suggest otherwise. For example, we argue that you cannot have child reasons for entry without parent reasons since the parents are responsible for making decisions on

¹ Since studies find that dependence is correlated with negative outcomes later in life and dependence is also costlier, policies focus on minimizing dependence on the system

behalf of the children. It is difficult to assess outcomes by reasons in the presence of collinearity.

We will be using a new national data set, Adoption and Foster Care Analysis and Reporting System (AFCARS) which contains very detailed information about reasons for entry. We begin with exploratory factor analysis using the reasons for entry reported in AFCARS. Next, we specify and test a structural measurement error model of reasons for entry. We learn that there are six significant commonalities across these various indicators as opposed to the three broader categories we had predicted. As a consequence we have a better understanding of what the indicators are measuring. We use the results in a model of dependence on the foster care system.

Section I provides some background. We describe the data in Section II. The Conceptual Model is presented in Section III followed by the empirical methodologies in Section IV. Results and conclusions follow in Sections V and VI.

I. Background

Based on a literature that finds that duration on the program is positively correlated with negative outcomes later in life (Barth, 1990; Blome, 1997; McDonald et al., 1996), it has been assumed that dependence on the foster care program is bad for the children. In addition, a consistent finding in the literature is that the probability of leaving the system declines with time spent in the system (Benedict et al., 1987; Courtney, 1994; Fanshel, 1971; Goerge, 1990; Jenkins, 1967). In other words, the longer a child remains in foster care, the less likely it is that the child will be able to leave. These findings, combined with substantial program growth between the eighties and nineties, prompted the enactment of the Adoption and Safe Families Act of 1997

(ASFA). The primary objective of ASFA is to minimize the duration of participation in the program.

More recently, Dwyer and Noonan (2000) redefine "dependence" on the foster care to account for re-entry onto the system. In doing so they find that expediting discharges may not be ideal for all children if the objective is to minimize dependence on the system since premature discharges result in re-entry and an increased probability of dependence. In particular, some children are actually hurt by such policies. Since the analysis finds differences in unobserved heterogeneity in the effects of this policy, we cannot identify which types of children are winners versus losers. What we do learn is that not all children benefit from being rushed off the system and there is something systematically different that causes this. This unobserved heterogeneity is most likely correlated with the reasons that place the child in foster care. We have foster care to deal with children in special circumstances. The child's reasons for entry reflect these circumstances and therefore may be useful in distinguishing between "winners" and "losers" of current policy. Measurement error in those reasons make the indicators noisy controls for heterogeneity. The purpose of this study is to minimize noise in these indicators and try and pick up what is important and common among the many reasons reported. We will develop factors that may be better measures of these unobserved circumstances.

II. Data

This paper uses data from the Adoption and Foster Care Analysis and Reporting System (AFCARS) for the state of New Jersey from the fiscal year 1998. AFCARS is the first federally mandated data collection program that requires all states to collect information

on all children in the state child welfare program. The data set includes information on child demographics, reasons for entry, case goals, duration of care, placement settings, the foster family setting and funding provided for each foster child. It is the most extensive data set that has ever been available to analyze the foster care system.

Since the reported reasons for entry into the foster care system are the reasons for the most current entry, we only include those children who have experienced a single spell in care. For those children who have experienced only one spell in care, the reasons for the initial entry are reported. However, for those children who have re-entered the care system, only the reasons for re-entry into the system are reported. This means that the reported reasons for entry into care may be endogenous for those children who have had multiple spells in care. To avoid the potential endogeneity problem, this study limits the sample of children.

While AFCARS is the most extensive data set that has ever been available for analyzing the foster care system, there are some concerns with the data that must be addressed. First, this study uses only one wave of AFCARS data from the fiscal year 1998. Thus, when examining the length of stay, the probability of discharge and the probability of re-entry, are conditional on being in the foster care system at some point during the fiscal year 1998. This type of sample will result in an over-representation of children who have had long stays in care. To clarify this point, consider the example presented by Bane and Ellwood (1986) of patients who occupy hospital beds. While the proportion of chronically ill admitted to the hospital is small, these individuals remain in care for long periods of time. Since these patients have extended stays in care, at any point in time a relatively large proportion of patients will be chronically ill. Analogously,

there will be a prevalence of children who have experienced longer stays in care. As such, the results should be interpreted cautiously because they may over estimate dependence.

