To the Graduate Council:

I am submitting herewith a dissertation written by Cinda S. Sagnes entitled "Predictors of psychosocial Functioning Change in State's Custody at Six Months." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Social Work.

William R. Nugent, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Interim Vice Provost and
Dean of the Graduate School

Predictors of Psychosocial Functioning Change in State's Custody at Six Months

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Cinda Sagnes
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ABSTRACT

Each year thousands of children enter into the custody systems of states in the United States. In Tennessee alone nearly 12,000 children enter out of home care. In spite of these large numbers relatively little is known about the factors predictive of how children change while in state's custody. To address this dearth of information, data from a study of the Tennessee custody system were used to test three hypotheses about variables related to change in children's psychosocial functioning while in state custody. The results suggested that the presence of a mental health problem upon entry into custody was a significant predictor of a child's psychosocial functioning deteriorating while in custody. These results were consistent with previous research which has suggested that children's service systems may be more reactive to children while in custody than they are proactive in responding to their mental health needs. These results suggested that children's service systems need to plan courses of care that are sensitive to their mental health needs at the time they enter into custody. Failure to do this may create conditions that are conducive to children with mental health problems deteriorating while in out of home care.

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Chapter I

INTRODUCTION

Statement of Problem

Our nation's most troubled, needy, and vulnerable youths are among the 650,000 children in out-of-home care (National Center for Policy Analysis, 1997). These youths have been determined to be abused, delinquent, unruly, dependent, and/or neglected. In Tennessee alone there is presently a total of 11,390 children in out-of-home care (State of Tennessee Department of Finance, 1998). The number of children in out-of-home care increases as the number of children entering care outnumber those leaving care (Children's Bureau, 1999). "Foster Care Drift" was a term first used in the 1970's when the number of children in out-of-home care soared to 500,000 in 1977 (National Commission on Children, 1990). This prompted passing of legislation such as the Adoption Assistance and Child Welfare Act of 1980 - Public Law 96-272 and The Adoption and Safe Families Act of 1997 - P.L. 105-89. Public Law 96-272 was the first attempt to reduce the number of children in out-of-home care. Permanency planning framework was to end foster care drift; the law's fiscal incentives were intended to assist in increasing the adoption of special needs children and to encourage the development of placement prevention programs. The law also required states to create an information system on the children in states care so that basic demographic information regarding these children and their families would be readily available.

The Adoption and Safe Families Act of 1997 was enacted to carry on the goals of

P.L. 96-272 and to expand the work of the Family Preservation and Support Services Program P. L. 103-66, now called the Promoting Safe and Stable Families Program. The goals of these programs were to direct money to a variety of mental health, crisis, independent living, and adoption promotion services. It also set new standards for reasonable efforts, health coverage for children, termination of parental rights, time lines for permanency hearings, and accountability standards for states in meeting these standards.

Alarmingly, the number of youths committed to states custody and out-of-home care continues to rise in spite of these legislative, policy, and program attempts to decrease the number of these children care and to provide services to families. There was short-lived success in the early 1980's, when in anticipation of the passing of Public Law 96-272 the number of children in states' custody decreased to 302,000 and then further to 275,000 in 1983 (National Commission on Children, 1990). However, by 1986 the number of children in out-of-home care rose to 434,800, then to 486,118 and now to the present level of 650,000 (Knitzer & Yelton, 1990; National Center for Policy Analysis, 1997; National Commission on Children, 1990). Although adoptions have risen, the number of children in out-of-home care continues to outnumber those leaving care. Funding for foster care in 1996 was $3.8 billion, in 1998 $3.2 billion, and in 1999 $3.98 billion (Administration on Children, Youth and Families, 1998).

From 1991 to1995 the number of children in the State of Tennessee's custody increased from 9,000 to more than 12,000 (State of Tennessee Department of Finance, 1998). The number has declined since then to the present 11,390 (State of Tennessee Department of Finance, 1998). Even though the number of children has declined, expenditures have not.

During this same time, 1991-1995, contract agency expenditures tripled to $132.4 million and residential services expenditures increased 53% to $222.2 million (State of Tennessee Department of Finance, 1998).

Our child welfare system continues to be overwhelmed by the extensive and complex needs of multi-problem children and their families (HEHS, 1994; HEHS, 1995; Simms & Halfon, 1994; Woodly Brown, Bailey & Etta, 1997). The youths entering custody today and their families are more troubled than a decade ago (HEHS, 1995; State of TN. Dept. of Finance, 1990). Child welfare experts agree that increases in parental and child drug use, poverty, homelessness, HIV/AIDS, and other child/parental mental and physical health problems contribute to these complex issues (HEHS, 1994; Kienberger, Jaudes, Ekwo & Voorhis, 1995; Magura & Laudet, 1996; Taylor-Brown, 1991 and 1996). In addition, the system has struggled as child abuse and neglect reports soar and the number of children entering care is significantly more than those who leave care (HEHS, 1995; Kamerman & Kahn, 1990; National Center for Policy Analysis, 1997; Tatara, 1997).

