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THE EFFECTS OF DEMOGRAPHIC AND THERAPEUTIC PROCESS VARIABLES
ON OUTCOMES IN TREATMENT FOSTER CARE

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ABSTRACT

Treatment Foster Care (TFC) is designed to address the residential and treatment needs of children with serious emotional, behavioral, and/or medical problems. The strategy of the program is to emphasize the role of treatment parents for children who are particularly vulnerable of developing social, emotional, and psychological difficulties. This study focuses on four questions that examine factors that influence behavioral outcomes (functioning and strengths) among children in TFC:

- 1) Is race related to children's behavioral outcomes in TFC?
- 2) Is age related to children's behavioral outcomes in TFC?
- 3) Is sex related to children's behavioral outcomes in TFC?
- 4) Do factors within the TFC home (e.g., parent/child relationships, monitoring/supervision, and parenting style/discipline) affect the relationship between demographics (i.e., age, race, and sex) and outcomes?

The proposed study identifies factors that lead to certain children performing better than others in relation to three chosen demographic characteristics: age, race, and sex. Also, the impact that parent/child relationships, monitoring/supervision, and parenting style/discipline have on the outcomes of TFC and how these factors are related to age, race, sex, and outcomes are investigated. The outcome variables include indicators of functioning and problems across three domains: involvement with the legal system, problems in the TFC home, and youth strengths (measured by the Behavioral and Emotional Rating Scale). Significant findings from this analysis include: older children had fewer problems at home; white children had lower levels of strengths, but non-white children had more legal problems; youth with less time unsupervised did better in the program; and a good treatment parent-child relationship was positively related to good outcome

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Chapter 1: Introduction and Background

This chapter provides a description of Treatment Foster Care (TFC) in terms of the structure, treatment parents, and children. This information is followed by a brief history of this form of residential treatment. Next, prior research and key intervention factors are discussed. Finally, a gap in the research is identified and an overview and conceptual map are presented to help explain how the current research will fill the identified gap.

1.1 DEFINITION OF TFC

THE STRUCTURE OF TFC

Treatment Foster Care (TFC) is designed to address the residential and treatment needs of children with serious emotional, behavioral, and/or medical problems (Chamberlain & Reid, 1991). This modality is viewed as the least restrictive form of out-of-home treatment for children with these issues (Kavale & Forness, 2000). TFC fills the gap between traditional foster care and more restrictive institutional settings. This type of care is a combination of the supportive home setting of foster care and the intensive therapy of residential treatment (Chamberlain & Reid, 1991).

TFC emphasizes the role of the treatment parents in reducing delinquency, preventing problems, and enhancing positive social and behavioral skills (Romanelli, LaBarrie, Hackler, & Jensen, 2008). TFC differs greatly from traditional foster care. In traditional foster care, children are typically placed in families due to abuse or neglect, and the foster families provide care and protection for these youth (Kavale & Forness, 2000). TFC parents are not only supposed to provide the care and nurturing that is found in traditional foster care, but they are also a valuable part of the treatment for the child

(Patterson, Reid, & Dishion, 1992). The TFC families are meant to serve the child's long-term needs. A child is typically not dismissed from the program until he/she has completed the treatment or is discharged (Alabama, 2005). The average length of stay in TFC is 425 days (Hussey & Guo, 2005).

Additionally, the training requirements for TFC are more intensive than for traditional foster care parents and vary by state. For example, Rhode Island does not mandate in-service training requirements, while Washington requires 36 hours of training over three years (Gerstenzang, 2009). TFC parents typically complete a minimum of 36 hours of foster parent training and 16 hours of continued TFC training annually. This is to ensure that the treatment parents are adequately prepared to nurture the child and act as a front-line provider of treatment (Gerstenzang, 2009).

TFC foster parents (referred to as treatment parents in the rest of this thesis) are instructed in numerous ways to improve the behavior of the child through various treatments and care techniques. The concept behind TFC is to combine specialized treatment interventions with family-based care to create a therapeutic environment in the context of a nurturing home (Chamberlain & Reid, 1994). Treatment parents work with professionals to monitor the progress of the child and adjust goals appropriately (Stroul et al., 1997).

Although TFC models vary greatly, the same basic features are consistent in the programs. Trained treatment parents care for the special needs of these children, typically only taking one child at a time. Also, the caseloads of supervisors in agencies are small (Chamberlain, 2002). This structure provides children needed specialized attention (Golding, 2006).

THE CHILDREN OF TFC

A child may be placed in TFC for a variety of reasons, including severe behavioral problems (e.g., fire setting, homicidal or suicidal thoughts, anger, extreme opposition, depression), health challenges (physical or mental disability), or legal challenges (probation, truancy, etc.) [Chamberlain, 2002].

For many children, TFC is not their first out-of-home placement. These children are typically characterized by truancy and learning or behavioral problems in school. Most youth in TFC have significant behavioral and/or emotional problems, and most exhibit characteristics for one or more psychiatric disorders (Farmer et al., 2010). Also, the children in TFC often have experienced abuse or neglect (Chamberlain & Reid, 1998). Additionally, many in TFC are on psychotropic medications that require monitoring (Chamberlain, 2002).

Children in care experience high rates of social, emotional, and psychological difficulties (Chamberlain, 2002). Prior to entering the treatment care system, children often experience a multitude of difficulties, such as abuse and neglect, family histories of mental illness or drug and alcohol abuse, exposure to substance abuse and family violence, a wide range of family problems, and criminality (Chamberlain, 2002). Adding to the challenging transition to TFC are the changes of family, culture, community, peers, and school environments (Golding, 2006). The experiences associated with loss, trauma, and disruption have a negative impact on children developing secure attachment (Golding, 2006). Children who have an insecure attachment often have experienced abuse and neglect and face more barriers to success (Golding, 2006).

The children in TFC are often noncompliant and aggressive, and this population is often lacking cooperation and tends to be disliked by teachers (Chamberlain, 2002). Future behavior problems can be predicted from the problems that exist in elementary school, such as school failure, a tendency to associate with delinquent peers, early initiation of substance abuse, and sexual activity. These problems are correlated with future delinquency, drug use, and associated problems (Patterson et al., 1992).

1.2 BACKGROUND INFORMATION

The current problem in the foster care system in general is the growing population of children in need of such care and the increase in the severity of their problems, compounded by the diminishing number of resources available. The population in need of foster care has grown by a third since 1990, and the number of children with mental problems has also increased (Chamberlain & Reid, 1991). Also, a shortage of qualified foster homes and a general dissatisfaction with the homes exist. In 1980, an estimated 300,000 children spent some time in a foster home in the United States. By 2001, this number increased to 540,000 children in the system at any given time. In traditional foster care, 60 percent of children are under age 4, and minorities comprise the majority of the population (Hansen, 2004),

Also, many foster care families leave the system, attributing their departures to the lack of training and support necessary to handle challenging behavioral issues (Chamberlain & Reid, 1991). As previously mentioned, TFC is drastically different from traditional foster care. Many youth currently in traditional foster care would greatly benefit from TFC's individualized attention (Chamberlain, 2002).

Attention has increased in regard to children with serious emotional and behavioral problems, and efforts have provided care specific to the needs of these children. One option that has emerged is Treatment Foster Care (TFC) in which trained individuals act as treatment parents who work with the youth who live with them. The emphasis on treatment and the use of the treatment parents as “front-line providers” is unique to TFC (Farmer, Burns, & Murray, 2009).

Treatment foster care has experienced tremendous growth during the past four decades. TFC first appeared in the 1970s. In 1996, there were 360 active TFC programs in the U.S.; there are currently more than 3,500 programs (Farmer, 1997; Farmer, 2011).

1.3 PRIOR RESEARCH

In general, research shows that TFC is more cost effective than more restrictive residential care. According to a research team led by Kutash and Rivera, TFC programs are inexpensive to implement and have lower costs than more restrictive programs (Kutash & Rivera, 1995). The Oregon TFC model saved an estimated \$43,661 per participant annually and has a benefit-to-dollar cost of \$22.58 (Aos, Phipps, Barnoski, & Leib, 1999). The actual cost of TFC is best estimated with Medicaid reimbursement rates that show TFC to cost approximately \$98/day, while group homes cost almost \$225/day (E. Farmer, personal communication, 2011). TFC appears from a financial standpoint to be a better program for the specified population than group homes and traditional foster care (Fisher, Gunnar, Chamberlain, & Reid, 2000). Of the more than half million children in foster care, approximately 18 percent are placed in group homes, an option that is less cost efficient than TFC (Fisher et al., 2000).