Second, the data provide little or no information on the individuals who influence the decisions regarding the child such as the foster parents, biological parents, social workers and the child's sibling(s). Fortunately, the data set does supply information on the marital status of the biological and foster parents and the results of many decisions made by the social worker. For example, the case goal set by the social worker, the placement setting for each child and, where appropriate, the placement setting at the time of discharge are all reported.² Including marital status and the choices made by the social workers will account for some of the unobserved characteristics of the child, biological family, foster family and social worker.

III. Conceptual Model

Following Noonan and Dwyer (2000), we posit that the hazard of exiting after the initial spell in foster care is primarily a function of the reasons for entry, placement options, and the status of the family situation. The variables of interest are the reasons for being in foster care. A hazard model is used because it easily incorporates those children who have completed their first spells in care and those children who have not completed their first spells in care or whose first spell in care is censored.

Before presenting the hazard model, some notation must be defined.³ Let t be the number of days spent in the first spell of foster care. Let Z be a vector of observable

² The case goal is the social worker's plan for the child's permanent placement, such as return to the biological family or adoption.

³ Each variable discussed is for a particular child, but for notational simplicity the child subscripts will be suppressed until they are needed.

characteristics for the first spell in the foster care system. The hazard rate for exiting care, $h(s/Z)$, is the rate at which children exit the first spell of foster care on the s^{th} day conditional on being in care on the s^{th} day. The probability of observing a spell in care that is not completed or which is right censored is

$$S(t | Z) = \exp\left[-\int_0^t h(s | Z) ds\right]$$

This is known as the survivor function and it gives the probability that the duration of the spell will be at least t . The probability of observing a completed spell in care is

$$f(t | Z) = h(t | Z)S(t | Z)$$

The contribution to the likelihood function depends on both completed and uncompleted spells in care. Therefore, when considering the first spell in foster care the likelihood contribution for the i^{th} child is:

$$L_i = h_i(t_i | Z_i)^{(1-c_i)} S_i(t_i | Z_i)$$

where c_i takes on a value of 1 if the spell in foster care is censored. As discussed, this hazard model will be used to assess the impact of the “reasons for entry” on foster dependence after a measurement error model has been developed.

We predict three general categories of underlying heterogeneity in reasons for entry that we call "child-dominating", "parent-dominating" and "other" reasons.⁴ We develop a measurement error model for each of the indicators available in the data that

⁴ We will actually use exploratory factor analysis to determine the actual number of underlying variables that are common to the 14 indicators available in the data. The conceptual model does not change and we stick to three here to simplify the analysis since any other commonalities that may exist probably still fall within these three.

are functions of the underlying unobserved factors of interest. The following equation in matrix notation represents the measurement error model:

$$r = \Lambda_r R + \delta \dots (1)$$

where r is a vector of observed indicators of reasons for entry

R is a vector of the underlying unobserved factors

Λ_r is a vector of the estimated coefficients

δ are the random errors

The vector, R , represents all of the unobserved circumstances that place children in foster care. Obviously each reported reason for entry, r , is correlated with some of these unobserved reasons. However, they are not perfect measures of the unobserved circumstances. The elements in R are mutually exclusive while the elements in r may not be. An indicator that we categorize under "child reasons" may be more correlated with the underlying parent-dominating factor because of the correlations between the observed reason indicators (e.g., child behavioral problems).

Our hypothesis is that the factors would do a better job of explaining differences in exit hazards from the system than the observed indicators.