What happens to children in states custody? They are adjudicated and determined to be abused, delinquent, unruly, dependent, and/or neglected. Those who need protection from abuse and neglect and those without homes are usually placed in family foster care. Older children and adolescents are often placed in group homes, residential treatment centers, and juvenile justice centers. These older youths are typically status offenders, unrulies, truants, runaways and/or pregnant unwed mothers. A large number of youths require intensive mental health treatment and are placed in psychiatric hospitals. Two-thirds of children in out-of-home care will eventually return home to a parent or relative, but 45% of

them will be in care two years or longer (Tatara, 1997). Many will never return home. Also, 53% of the children nationally can expect to have multiple placements; in Tennessee the percentage is 47% (Glisson, 1992; Stein, 1987). Children in foster care in Tennessee will spend an average 557 days in care -- 381 days in residential treatment (State of TN. Dept. of Finance, 1998). However, one child in ten remains in the system for more than seven years and one-sixth of the children remain in out-of-home care for at least six years (Children's Defense Fund, 1998).

How well does our system "parent" a child while in care? What happens to children when they leave care? According to many recent studies the answer is clear: the system has failed and is failing children. McDonald, Allen, Westerfelt, & Pillavin's (1996) meta anaylsis of out-of-home care studies found that adults who had experienced out-of-home care had lower educational attainment, experience insecure employment, are more likely to have drug or alcohol difficulties sufficiency, as well as, have more distress in relationships. They (McDonald et. al., 1996) also found that a disproportionate number of homeless persons spent time in out-of home care, have a higher rate of criminal behavior, generally poor mental health and lower life satisfaction. Buehler, Orme, Post, & Patterson (2000) confirmed some of these findings in their study, "The Long-Term Correlates of Family Foster Care".

Whether your values emphasize saving tax dollars or improving the welfare of children and their families, there is little argument for the need to better understand how to rectify this situation. Research is needed to improve the system's response to children and their families to prevent out-of-home placement. If prevention is not possible, then the goal should be to improve system response to the child and the family to shorten the length of

time in care, provide appropriate treatment and placement, and facilitate reunification and/or adoption. Placing a child in custody should be seen as a therapeutic intervention with calculated and strategic decisions made throughout the assessment, placement, treatment, and reunification phases decisions that bring about swift change for the child and family.

In summary, society needs to reduce the number of children in care, and how to serve them effectively. Finding a solution to these problems requires that we continue to seek answers and look in new directions as to why our child welfare system is still not responding adequately to children who are at risk for out-of-home care or to those already in states custody. A primary goal should be to understand how to more effectively respond to multi-problem children and their families.

Objectives

My general objective was to contribute to the existing research and knowledge base of the characteristics of children who are in out-of-home care and the variables that contribute to the child's change in psychosocial functioning while in state custody. First, I wanted to identify the best predictors of change in global psychosocial functioning of children in state custody. Psychosocial functioning was the dependent variable. Predictor variables were entered in sets. The make-up of the sets depended on the hypothesis and analysis I used. For Hypotheses Two, Three and Four the child's characteristics set consisted of; mental health problems, alcohol/drug use, the sum of handicapping conditions, the child's A&D level, Child Behavior Checklist (CBCL) and Teacher Report Form (TRF) Internalizing scores upon entering custody, CBCL & TRF Externalizing scores upon entering custody,

and whether the child is a physical abuse victim, sexual abuse victim, sexual perpetrator, or the child of alcohol-and-drug-using parents. For Hypothesis One the child's characteristics set did not include the CBCL or TRF baseline scores, which were first entered separately. The demographic set included age, gender, and ethnicity. The characteristics of service set included the number of placements, sum of services received, proximity of placement at six months, and number of contacts between the family and child and the worker.

Second, I assessed the interaction of Internalizing and Externalizing behavior problems in children who had been in custody at six months. Third, I assessed the severity of behavior problems in children in state custody upon entering custody and psychosocial functioning improvement at six months of custody.

While many of the independent variables I used have been identified as important contributors to children's psychosocial functioning, they usually have been looked at singly rather than jointly, as a set of predictor variables for children in out-of-home care. This large data set offered me the possibility to combine variables in order to determine which variables best predict change in psychosocial functioning of children in states care.