A review of 40 published outcome studies showed that TFC improved social skills and psychological adjustment and reduced behavioral problems and restrictiveness of post-discharge setting (Reddy & Pfeiffer, 1997). When compared to children in group homes, those in TFC are surrounded by less negative behavior from their peers. Such behavior can reinforce poor behavior (U.S. Department of Health and Human Services, 1996). Although TFC deals with a challenging population, it has a lower rate of placement disruptions (20-30 percent less) than traditional foster care (Chamberlain and Reid, 1998).

Chamberlain and Reid conducted a randomized study comparing children in Multidimensional Therapeutic Foster Care (MTFC), which is a form of TFC, to children in a group home. This study found that children in MTFC were under closer supervision, received more consistent discipline, and had fewer negative interactions with peers (Chamberlain & Reid, 1994; Chamberlain & Reid, 1998). In this study, youth in TFC demonstrated a significantly higher decrease in criminal activity when compared to children in group homes. The children in TFC were incarcerated 60 percent fewer days than youth in group/residential care, and more TFC children were discharged to live with their families (Chamberlain & Reid, 1998).

A study of TFC in Oregon also found that TFC children were more likely to complete their programs and spend fewer days incarcerated than those in a group home (Aos et al., 1999). A decrease in alcohol and drug use, criminal activity, and incarceration was found in a larger randomized study of TFC. Additionally, children were found to have positive relationships with parents, classmates, employers, and potential romantic interests (Aos et al., 1999).

The Oregon model also uncovered differences between boys and girls in TFC. Compared to boys in the treatment program, girls typically have more chaotic families, are more likely to have parents who committed crimes, and have more institutionalized siblings (Kazdin, 1994). Additionally, girls experience higher rates of previous out-of-home placements and have higher rates of physical and sexual abuse (Aos et al., 1999). Girls also comprise a majority of those with previous placements in foster care due to parental abuse and neglect (Kazdin, 1994). Moreover, girls have higher rates of mental disorders on the Behavior Symptom Inventory (BSI). Although boys have committed more crimes (10 vs 14), girls have spent almost twice as many days in detention [133 vs 66 days] (Aos et al., 1999).

Additional research examined the effectiveness of TFC in younger children. In TFC, children below age 5 were found to have lower stress levels and higher retention rates when compared to traditional foster care. Also, TFC parents of such young children were found to have better parent management techniques (Fisher et al., 2000).

In 1999, black children had a rate of leaving foster care to permanent homes of 33 percent in traditional foster care, compared to 53 percent of white children. This does not necessarily mean that white children do better in traditional foster care (Wertheimer, 2002). As the research questions state, the proposed research will evaluate if race plays a factor in outcome measures (i.e., Behavioral and Emotional Rating Scale, legal problems, and home problems).

The literature review has shown the importance and value of TFC intervention in improving outcomes for children with emotional and behavioral issues. The information from the proposed study could be used to develop strategies to better accommodate those

who are currently less successful in the TFC. Also, this research could provide insight into how the mediating variables are related to the demographic variables, thus highlighting areas to be improved.

1.4 Residential Care and Organizational Structure Factors

As stated previously, research suggests that TFC is more cost effective than group homes and has more successful outcomes. The proposed research will investigate the effect of the treatment parent- child relationship, supervision, and consequences of disobedience.

In group homes, children rarely form a tight bond with the adults in charge due to the impersonal structure of these facilities (Curtis, Alexander, & Lunghofer, 2000).

Additionally, the supervision in group homes is less than that in a TFC setting (Curtis et al., 2000). Although the staff in group homes is comprised of trained professionals, these homes typically operate on ratios that vary by location (Curtis et al., 2000). For example, The Department for Administrative Services in Utah requires a minimum of two staff on duty and a staff ratio of no less than one staff to every four consumers, except for sleeping hours when the staff numbers may be reduced (Division of Administration Rules, 2010). Illustrating the variation, Missouri requires a minimum of one adult per six children and a staff member on call for assistance in the case of an emergency (U.S. Department of Health and Human Services, 2010). Group homes are unable to provide the supervision (thus proper consequences for poor behavior) and extended periods of individualized attention, both of which are possible in TFC.

1.5 Foster Care and Organizational Structure Factors

A study examining successful traditional foster parent-child relationships found that the children valued care, patience, and resilience in their relationships. The children who reported feeling cared for felt that they were part of a family, which increased their sense of self-worth (Collins, 1996). The traditional foster parents and children seemed to agree that establishing rules and then exhibiting patience when enforcing the rules were essential when establishing a good relationship (Collins, 1996).

The foster children in the sample admitted to repeatedly breaking the rules and testified that the foster parents' patience was critical while learning better behavior. Ultimately, a positive correlation was seen between the children who learned to comply with the house rules and those who abide by society's laws and rules (Collins, 1996). This finding can be used to predict that children in TFC who comply with the rules in the treatment home should have better long-term outcomes.

The over-arching finding in the study of foster parent-child relationship is the value of attachment. The desire to be loved and cared for was found to be a common desire among children in foster care. The lack of a loving parent-child relationship was noted as the worst aspect of being in foster care and a source of many behavioral issues (Collins, 1996). Furthermore, the foster children in the study who forged successful relationships with their parents attributed their success as adults to these critical relationships. This research indicates that the parent-child relationship is critical to the future of foster children (Collins, 1996). Collins's research focused on the development of attachment by examining different attachment styles in the perspective of social events. According to the attachment theory, cognitive models that develop at a young age

are likely to remain influential (Collins, 1996). This concept puts foster children at a disadvantage for attachment, presuming the early childhood was not ideal. Collins's research may lead one to assume the younger children in TFC will develop a better treatment parent-child relationship since the research links attachment to development.

1.6 TFC and Organizational Structure Factors

As in foster care, TFC emphasizes the value of the adult-child relationship. According to a TFC agency in Virginia, TFC programs are committed to developing this relationship, which allows what is learned and developed in TFC to last a lifetime (For Children's Sake of Virginia, 2008). The argument for TFC states that change occurs in these programs because of the therapeutic activities that take place within the family system and community. The family atmosphere is an effective environment to make an impact on the children (For Children's Stake of Virginia, 2008). Research regarding foster children's attachment capacity is slim, but theories of early development presume this population is more vulnerable to insecure attachments.

A primary component of TFC is close supervision at home. Studies have shown that increasing parental supervision and interaction may lead to a decrease in antisocial behaviors and conduct problems (Sampson & Laub, 1993).

Additionally, TFC parents typically focus on constructive discipline techniques to achieve a positive response (For Children's Stake of Virginia, 2008). Primary requirements in TFC are to not use corporal punishment and provide close supervision at home. Additionally, TFC parents typically focus on constructive discipline techniques to achieve a positive response (For Children's Stake of Virginia, 2008). Furthermore,

studies have shown that increasing parental supervision and interaction may lead to a decrease in antisocial behaviors and conduct problems (Sampson & Laub, 1993).

1.7 The Gap in the Research

Currently, a gap exists in TFC research in regard to the effectiveness within the program in relation to demographic considerations and the effects of key in-home therapeutic elements. The majority of prior research regarding TFC has focused on demonstrating the value of TFC compared to other out-of-home treatments, primarily group homes and institutionalized care. Although some research analyses the effects of demographic and mediating factors in traditional foster care, additional study is needed to examine if these findings hold true for TFC.

1.8 Filling the Gap

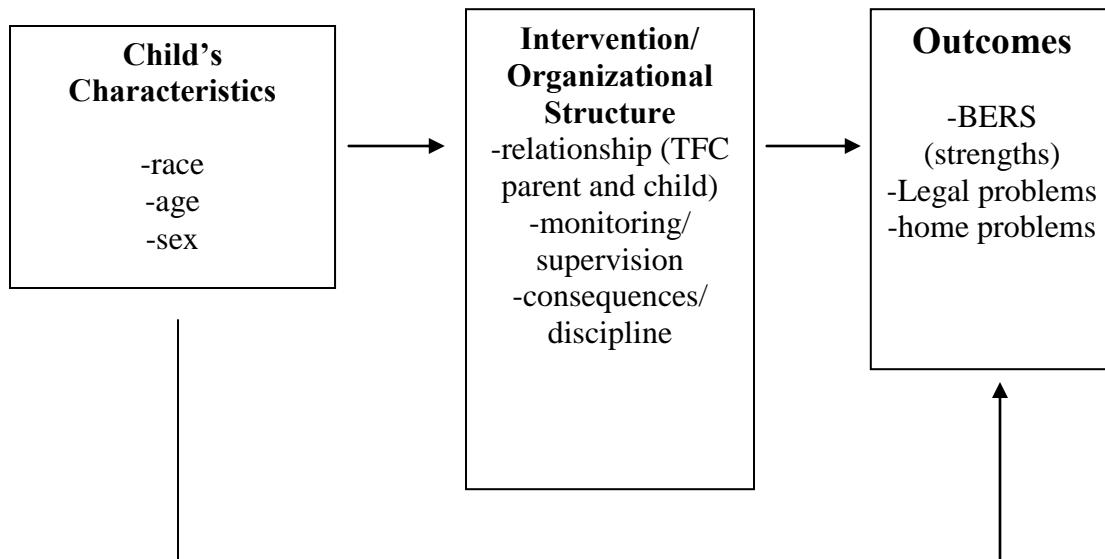
The proposed study will analyze demographic and in-home therapeutic factors that may explain some of the variation in success. Analysis of these characteristics may help TFC directors better identify children who have the greatest potential to succeed in TFC. The study has the potential to increase effectiveness of TFC by personalizing care and, thus, increasing its effectiveness. The proposed research will also investigate the impact that parent/child relationships, monitoring/supervision, and parenting style/discipline have on the outcomes of TFC and how these factors mediate relationships among age, race, sex, and outcomes (child's functional strengths).