IV. **Empirical Methodologies**

We create a set of new variables that account for the circumstances that place a child in foster care using exploratory factor analysis (Spearman, 1904). The model specification is as follows:

$$r_{ij} = R_{i1}\lambda_{1j} + R_{i2}\lambda_{2j} + \dots + R_{iq}\lambda_{qj} + e_{ij}$$

where i indices the observation and j indices the variable. So r_{ij} is the value of observed indicator j of the i th observation and R_{ik} is the value of the k th factor of the i th

observation. λ_{jk} are the factor loadings or the linear coefficients and e_{ij} is the j th

variable's unique factor (residual). The factors, R , are estimated by calculating eigenvalues from the covariance matrix and ranking them. Factors with eigenvalues that exceed some threshold are retained.⁵

Next we impose and test some assumptions based on our priors about the relationships between the indicators, r , and the factors R . We create two indices: a child index that takes the value of 1 if any of the child reasons are reported and a parent index that takes the value of 1 if any parent or other reason is reported. We examine the relationship between all of the scores from the factor analysis against these two indices. We also allow for a relationship between the two indices (the error terms of the two equations may be correlated).

Finally, we compare the results of a hazard model using the indicators and the underlying scores created from them.

V. Results

Table 1 reports the frequency of the reasons for entry included in the analysis. Obviously the indicators are not mutually exclusive. A majority of the sample report all three types of reasons for entry. Parent reasons are the most common with 94% of the sample reporting at least one of this type. 76% of the sample reports that the parents are unable to cope with the children and roughly 60% of the parents neglect their children. Probably as a consequence, 52% of the children exhibit behavioral problems, which is the most common type of child reason for entry. In the category of "Other reasons" we include removal from the family by the court. Regardless of the reasons reported, this is typically how children end up on foster care which explains the high incidence of

⁵ That threshold may be 0 or for stronger factors a higher value might be used as a cutoff. The process is somewhat subjective.

reporting of this type. In 82% of the cases the children are removed by the court for one of the other reasons reported. So there is a lot of overlap between parent and other reasons.

Table 1 motivates Table 2, which reports correlations between types of reasons. Not surprisingly, parent reasons are very correlated with child reasons. Parents who physically or sexually abuse their children or neglect them are more likely to have children who abuse drugs (Over 82% of the children reporting these parent reasons abuse drugs). In fact, these 'parent reasons' for entry are more correlated with child reasons being reported than parent reasons. However, it is not the case that child reasons drive parent reasons. This concurs with the hypothesis that just about all reasons for entry into foster care can be attributed to something about the parents that differs from the general population. Also, you cannot really have child reasons without parent reasons. Even in the case of severe child disabilities, you have the fact that the parents cannot cope with those issues. Not all children with disabilities end up in foster care. These correlations motivate a further investigation into the combinations of indicators that have an impact on child outcomes.

Tables 3 and 4 report results from some exploratory factor analysis. Table 3 is a little more restrictive in that it groups the indicators into three categories and then comes up with the underlying commonalities within those groups. Table 4 performs the analysis on all of the variables and allows the data to decide on the relevant groupings. The first row reports the eigenvalues for each factor. The higher the value, the stronger the correlation between variables to produce this factor.

Using a cutoff for eigenvalues of 0.1, we have three significant factors among the child reasons and parent reasons and only one among the "other" category in Table 3. We look at the relationship between each of the variables and the factor to make inferences about what each factor might represent.⁶ Childhood physical disability seems to be the most significant determinant of the first commonality found in the child reasons. Behavioral and emotional problems explain the second factor. The third childhood factor is less significant and the results are not as clear. It seems to be another measure of disability tied to mental retardation. These are disabilities not diagnosed by a physician, but reported by the parents or social workers.⁷ We refer to these disabilities as "self-reported disabilities". The first parent factor is correlated with physical and sexual abuse as well as neglect. The second factor is tied to substance abuse and an inability to cope (as well as neglect).⁸ The final factor, which is less significant, is correlated with abuse and abandonment. In this case the parents do not want the children around. The only significant factor in the other category has to do with removal by the court and "the reason being unavailable".