I also hope the findings in this research can be applied in both a macro and micro system approach. Finding a set of predictor variables for change in psychosocial functioning of children in states custody can help give the system specific targets to be used in program planning and reform, case management, prevention, assessment, placement issues, decision-making, crisis intervention, services, and reunification efforts.

Chapter II

LITERATURE REVIEW

Research on children in foster care has increased dramatically over the last decade. This is due to the large number of children in foster care, the failure of legislative and system efforts to decrease the number of children in foster care, and the soaring cost of out-of-home care services. However, until recently there was no uniform tracking or data gathering system regarding these children, so much of the research has been directed toward obtaining basic demographic and characteristic information on children in foster care. At the First Annual Roundtable of Outcome Measures in Child Welfare Services (1993), Donald L. Schmid stated:

> Historically we have measured child welfare practice by activities. That is, how many clients we serviced, what services we provided, how long we served our clients, average caseloads, etc. Obviously, this did **not** do the job. The question we and others ask is, "Did these services make any difference?" (Pg. 1). Child welfare research is now starting to focus on the child welfare systems' response and/or reaction to multi-problem children and families. How does the system respond to the complex needs of these children and their families?

Historically, outcome in foster care has been defined as the child leaving custody, whether due to reunification, adoption, guardianship, independent living, or kinship care. This focus, along with P.L. 96-242's requirement of reasonable efforts to prevent placement

and increase reunification efforts, led to an increase evaluation of Family Preservation Programs. Rarely has outcome been defined as the child's change in psychosocial functioning. In "A Foster Care Research Agenda for the 90's, "Goerge, Wulczn, and Fanshel (1994) state:

> It is of most critical importance to conduct more research on the developmental or aggravation of emotional disorders in children who experience placement in care at some time in their lives. In addition to these risks, there is some concern that children are receiving inappropriate care, which in turn, serves to increase their emotional disturbance (pg. 537). In the last five years, research has focused on determining the level of general psychopathology of children in out-of-home care. Now research is focusing on understanding the more specific types of pathology and behavior problems that challenge and have overwhelmed the system serving these children in out-of-home care. These pathology and behavior problems are referred to as "internalizing" and "externalizing" behaviors.

General psychopathology of children entering custody has been well documented (Berrick, Courtney, Barth, 1993; Dougherty, 1988; Glisson, 1992, 1994, 1996; Tuma, 1989). Many psychological, emotional,behavioral, and social problems have been linked to children who experienced abuse, neglect, and dependency. Depression, aggression, anxiety, suicidality, learning and interpersonal problems, and somatic complaints, are well documented problems and fall into the groups of externalizing and internalizing behaviors.

Externalizing behavior is more readily identified and easier classified. Children

who have externalizing behavior quickly come to the attention of teachers and parents due to the disruptive, oppositional, aggressive, and noncompliant behavior that characterizes this group of behaviors. Externalizing behavior has been classified by Achenbach (1991) to include delinquent behavior, aggressive, and hyperactive behavior. The DSM IV by the American Psychiatric Association (1994) groups externalizing behaviors into Oppositional Disorder, Conduct Disorder, Attention Deficit/Hyperactivity Disorder, and Impulse Control Disorder. Externalizing behavior is common in children and adolescents - 5% (Merrell, 1999).

> Externalizing behavior disorders typically begin as early in life, with the development antecedents sometimes present as early as infancy (difficult temperament) and early childhood (attention-seeking and acting-out behavior). . . . .[The] area of externalizing behaviors is perhaps the most clearly defined broad-band domain of child psychopathology. . . . [and] involve[s] a variety of acting-out, aggressive, antisocial, disruptive, and overactive behaviors (p. 236). The prognosis for externalizing behavior is believed to depend on age of onset, severity of behaviors, number and type of externalizing behaviors, and intelligence level and social skills (Merrell, 1999).

Children in state custody who exhibit externalizing behavior have multiple placements and have more restrictive placements, and require increased crisis intervention, more intensive case management, and longer stays in care. The comorbidity of externalizing and internalizing behavior is disagreed upon in the literature.

Internalizing behavior is more difficult to identify and research has not focused on it as much. Children with internalizing behavior are not easily identified and this group of behaviors is often overlooked by teachers and parents. Children who are depressed, withdrawn, andanxious and have somatic complaints do not demand or require immediate and frequent attention. Achenbach (1991) groups anxious, depressed, and withdrawn behavior and somatic complaints into the Internalizing category. The DSM IV by the American Psychiatric Association (1994) groups internalizing behaviors into Mood Disorders, Somatoform Disorders, and Anxiety Disorders. Depending on the type of internalizing behavior being studied the number of children suffering from internalizing behavior ranges from 1% to 8.9% (Merrell, 1999). Typically, females are believed to exhibit more internalizing behavior than males. Merrell states:There has been some disagreement in the development psychopathology literature as to the potential long-term consequences of internalizing disorders, and more research in the area is needed . . . [To] there seems to be general agreement . . . that serious internalizing symptoms of childhood may persist for a long time . . . . perhaps two to five years, . . .[which is] evidence to suggest the potential for negative outcomes for later life (p.251).