This study focuses on four questions that examine behavioral outcomes (functioning and strengths) among the demographic variables of race, sex, and age, as well as process variables evaluating the monitoring and treatment parent/child relationship:

- 5) Is race related to children’s behavioral outcomes in TFC?
- 6) Is age related to children’s behavioral outcomes in TFC?
- 7) Is sex related to children’s behavioral outcomes in TFC?
- 8) Do factors within the TFC home (e.g., parent/child relationships, monitoring/supervision, and parenting style/discipline) affect the relationship between demographics (i.e., age, race, and sex) and outcomes?

Figure 1 offers a visual explanation of the research presented in this paper. The analysis will follow the layout depict in this figure in order to answer the proposed research questions.

Figure 1: Conceptual Map



Chapter 2: DATA

The current study employs extant data from a longitudinal observational study that examines the effectiveness, implementation, and the movement into and out of TFC (Farmer, et al., 2009). Data were collected at baseline 6, 12, 18, and 24 months via in-person interviews with the treatment parents and youth (Farmer, et al., 2009). Data for the current study come from the baseline data collection with the treatment parents. These initial interviews with treatment parents were from 1998-2000 as a cross section, meaning this initial interview was completed for each participant as he or she entered the study. Because of the study's design, children had been in TFC for various lengths of time when they entered the study (from 2 months to 10 years). Data are also available from record reviews to assess extent of problems when the youth enroll in TFC (Farmer et al., 2009).

The sampling frame for the larger study included all children who were identified as eligible for services under a North Carolina class action lawsuit (The Willie M Program) and who received TFC. This suit identified children who had a psychiatric diagnosis and severe aggressive behavior and whose needs were not being met by the state. Data from the program's management information system were used to identify class members in TFC during the study period.

The data for the proposed research will be extracted from this larger study. Data on severity of psychiatric problems are available (via program-collected data) from around the time each youth was placed in TFC. Data from interviews with treatment parents when the youth in TFC entered this study will comprise the post-test for this

study (n=183). The proposed study will use the Behavioral and Emotional Rating Scale (BERS) and indicators of legal and home problems as the outcome variables.

2.1 Control Variables

Brief Psychiatric Rating Scale for Children

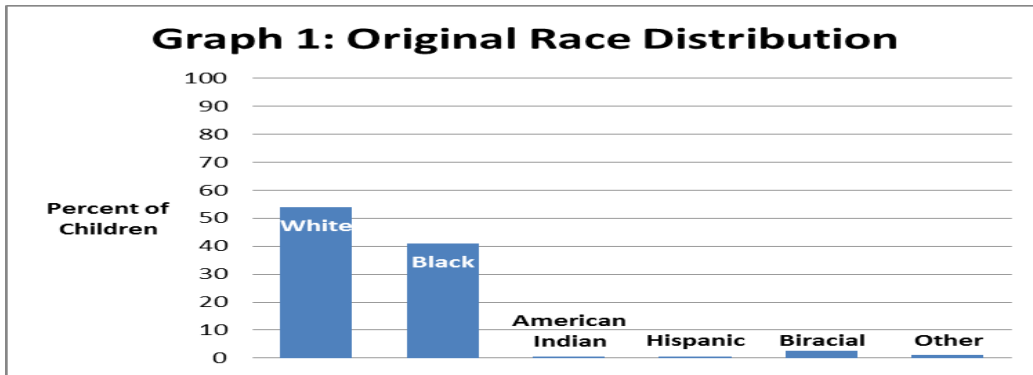
The Brief Psychiatric Rating Scale for Children (BPRS) includes 21 clinically based items. The purpose of this stand-alone instrument is to evaluate children with psychiatric problems to efficiently chart both symptoms and behavior. The ratings are based on a 7-point Likert scale, ranging from “Not present” to “Extremely Present.” The scales include: behavior problems, depression, thinking disturbance, psychomotor excitation, withdrawal retardation, anxiety, and organicity (Overall & Pfefferbaum, 1984). BPRS scores for the current study came from clinician interviews with the youth conducted around the time the youth entered TFC.

The sum of initial problems from the BPRS score serves as the control variable in the present analyses. It was extracted from the youths’ records to indicate the behavioral and emotional problems of the children prior to the start of TFC. This is important when interpreting the success of this treatment program. On this scale, a low score represents good behavior. The mean score for the children in this sample is 66.25, with a standard deviation of 17.65 and a range of 24 to 115. This information will be used to statically control, using regression, for behavior at admission.

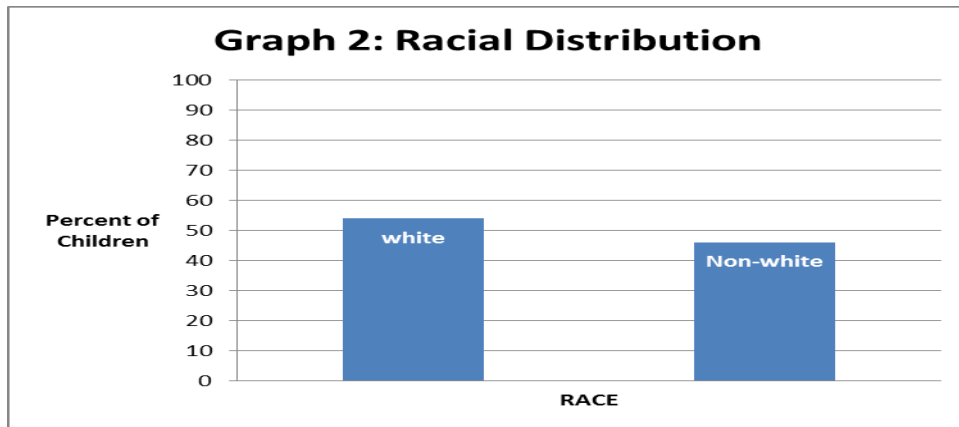
Demographic Variables

Race

A total of 183 youths make up the sample. Of these children, 99 children were white (54.1%) and 75 were black (41%). In additions 4.9% were in other categories [one American Indian (.55%), one Hispanic, (55%), five biracial (2.7%), and two ‘Other’ (1.1%)].



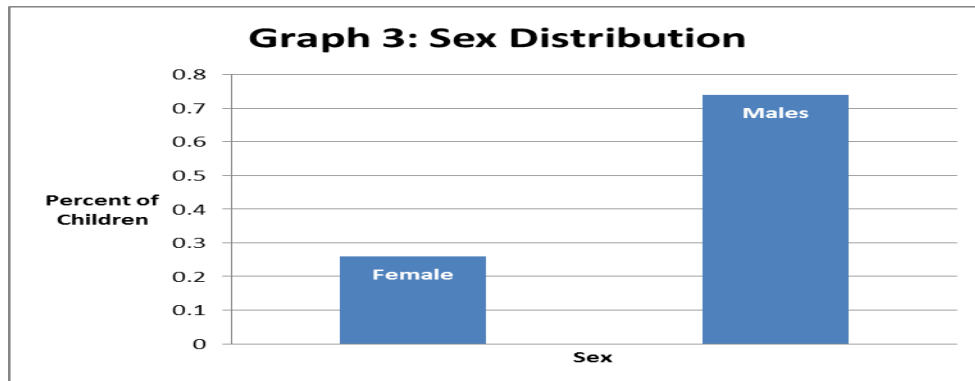
A dichotomous variable for race was created and coded as white and non-white. A dichotomous variable was the best choice since only a few children were not either white or black.