When we put in all of the factors together, there are 5 factors that are significant. Interpretation is not as clear since the factors are loaded against variables from all categories. Factor 1 represents sexual and physical abuse by the parents, and the consequences on the child (drug abuse, behavioral, disabilities). Factor 2 seems to be

⁶ Of course we can only infer the interpretation of these factors based on their loadings against the original variables.

⁷ The first factor is correlated with disabilities diagnosed by a physician as well as the child's guardian. The last factor appears to be correlated with children whose guardians report disabilities that have not been confirmed by a physician. Mental retardation may be considered a disability among lay persons but not among physicians.

⁸ Most foster children are neglected so it is not surprising that this reason is correlated with most others. Factor 1 is when abuse and neglect are present. Not only is there a lack of interest in the child's well-being,

purely a measure of child reasons independent of parent reasons. In particular, childhood disabilities are important in this factor. Factor 3 represents the parents inability to cope with a childhood disability. Factor 4 is purely a parent reason for entry: namely substance abuse, neglect, and jail. The last reason for entry appears to be parents who turn their children over to the courts. They tend to be drug abusers with jail sentences. It is correlated with self-reported childhood disability to some extent.

Table 5 reports correlations across factors. Theoretically we do not expect the factors within an analysis group to be correlated. Therefore, in Model 1 there are no significant correlations between child factors or parent factors and in Model 2 there are no significant correlations at all. What is interesting is the fact that there are some correlations that are significant between the factors across categories in Model 1 which means the reasons are still not mutually exclusive. For this reason the remainder of the analysis will include the 5 factors generated from all of the data together. We expected to find commonalities across the types of variables and the results confirm that hypothesis.

Table 6 reports the results from modeling the observed indicators of child reasons and parent reasons against the underlying factors as created using factor analysis. We do this to test our interpretation of the factors and to learn more about them. This analysis reinforces our interpretation of the factors. Not surprisingly all of the factors are significantly correlated with the observed indicators. There is a strong positive relationship between reporting a child reason and factors 1, 2, and 5. This means that children who are physically or sexually abused, relinquished by their parents, or report child reasons, are more likely to report some child reason. The factors representing

but the child is physically abused. Factor 2 seems to represent an inability to cope with life that includes the child, and therefore, results in neglect.

parents inability to cope with child problems and pure parents reasons like jail and drug abuse negatively affect the propensity for a child reason report. Similarly pure child reasons are negatively associated with reporting a parent reason. It is interesting that the parent reason due to substance abuse and drugs is negatively correlated with both reporting a child or parent reason. The correlation across equations is significant suggesting that the reports are simultaneously determined and the factor analysis does not account for all correlations in the error term.

Finally, we apply these new variables to an existing model of the hazard of exiting foster care developed by Noonan and Dwyer (2000).⁹ We substitute the factors created from the reasons for entry into the model in place of the reported reasons. We compare the results with the observed indicators and the underlying factors. What we find is that three of the factors have a significant impact on the probability of exiting foster care. Those who enter because of physical and sexual abuse or for child reasons are significantly less likely to exit care. Those who are in care because of parent incarceration and/or substance abuse (pure parent reasons) are significantly likely to exit care sooner than others. Relinquishment of parental responsibilities is associated with longer stays, but this effect is not significant. Children of parents who are unable to cope with the child's disability are less likely to exit, but again, this effect is not significant.

The next column of Table 7 reports results from a model that includes all of the indicators separately. We see that children with behavioral problems are 20% more likely to exit care. Children who are physically abused are less likely to exit. Children of substance abusers or parents that neglect them are more likely to exit care (@ 20%).

Children who are in care due to relinquishment or death of parent are less likely to exit. If the parents cannot cope, neglect their children, or abandon their children, the probability of exit is higher. This is counter-intuitive. Children of parents with housing trouble are less likely to exit. While many of the indicators are significant in this model as well, it is difficult to interpret these results for policy purposes. There is so much overlap between these reasons that it is difficult to assess the hazard probabilities for "types of children". In the factor analysis model, the reasons were all mutually exclusive and we get a clearer picture of which children are more at risk of lifetime dependency on the program. Policy simulations would be easier using factor analysis results.