Sex

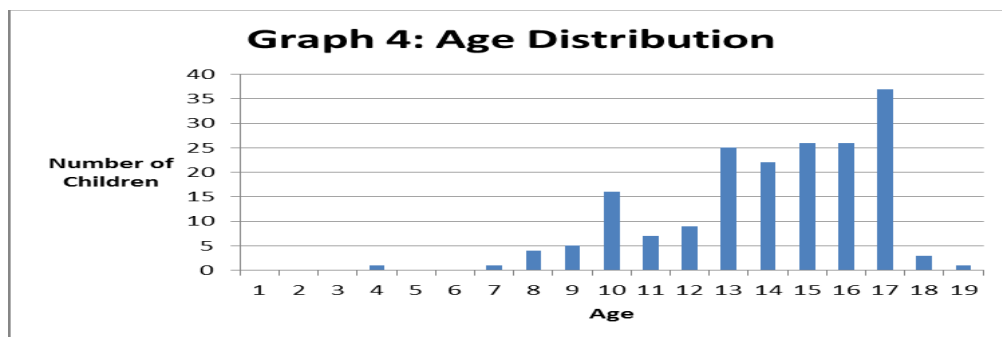
More boys than girls are in the sample: 136 boys (74.3%) and 47 girls (25.7%).

This is common in studies of youth receiving mental health treatment for behavioral problems.



Age

The children range in age from 4 to 19. The mean age is 14.07, with a standard deviation of 2.71. As shown in Graph 4, the majority of children are between the ages of 13 and 17. The age variable will be continuous in the analysis.



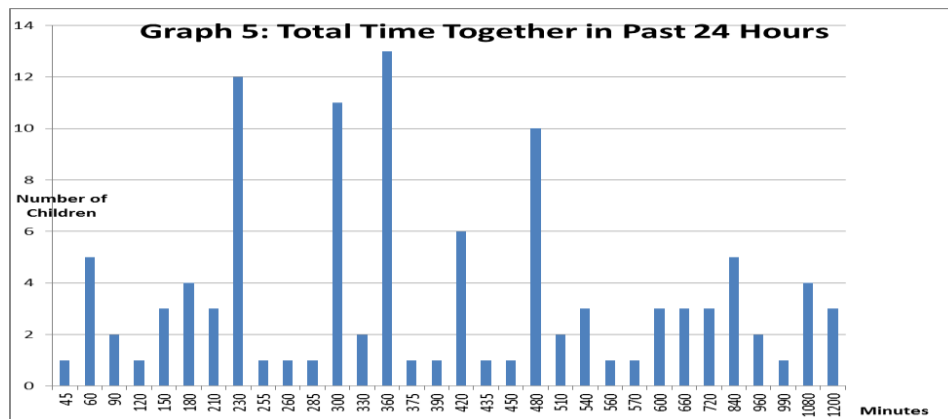
In-Home Process Variables

In addition to these demographic variables the analysis includes key intervention aspects in the TFC home. The variables included in the analysis are related to monitoring, discipline/consequences for poor behavior, and the treatment parent-child relationship.

Monitoring/Supervision

Three indicators will be used to evaluate the supervision of the child: time together, activity together, and time unsupervised. The Parent Daily Report (PDR) asked the treatment parents about the past 24 hours. These data provide information regarding the monitoring and behavior of the child. The parents who were not with the child during this time were unable to answer these questions; the missing data issue will be discussed in a later section. One question about supervision that will be used in analysis is:

About how much total time did you and {{child}} spend together during the past 24 hours, including time that other people were with you?



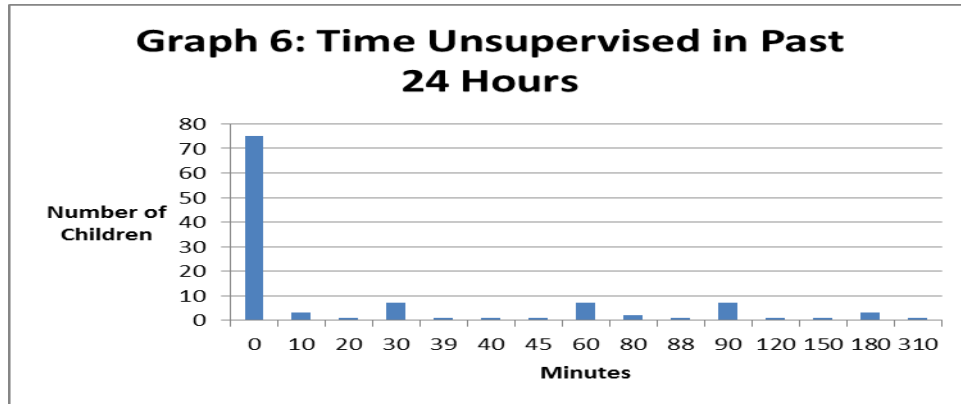
Treatment parents reported spending between 45 minutes and 1,440 minutes (24 hours) with the child in the past 24 hours. There are concerns about values at the upper end of this range, because they indicate an unrealistically long amount of time together (full 24 hours). This means that the interviewer did not do a good job of probing to gain a

more accurate answer when the treatment parent responded “All day.” Therefore, 1,440 was recoded as the largest reasonable time, 1,200 minutes.

Monitoring: Time Unsupervised

This variable is based on two questions: whether the child had any time without adult supervision, and amount of time without an adult. The PDR interview found that 75 children spent no time without adult supervision in the 24 hours prior to the questionnaire.

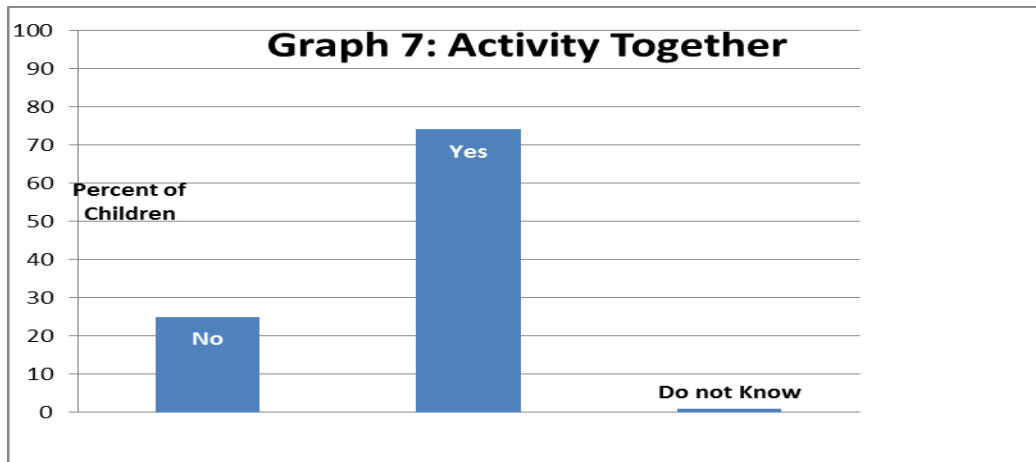
Within the last 24 hours, how much time was he/she involved in activities outside of your place without adult supervision? (Counts going to and from school, but not school hours.)



This variable was dichotomized as 1=no time unsupervised and 0=any time unsupervised. The second variable captures the amount of time unsupervised (for those with any unsupervised time). Notably, 37 children were without adult supervision in the past 24 hours ranging from 10 minutes to 310 minutes. Additionally, 71 children were missing from this question. The distribution is shown in the chart Graph 6.

Monitoring: Activity Together

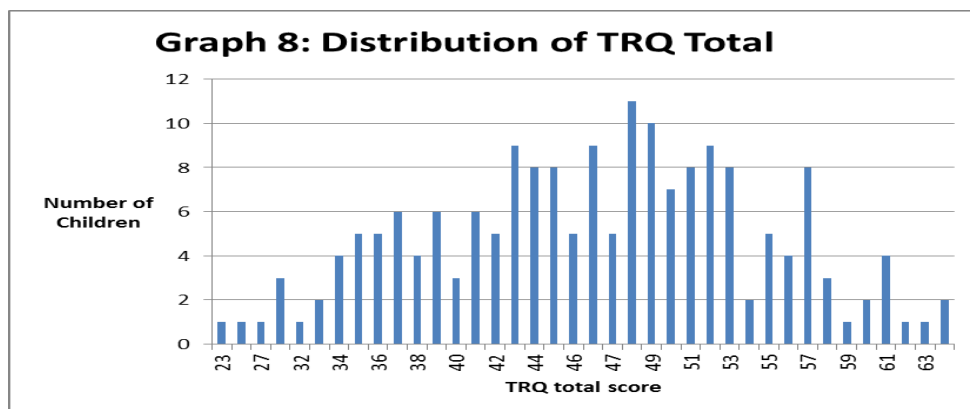
Did you do any activities with him/her, other than eat a meal?



The variable for activities of the child with the treatment parent was derived from the above question. The majority of the parents (74.1%) did activities with the children other than eating meals.