VI. Conclusions and Future Work

As predicted, reported reasons for entry are not mutually exclusive and difficult to interpret in analysis. This research combines commonalities across reported reasons for entry into the foster care system and creates a set of mutually exclusive factors that represent reasons. We apply these factors to a model of dependence on the foster care system. Compared to a model that includes all of the individual indicators, we are able to get a better idea of the kinds of children that are at risk for delayed exits from foster care. In particular, children who are sexually or physically abused or who are in the system because of purely child reasons are significantly less likely to exit care. Children of substance abusers who are in trouble with the law tend to be in care temporarily and more likely to exit.

Using the results from the hazard models, simulations can be used to predict how much time a child will spend in his or her first spell of care. These predictions will allow

⁹ In order to estimate the likelihood function presented above, a functional form must be assumed for the hazard function. For the purpose of this paper, many different specifications were considered but only the

us to determine which children are likely to become the most dependent on the foster care system.

Future work would introduce unobserved heterogeneity into the models to better assess types of children at risk.

References

- Bane, Mary Jo and David Ellwood (1986). Slipping Into and Out of Poverty: The Dynamics of Spells. *Journal of Human Resources*. 21:1-23.
- Barth, Richard P. (1990). On Their Own: The Experiences of Youth After Foster Care. *Child and Adolescent Social Work Journal*. 7(5):419-440.
- Benedict, Mary I. and Roger B. White (1991). Factors Associated with Foster Care Length of Stay. *Child Welfare*. 70(1):45-58.
- Benedict, Mary I., Roger B. White, Rebecca Stallings (1987). Race and Length of Stay in Foster Care. *Social Work Research and Abstracts*. 23(4):23-26.
- Blome, Wendy Whiting (1997). What Happens to Foster Kids: Education Experiences of a Random Sample of Foster Care Youth and a Matched Group of Non-Foster Care Youth. *Child and Adolescent Social Work Journal*. 14(1):41-53.
- Courtney, Mark E. (1994). Factors Associated with the Reunification of Foster Children with Their Families. *Social Service Review*. 68:81-108.
- Dwyer Debra S. and Kelly Noonan (2000). "Dependence on Foster Care: What About Children Who Return to Care?" Unpublished Manuscript, SUNY Stony Brook.
- Fanshel, David (1971). The Exit of Children From Foster Care: An Interim Research Report. *Child Welfare*. 50(2):65-81.
- Goerge, Robert M. (1990). The Reunification Process in Substitute Care. *Social Service Review*. 64:422-457.
- Jenkins, Shirley (1967). Duration of Foster Care: Some Relevant Antecedent Variables. *Child Welfare*. 46(Oct.):450-456.
- Lawder, Elizabeth A., John E. Poulin and Roberta G. Andrews (1986). A Study of 185 Foster Children 5 Years After Placement. *Child Welfare*. 65(3):241-251.

McDonald, Thomas P., Reva I. Allen, Alex Westerfelt and Irving Piliavin (1996). *Assessing the Long-Term Effects of Foster Care: A Research Synthesis*. Washington, D.C.: Child Welfare League of America

Seaburg, R. James and Eve S. Tolley (1986). Predictors of the Length of Stay in Foster Care. *Social Work Research and Abstracts*. 22(Fall):11-17.

Table 1. Frequency of Child, Parent, and Other Reasons

	Percentage
Child Reasons	70.5%
	0.4
Alcohol abuse	51.8
Drug abuse	13.8
Behavioral	16.4
Disability	6.6
Emotionally disturbed	3.4
Mentally retarded	0.1
Visually hearing impaired	94.3%
Parent Reasons	5.8
	27.3
Alcohol abuse	47.9
Drug abuse	44.9
Physical Abuse	2.7
Sexual abuse	11.7
Abandonment	58.8
Relinquishment	76.0
Neglect	87.9%
Inability to cope	81.6
Other Reasons	20.6
	1.8
Removed by court	1.8
Inadequate housing	
Parents died	
Parents jailed	

Table 2. Correlations Between Child, Parent, and Other Reasons

	Child Reasons	Parent Reasons	Other Reasons
Child Reasons			
	0.045**	0.008	0.007
Alcohol abuse	0.773**	0.226**	0.038**
Drug abuse	0.299**	-0.246**	0.041**
Behavioral	0.330**	-0.042**	0.011
Disability	0.199**	-0.106**	0.023*
Emotionally disturbed	0.044**	0.007	0.005
Mentally retarded	0.021*	0.007	0.011
Visually hearing impaired			
Parent Reasons	0.046**	0.061**	0.041**
	0.123**	0.150**	-0.018*
Alcohol abuse	0.455**	-0.009	0.021**
Drug abuse	0.645**	0.221**	0.031**
Physical Abuse	0.123**	0.041**	0.014*
Sexual abuse	0.119**	0.089**	0.123**
Abandonment	0.536**	0.292**	0.009
Relinquishment	-0.209**	0.436**	-0.007
Neglect			
Inability to cope	-0.005*	-0.017*	0.781**
Other Reasons	0.151**	0.063**	0.189**
	0.052**	0.017*	0.051**
Removed by court	0.013	0.033**	0.050**
Inadequate housing			
Parents died			
Parents jailed			

**Table 3. Results from Exploratory Factor Analysis of Reasons for Entry,
by Type of Entry Reasons**

	Factor 1	Factor 2	Factor 3
Child			
Eigenvalue	2.261	0.476	0.103
<u>Scoring Coefficients:</u>	0.005	0.057	0.078
Alcohol abuse	0.014	0.075	0.191
Drug abuse	0.131	0.354	0.022
Behavioral	0.460	-0.118	0.519
Disability	0.333	-0.502	-0.435
Clinically Diag. Dis.	0.182	0.445	-0.176
Emotionally disturbed	-0.002	-0.059	0.114
Mentally retarded	-0.001	-0.026	0.002
Visually hearing impaired			
Parent			
Eigenvalue	1.89	0.315	0.112
<u>Scoring Coefficients:</u>	0.038	0.110	-0.148
Alcohol abuse	0.063	0.265	-0.049
Drug abuse	0.261	-0.295	-0.163
Physical Abuse	0.405	-0.080	0.233
Sexual abuse	0.036	0.023	0.159
Abandonment	0.012	-0.063	0.114
Relinquishment	0.320	0.292	-0.057
Neglect	-0.043	0.218	0.115
Inability to cope			
Other			
Eigenvalue	0.164	0.017	-0.001
<u>Scoring Coefficients:</u>	0.230	0.029	
Removed by Court	-0.100	0.074	
Inadequate housing	-0.050	0.034	
Parents died	-0.061	0.089	
Parents jailed	0.234	0.034	
Not available			