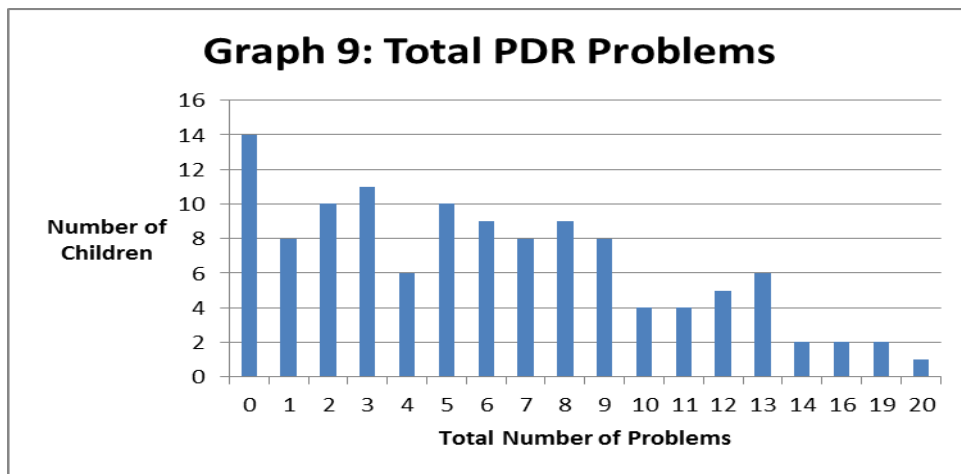
Treatment Parent-Child Relationship

Graph 8 reports on the quality of the relationship between the treatment parent and the child and will be used in the analysis to evaluate the effect of the relationship on the outcome variables (Mustillo, Dorsey, & Farmer, 2005). The TQR total consisted of 14 items, with a mean of score of 46.46, standard deviation of 8.13, and a range of 23-65. Graph 8 distribution of the TRQ total scores.

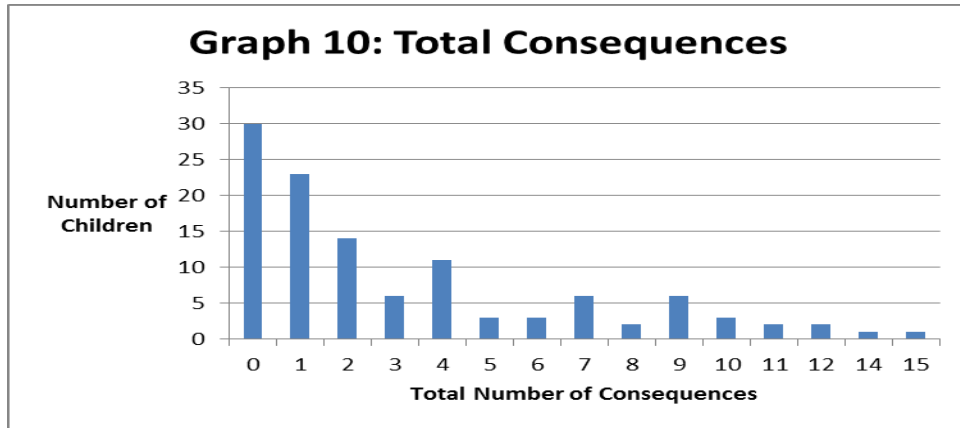


Punishments/Consequences

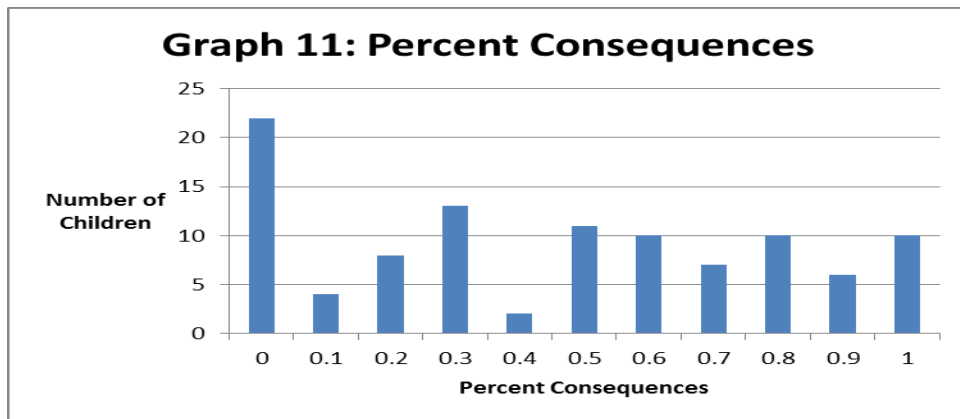
In the Parent Daily Report (PDR), treatment parents reported whether youths engaged in 33 problem behaviors; and if the youth did, whether the treatment parent did anything in response (as a consequence). The Percent Consequence variable that is used in the analysis was created by dividing total PDR consequences by total PDR problems. The total PDR problems were determined by questions asking if the child exhibited behaviors such as arguing, complaining, lying, and swearing/ using profane language. The total consequences were evaluated using a continuation of the question used for total problems.



Graph 10 depicts the number of these problem behaviors that the treatment parent “did something about” in the past 24 hours.



Graph 11 shows the ratio between the total consequences and total problems (total consequences/ total problems).



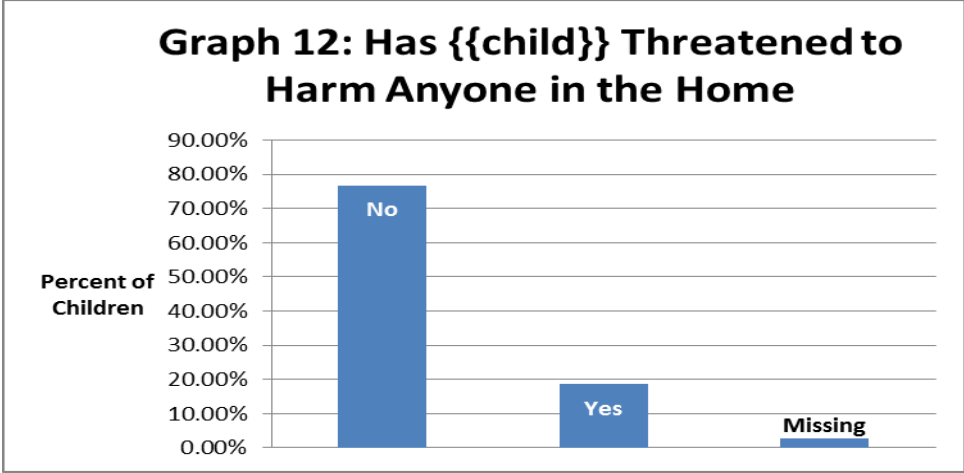
Outcome Variables

Home Problems

TFC focuses on treatment in the home so it is appropriate to use problems occurring in the home as an outcome variable. The outcome variable for the analysis is derived from two questions about the youth’s behavior in the home.

- 1) ‘Has the child harmed or seriously threatened to harm anyone in the family during the past month?’

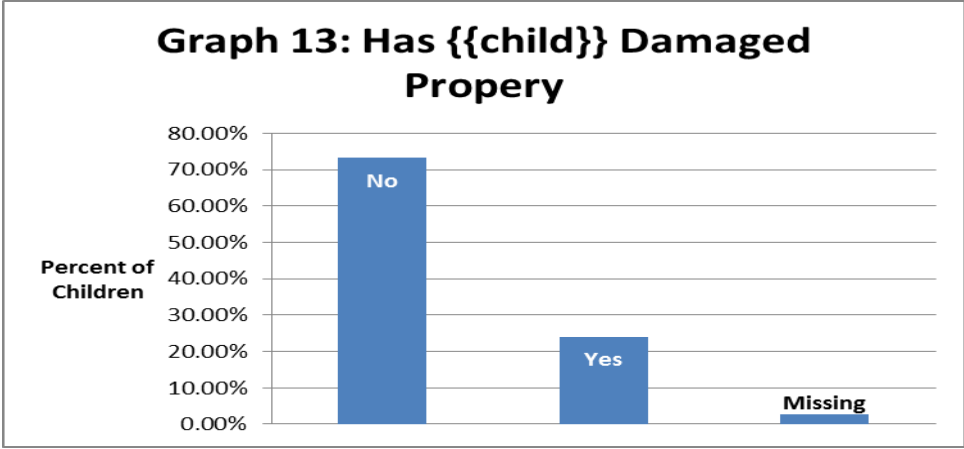
The majority (80.9 %) did not harm or seriously threaten to harm anyone in the treatment family during the past month, but 19.9 percent did.



The second question used to evaluate problems in the home was:

2) “Has he/she damaged property in your home?”

The majority of the children (73.2%) had not damaged property in the home, but about one quarter of the children had caused property damage in the past 30 days.

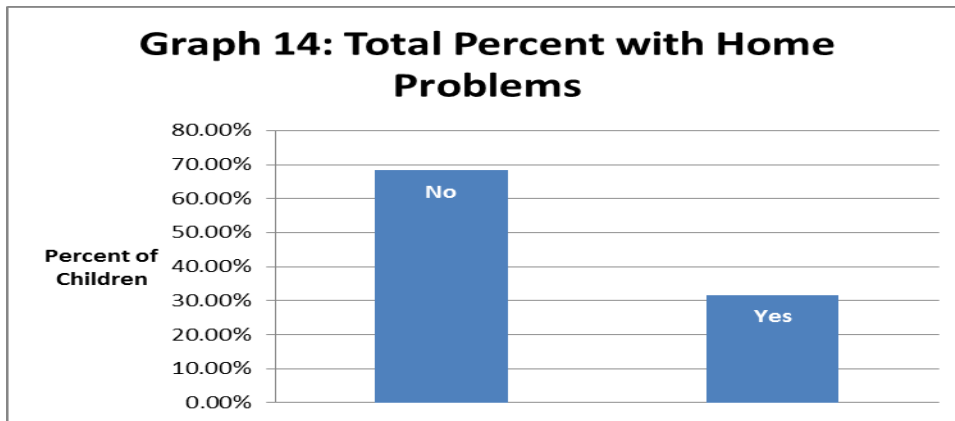


The home problem variable used in the analysis is a combination of the previous two questions. If the response was “yes” to either of the questions, the child was put in the “yes” category for home problems. This distribution is shown in Graph 13. Table 1: Crosstab for Home Problems shows the numeric distribution between the variables. The horizontal data are for the question: Has {{child}} Damaged Property, the vertical data

are for the question: Has{{ {child}} } Threaten to Harm Anyone in the Home. Graph 14 displays distribution for total home problems.

	No	Yes
No	120	24
Yes	14	20

Created Variable: “Yes to Both of the Presented Questions”

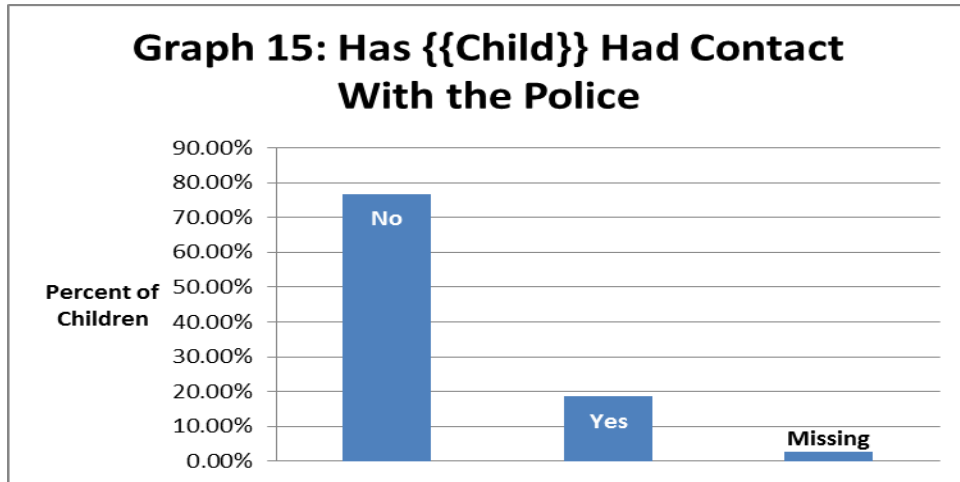


Legal Problems

The interactions a child has with the legal system is a critical indicator of immediate outcome and is likely to impact the final outcomes of TFC and his or her future. The first question used in the analysis about legal problems was:

In the past month, has {{ {child}} } had contact with the police or the courts because of something he/she has done?

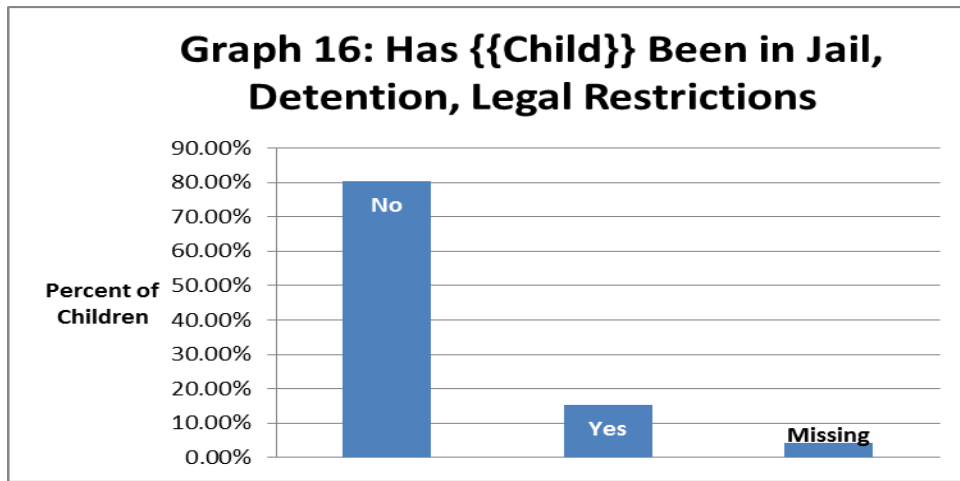
Seventy-three percent of the children had not had contact with the police or the courts because of something they did. The distribution for this question (see Graph 15) is similar to the damaged property variable for home problems.



The second question used in the legal problems analysis was:

Has he/she been in jail, detention, under house arrest, on probation or had any legal restrictions on his behavior during the past month?

Relatively few youth (19%) were under any of these legal restrictions [see Graph 16].

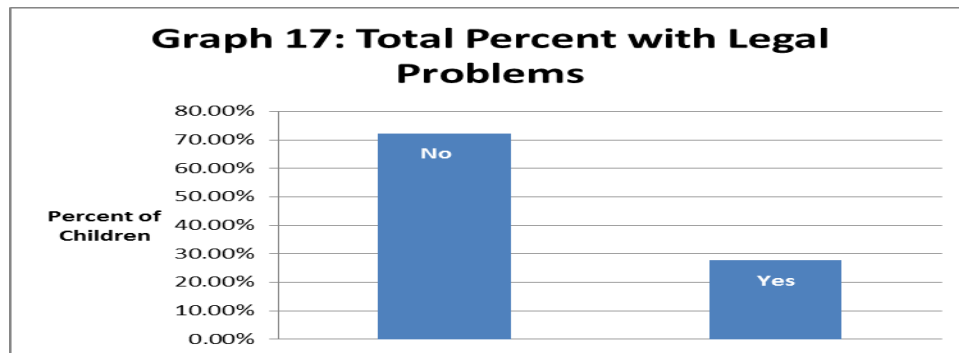


A similar line of reasoning is behind combining the legal problem questions as described for home problems. A legal variable was created; if the treatment parent said “yes” to either question, the youth was coded “yes” on the composite measure. This will result in a better-distributed variable, thus giving the variable more power. In this

variable, 27.87 percent reported some degree of legal entanglement. Table 2: Crosstab for Legal Problems shows the numeric distribution between the variables. The horizontal data are for the question: Has {{child}} Been in Jail, Detention, Legal Restrictions, the vertical data are for the question: Has{{child}} had contact with the police. Graph 17 displays distribution for total legal problems.

	No	Yes
No	124	7
Yes	23	21

Created Variable: “Yes to Both of the Presented Legal Questions”



Behavioral and Emotional Rating Scale

This scale is used as an overarching variable to evaluate the children’s outcomes. The BERS questions deal with the children’s interpersonal and intrapersonal skills/development. The analysis will include the BERS strength quotient, a sum of the youth’s overall strengths (Epstein & Sharma, 1998).