**Table 4. Results from Exploratory Factor Analysis of Reasons for Entry,
All Reasons Combined**

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Eigenvalue	3.031	2.392	0.860	0.294	0.115
Child:					
<u>Scoring Coefficients:</u>					
Alcohol abuse	0.003	-0.001	-0.027	0.029	0.004
Drug abuse	0.308*	-0.169*	0.070	-0.220*	0.073
Behavioral	0.101*	0.165*	-0.400*	0.089	0.035
Disability	0.215*	0.365*	0.344*	0.073	0.113*
Clinically Diag. Dis.	0.058	0.307*	0.315*	-0.102*	-0.249*
Emotionally disturbed	0.082	0.135*	-0.197*	0.087	0.032
Mentally retarded	-0.000	-0.008	0.027	-0.022	-0.054
Vis. hearing impaired	-0.002	-0.002	0.005	-0.018	-0.017
Parent					
<u>Scoring Coefficients:</u>	0.020	-0.018	0.002	0.115*	0.039
Alcohol abuse	0.023	-0.047	0.086	0.285*	0.116*
Drug abuse	0.122*	-0.036	-0.112*	-0.034	-0.139*
Physical Abuse	0.290*	-0.169*	0.042	-0.220*	-0.128*
Sexual abuse	0.014	-0.011	0.015	-0.028	0.057
Abandonment	0.010	0.020	0.024	-0.127*	0.259*
Relinquishment	0.162*	-0.130*	0.080	0.308*	0.060
Neglect	-0.086	-0.079	0.289*	-0.036	0.007
Inability to cope					
Other					
<u>Scoring Coefficients:</u>	0.001	0.021	-0.014	-0.132*	0.206*
Removed by Court	0.032	-0.021	0.025	0.044	0.009
Inadequate housing	0.009	0.004	0.012	-0.031	0.025
Parents died	0.011	-0.010	0.044	0.191*	0.122*
Parents jailed	0.005	0.014	-0.037	-0.086	0.179*
Not available					

* Significant factor loading.

Table 5. Correlations Across Factors Created Using Exploratory Factor Analysis

Model 1: Separate Categories:

	C1	C2	C3	P1	P2	P3
C1						
C2	-0.10					
C3	0.02	-0.01				
P1	0.09	0.22	0.55			
P2	-0.20	-0.20	0.09	-0.01		
P3	-0.02	-0.14	0.11	0.03	0.02	
O1	0.01	0.03	-0.06	-0.11	-0.10	0.03

Model 2: All Categories Combined:

	F1	F2	F3	F4
F1				
F2	0.00			
F3	0.04	0.07		
F4	-0.04	0.04	-0.04	
F5	-0.03	-0.03	-0.05	0.07

Table 6. Bivariate Probit of Child and Parent Reasons Against Unobserved Factors

	Child	Parent
Constant	2.71 (0.11)**	7.18 (0.92)**
F1	5.78 (0.19)**	1.97 (0.60)**
F2	1.83 (0.12)**	-1.33 (0.31)**
F3	-0.15(0.06)**	1.16 (0.20)**
F4	-0.59(0.07)**	-1.26 (0.36)**
F5	1.06 (0.08)**	2.46 (0.39)**
ρ	-0.98 (0.37) **	

Table 7. Effects of Entry Reasons on Hazard Rates for Exiting After the First Spell of Care, Using Alternative Measures of Reasons

	Using Indicators	Using Unobserved Factors
Factors		
F1 - sex/phys abuse	0.97 (0.02)**	
F2 - child reasons	0.94 (0.02)**	
F3 - parent can't cope w/child disability	1.01 (0.02)	
F4 - parent/drugs/jail	1.22 (0.04)**	
F5 - relinquish/abandonment	0.97 (0.04)	
Child		
Alcohol Abuse		0.85 (0.25)
Drug abuse		0.97 (0.07)
Behavioral		1.20 (0.08)**
Disability		0.93 (0.09)
Clinically diag. Dis.		0.95 (0.08)
Parent		
Alcohol abuse		1.27 (0.09)**
Drug abuse		1.17 (0.06)**
Physical abuse		0.88 (0.05)**
Sexual abuse		0.90 (0.06)*
Abandonment		1.24 (0.14)*
Relinquishment		0.84 (0.06)**
Neglect		1.22 (0.07)**
Inability to cope		1.15 (0.06)**
Other		
Inadequate housing		0.90 (0.04)**
Parents Died		0.78 (0.11)*
Parents jailed		0.82 (0.11)*
Demographic		
Female	1.03 (0.04)	1.02 (0.04)
Black	0.94 (0.04)	0.94 (0.04)
Hispanic	0.92 (0.06)	0.92 (0.06)
Age at first removal	0.95 (0.01)**	0.96 (0.01)**
Log Likelihood	-6770.4	-6749.4

** Significant at the 5% level.

* Significant at the 10% level.