There are several distinctive characteristics of BERS. It was designed to rate and identify behavioral and emotional strengths of children through a questionnaire given to the adults who live and interact with the child on a regular basis. The BERS includes 52 items that describe observable, specific, and measurable emotional and behavioral

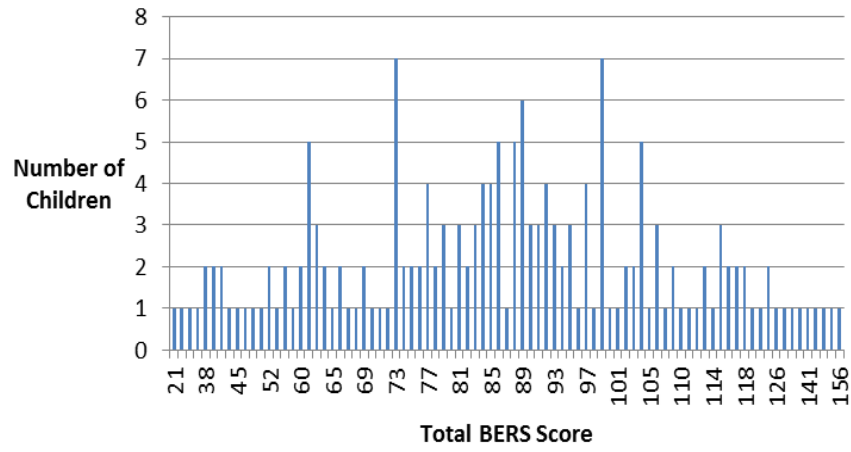
strengths of children. All of the items are based on current professional views surrounding the value of strength of children (Epstein & Sharma, 1998).

The BERS scale includes five subscales: Interpersonal Strengths, Family Involvement, Intrapersonal Strengths, School Functioning, and Affective Strength. The behaviors of children are rated using objective frequency-based ratings. BERS is specifically designed for children 5 to 18 (Epstein & Sharma, 1998).

Another feature of BERS is the norms based on a nationally representative sample both with disabilities and without to compare results. The questions can be completed in less than 10 minutes and are simple to administer. Typical uses for the BERS assessment include identifying strengths and weaknesses for interventions, document progress, and data collection for research purposes. These functions are all applicable to the research surrounding TFC (Epstein & Sharma, 1998).

BERS standard scores are derived from the raw scores of the normative samples. The BERS Strength Quotient is a type of standardized score; this is the variable used in the analysis. In general population samples, this score has a mean of 100 and a standard deviation of 15 and is the most robust score derived from the BERS scale. This score is useful because it describes the overall behavioral and emotional strengths of a child (Epstein & Sharma, 1998). The mean for the total BERS strength quotient in the TFC sample score was 86.67, with a standard deviation of 24.81. The distribution of the total BERS scores is displayed in Graph 18.

Graph 18: Total BERS Score



Chapter 3: Data Analysis

The first step of the analytic approach was to conduct descriptive statistics and recoding (as needed to create usable variables). This was described in the previous chapter. The second step was to run correlation matrixes to assess bivariate relationships among variables. Finally regression analyses were run to assess relationships between the control variable, demographic factors, in-home processes and the three focal outcomes. , OLS regression was used for continuous outcomes (BERS); logistic regression was used for dichotomous variables (home and legal problems).

Missing Data

Because of the sampling procedure, 69 youths (38% of the sample) were missing on the Parent Daily Report (PDR) measures. These measures ask questions about events in the “past 24 hours.” For youth who were not in the home during the previous 24 hours, these questions could not be answered. Most of the youths who were missing on these variables had left the home (i.e., discharged) before the study interviewer could interview the treatment parent. The exact reason for discharge is not known, but tracking data suggest that most of these youths were discharged because of problems (e.g., arrested, serious behavior problem in the home that the treatment parent felt unable to deal with the youth any longer). Therefore, these youths with missing data likely differ systematically from youths who remained in the home long enough to complete the interview. In bivariate analyses, all existing data were used.

For regression analyses, though, this missing data resulted in a very small sample in the final models. Therefore, for regression analyses, the mean value of each PDR-derived variable was inserted for youths who were missing on the variable. Additionally,

each model included a variable in the model indicating that the youths was missing on all PDR data. This makes it possible to assess the extent to which the youths with missing PDR data differ from youth who have PDR data, and makes it possible to run the regression analyses on the full sample, with only minor influence on parameter estimates. All models were also run on the smaller sample that had PDR data. Model coefficients were very similar and overall findings were not affected by inclusion or exclusion of the missing cases. All reported regression models include the substitutions for missing PDR data and the dummy variable, indicating that the case has such missing data. Therefore, models are run on as many participants as possible.

3.1 Variable Correlations

The individual variable correlation procedure among independent variables found little correlation between the variables, which is appropriate for multivariate analysis. This model included BPRS and the demographic variables (i.e., age, sex, and race). One exception is the correlation between age and BPRS ($r=-0.17$, $p=.03$; $p<0.1$), meaning that older youth had lower BPRS (i.e. symptoms). Table 3 displays the correlation matrix for BPRS score with the demographic variables. The number for each category is the Pearson Correlation Coefficient (significance is indicated as noted below the table).

	proxybprs	female	whiterace	age
BPRS	1	0.04	0.04	-0.17*
female		1	0.04	0.12
whiterace			1	-0.09
age				1

+ $p<0.1$, * $p <0.05$, ** $p<0.01$

3.2 Bivariate Analysis: Independent Variables with Dependent Variables

Bivariate analysis assessed the correlation between the dependent variables (total BERS score, legal problems, and home problems) and the independent variables (BPRS, sex, race, and age). This analysis shows that the BERS total score is marginally related to both race ($r=-0.14$, $p=0.07$; $p<0.1$) and age ($r=0.13$, $p=0.09$; $p<0.1$). This means as age increases BERS scores do as well. Additionally, the race finding means that white children have lower total BERS scores.

3.3 Multivariate Regression

Next, relationships were explored using multiple regression. The purpose of this type of regression is to evaluate the relationship between a dependent variable and several independent variables (i.e. age, race, sex). Multiple regression analysis explored which of the independent variables was related to each of the outcome variables (Multiple Regression, 2010). Multiple regression analysis involved two steps: Model 1: Child Demographics and Model 2: Child Demographics and In-home Therapeutic Factors. This form of regression is valuable because this analysis will help to determine the relationships between the independent (i.e., age, race, sex, process variables) and dependent variables (i.e., BERS; home & legal problems). It will also assess the extent to which the in-home therapeutic factors influenced observed outcomes.

Outcome Variables

Breakdown of Models 1 and 2: Demographic Variables and Medicating Factors

Outcome Variable: BERS

As previously mentioned, MODEL 1 includes the control and demographic variables (i.e. BPRS, age, race, sex) with each dependent variable (i.e., BERS, legal and home problems.)

Table 4 displays the data for Model 1 and 2 with BERS as the dependent variable. In Model 1, the only variable that is marginally significant is race ($p < 0.1$).

Model 2 included all variables in Model 1 as well as the in-home process variables.. In Model 2 age ($p < 0.05$), race ($p < 0.1$), TRQ total ($p < 0.0001$), and PDR missing ($p < 0.0001$) are all statistically significant. Higher BERS scores were associated with being older, nonwhite, and having a better relationship with the treatment parent. In addition, youths who have left the home before the treatment parent was interviewed had lower BERS scores.

Table 4: Summary of Results for BERS Model

	Model 1	Model 2
	B (S.E. B.)	B (S.E.B.)
Age	1.12 (0.70)	1.27 (0.59)*
Race (White)	-6.98 (3.70)*	-9.53 (3.17)**
Sex (Female)	3.80 (4.33)	-1.58 (3.56)
Proxy BPRS	-0.14 (0.11)	-0.10 (0.09)
TRQ total		1.38 (0.19)**
Consequences		-6.74 (5.99)
Time Together		-0.01 (0.01)
No Unsupervised		7.91 (5.96)
Time Unsupervised		0.09 (0.06)
Activity Together		1.83 (4.52)
PDR Missing		-12.39 (3.15)**
R-Square	0.0654	0.4247

*p <0.05, **p<0.01

Outcome Variable: Legal Problems

In Table 5, the structure of Model 1 and Model 2 remains the same as previously mentioned, but uses Legal Problems as the dependent outcome variable. In Model 1, only race is significant (p<0.01).

In Model 2, race (p<0.01), PDR missing (p<0.01), and no time unsupervised (p<0.05) are all significant. This means race, PDR missing, and no time unsupervised all

have a statistical relationship with total legal problems. Legal problems were higher for non-white and youth who were unsupervised for any time. Again, youth with missing data showed worse outcomes.

Table 3: Summary of Results for Legal Problems Model

	Model 1	Model 2
	B (S.E. B.)	B (S.E.B.)
Age	0.05 (0.07)	0.03 (0.08)
Race (White)	-1.20 (0.37)**	-1.24 (0.41)**
Sex (Female)	0.02 (0.43)	0.28 (0.47)
Proxy BPRS	0.01 (0.01)	0.01 (0.01)
TRQ total		-0.03 (0.02)
Consequences		1.30 (0.88)
Time Together		0.00 (0.00)
No Unsupervised		-1.92 (0.87)*
Time Unsupervised		-0.01 (0.01)
Activity Together		-0.05 (0.63)
PDR Missing		1.06 (0.40)**
Percent concordant	66.8%	76.0%

*p <0.05, **p<0.01

Outcome Variable: Home Problems

The results of the analysis using the final outcome variable, home problems, are displayed in Table 6. In Model 1, none of the demographic variables were significant. In Model 2, using home problems as the outcome variable only the consequences variable ($p < 0.05$) is significant, while the TRQ total ($p = 0.068$) hovers near significance. Youth who received more consistent consequences showed fewer problems at home. Youths with a better relationship with their treatment parents had marginally fewer problems.

Table 4: Summary of Results for Home Problems Model

	Model 1	Model 2
	B (S.E. B.)	B (S.E.B.)
Age	-0.11 (0.06)	-0.10 (0.07)
Race (White)	-0.27 (0.34)	-0.06 (0.37)
Sex (Female)	-0.13 (0.41)	0.10 (0.44)
Proxy BPRS	0.00 (0.00)	0.00 (0.01)
TRQ total		-0.05 (0.02)*
Consequences		1.41 (0.77)*
Time Together		0.00 (0.00)
No Unsupervised		0.82 (0.82)
Time Unsupervised		0.00 (0.01)
Activity Together		-0.14 (0.56)
PDR Missing		0.65 (0.38)
Percent concordant	56.7%	71.1%

* $p < 0.05$, ** $p < 0.01$

CHAPTER 4: CONCLUSIONS AND DISCUSSION

4.1: Significant Findings

Multivariate analysis showed that various child-level variables and therapeutic factors were related to outcomes. White youths showed lower strengths (i.e. BERS), but also significantly less likelihood of legal problems. Older youth had higher total strengths. The treatment parent-child relationship was related to better outcomes on the BERS scale and in the home. Unsupervised time was related to legal problems. For both the BERS and legal problems, the dummy variable for missing data indicated that youth who left the home before an interview had worse outcomes.

Initially, the older children had fewer symptoms, which were indicated by the BPRS score. The bivariate analysis between the dependent variables (i.e., total BERS, legal problems, and home problems) and the independent variables (proxy BPRS, sex, race, and age) produced statistically significant results. This procedure indicated that the total BERS score was positively related to both race and age. This means that as age increased, BERS scores did as well. This slightly negative correlation between race and total BERS score indicates that white children have lower BERS scores. This is interesting because white children have fewer legal problems and no correlation exists between race and home problems.

Notably, a statistically significant relationship is not found between legal problems and age. A typical assumption is that older children are more likely to have developed behavioral issues that will result in legal problems. This is also true for sex. In society, boys tend to have more legal problems than girls, but sex did not have a statically significant relationship in the analysis.

Another interesting finding is that no relationship exists between BPRS and legal or home problems. One could assume that children with fewer behavioral problems (e.g., a lower BPRS score) would have fewer home and legal problems. This finding may indicate that the treatment parents' expectations played a role in the interpretation and reporting of the child's behavior. Perhaps a treatment parent who knew the child had severe behavioral issues would provide additional supervision, thus preventing legal problems. Also, a treatment parent who is expecting to deal with extreme behavior may be more likely to rank the child as "very good," although he or she is actually doing worse than other children who were expected to do better. This finding may indicate that the treatment parents' expectations played a role in the treatment parents' interpretations and reports of the child's behavior.

As would be expected, no time unsupervised had a positive correlation with total BERS score. Additionally, time supervised was positively related to a higher BERS score. Presumably, the more supervision a child receives the better the results will be. A point of interest may be to follow the children who had the most supervised time to observe their transitions out of the treatment home. The children may be behaving well due to the nature of the program and the intense supervision, but the true test of the success of the program may be the success of the children post-TFC.

Furthermore, TRQ total, which measured the treatment parent-child relationship, was positively related to the BERS total. This means that those with a "good" relationship, defined by the TRQ questions, seem to have better outcomes. In bivariate analysis, the more activities a treatment parent engaged in with the child the better the relationship and, thus, the better the outcomes. Also, time spent together by the treatment

parent and child was linked to percent consequence. Perhaps the more time the treatment parent and child spent together the more the parent was able to recognize problem behavior and respond accordingly.

Implications:

As stated in the Prior Research section in Chapter 1, TFC is viewed as more effective and cost efficient than group homes. The results of the current research could be used to determine which types of children are doing better and perhaps identify factors that contribute to a successful outcome. This information could then be used to improve the success of TFC and ultimately phase out the less successful group home model.

This research found that older youth and minorities have the best outcomes in TFC. Also, a child with a better treatment parent-child relationship was found to have a higher BERS score. A better treatment parent-child relationship was fostered by additional activities together. Additionally, the less time unsupervised the better the outcome for the child. These variables are all linked to a good treatment parent- child relationship.

This research also found that white children were worse on a measure of youth strengths, but nonwhite children had more legal problems. This is most likely due to the injustices that still exist in society. This is an area that needs to be addressed as the nonwhite children are improving but may not have the same chance of a successful outcome as a white child due to actions in the legal system.

Limitations:

Children with a higher number of out-of-home placements typically have more severe behavioral issues (Hussey, 2005). Before a child is enrolled in TFC, he or she has

usually already experienced several other placements (Hussey, 2005). The role of the control variable BPRS is to control for problems prior to admission into TFC in the analysis. Perhaps other measures, such as the number of previous out-of-home placements, that factor into the success of the child before the program begins.

The outcome variables measure home and legal problems, and the BERS scale may only be evaluating certain aspects of a child. One could argue these variables are not measuring a broad spectrum of success but rather problems a child has in specific social situations. One suggestion for a better measure of outcomes would be to use data from a longitudinal study. Even if this data were available, different definitions of success, at times specific to the individual, make analysis of successful outcomes challenging.

A primary limitation in this research is the small sample size; a larger sample would mean a higher power. A large sample may have allowed for more distinct statistically significant results. As explained throughout this paper, several children were missing from some of the interview questions. Although the missing data were handled appropriately throughout the analysis, data with less missing values would be more ideal.

Future Research:

Further analysis is possible with this data. For example, most of the sample spent less than two hours participating in recreational activities/time with peers in the past 24 hours. More research could determine the effect of time with peers versus time with treatment parent.

Additionally, of those who responded, the majority (90.6%) of treatment parents participated in religious activities and 78.8 percent were official members of a church or other place of worship. The attendance for parents who went to religious services was

65.5 percent at least once a week and 31.0 percent one to three times a month.

Additionally, the child was involved in these activities always or almost always 78.6 percent of the time. Research could evaluate the effect of religious affiliations and activities on the outcomes of TFC.

Another approach may involve the effect of family activities in general. Twenty-nine percent of the treatment families took part in other activities besides religious services a few times a month, and 49.7 percent of families reported doing so at least once a week. The treatment households with males reported 70.8 percent of the children had participated in outdoor activities with the male. Additionally, the male TP spent four or more days per week with 63.64 percent of the children. Forty-four percent of the children ate dinner with the TP seven times in the past month, and 3.70 percent had 30 meals with the treatment parents. These statistics all present various aspects of treatment home life that could be analysis to determine the effect on the outcomes of TFC.

As mentioned in Chapter 1, the population of children in foster homes is growing and the behavioral problems are growing more intense. A future study could compare the children from the sample used in this research to a more recent sample. This research could explore which children are doing worse or if all children are becoming worse at the same rate. This research could also use demographic information to see if the development of society is affecting certain ages, sex, or race more than another.

Conclusion

This study focused on four questions with the intent of examining factors that influence behavioral outcomes (functioning and strengths) among children in TFC:

- 1) Is race related to children's behavioral outcomes in TFC?

- 2) Is age related to children's behavioral outcomes in TFC?
- 3) Is sex related to children's behavioral outcomes in TFC?
- 4) Do factors within the TFC home (e.g., parent/child relationships, monitoring/supervision, and parenting style/discipline) affect the relationship between demographics (i.e., age, race, and sex) and outcomes?

This research evaluated three chosen demographic characteristics (age, race, sex) in comparison to the outcome variables (legal and home problems, BERS score). Also, the impact that parent/child relationships, monitoring/supervision, and parenting style/discipline have on the outcomes of TFC and how these factors are related to age, race, and sex was investigated. The analysis was broken into two models, one using only demographic variables and the second model, including mediating variables (i.e. treatment parent- child relationship, discipline/consequences, and monitoring). One notable finding from this research is that white children have more legal problems but are actually doing better than white children in TFC. Also, the process variables for monitoring indicated that children with less time unsupervised had better outcomes (i.e., higher BERS scores) than children with more time unsupervised.

This research has uncovered factors that may identify certain children who may do better in TFC than others. This knowledge can be used to improve this model of foster care.

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