Research on the existence of internalizing and externalizing behaviors and the prevalence and development, antecedents, and prognosis of these behaviors are in their infancy. However, it seems likely that the children who experience clinical levels of both internalizing and externalizing behavior would be more complex to assess, treat, and arrive at a prognosis for improvement in psychosocial functioning.

Co-occurrence of Internalizing and Externalizing Behavior

The co-occurrence or comorbidity of internalizing and externalizing behavior has been a routine observance in my clinical experience. Researchers have also found that internalizing and externalizing behavior problems co-occur (for example, Nugent & Glisson, 1999; Ollendick, Seligman & Bucher, 1999; Somersalo, Solantus, & Almqvist, 1999). This led me to hypothesize that the entry levels of either internalizing or externalizing behavior moderates each other and therefore the psychosocial functioning change of children in state custody at six-months . Most common has been my observance of children with comorbid disorders **within** the same class of behaviors; ADHD and Oppositional Defiant Disorder, ADHD and Conduct Disorder, ADHD and Intermittent Explosive Disorder, Impulse Control Disorder NOS and Depression, Depression and General Anxiety, and Depression and Separation Anxiety. However, closely as common, has been my observance of comorbid disorders in children **between** classes of behavior; ADHD and Depression, ADHD and General Anxiety, Oppositional Defiant Disorder and Depression and etc.. Also what is typical is the presence of a disorder with **symptoms or features** of other disorders **within** the same class and/or **between** classes; ADHD with Depression symptoms, ODD with Depressive symptoms, Depression with Anxiety features and etc.. The children that exhibit such complex and combined behaviors can be considered multi-problem children.

Treating multi-problem or dual diagnosed children is just as complex. Internalizing behavior can at first appear externalizing. Depression in children is often manifested by irritability and anger outbursts. It is usually "externalizing" type behavior that becomes problematic and prompts a referral not the other depressive features such as social isolation,

sleep problems, low energy, and feelings of helplessness. Many children are medicated with stimulants (for ADHD) and anti-depressants (for Depression or Anxiety). Their multiple diagnoses are treated as both primary and problem behaviors from both classes are targeted in therapy. Nondisruptive internalizing behavior however is often under referred, assessed and treated. Often externalizing behavior children have social skill problems that lead to depression due to lack of positive peer relationships. Much research is needed to analyze the relationships that exist between internalizing and externalizing behavior. A child uses coping skills to navigate their way through school and home environment - often a multi-problem child exhibits both of these behaviors - may be at different levels.

Child's Characteristics

I did not find any research studies (except the AIMS - Assessment and Intake Management System Project) that both measured and assessed all the predictor variables in which I was interested as predictors of psychosocial functioning of children in state custody. This led me to review research in the areas of the sets of predictor variables: demographics, child's characteristics, and service.

Six hundred and sixty-two children, ages 2-17, were studied by Garland, Landsverk, Hough, and Ellis-McLeod (1996). They used interviews and case records to examine the relationship between the type of maltreatment and the type of mental health service provided for children in foster care. Overall findings show that children "who have experienced 'active' types of maltreatment (physical/sexual abuse) are more likely to receive mental health services than those with 'passive' types of maltreatment (neglect), even when the effect of severity of mental health problems is controlled" (pg. 675). Again, the study found

that children removed from their homes for sexual abuse were more likely to receive services independent of their behavior scores. Unlike Glisson (1992), Garland et al. found that children in care with clinical behavior scores were three times more likely to receive services compared to those without clinical scores.

Looking for related characteristics between children and their families in out-of-home care and experiencing multiple placements, John T. Pardeck (1984) analyzed data on 4,288 children from 319 public services agencies and 38 states. He looked for factors under three main subgroups: the foster child, the child's caseworkers, and the child's family. He found that "children who have behavioral problems are prime candidates for multiple placements." Using zero-order correlation analysis, significant relationships (.05 level) were found for multiple placements related to: (1) alcoholism of the mother and father (after three years of placement for father); (2) older children having more placements than younger; (3) white vs. black children having a greater chance of experiencing multiple placements than black children ; and (4) how caseworker turnover for first three years of care increased placements.

Pardeck (1984) found that 78% of the children experienced only one or two placements in care and the median time in care was 29 months. However, he also found that 23% of children spent more than six years in care. It is important to note that of all the factors Pardeck looked at related to multiple placements in the three categories, the most significant relationships he found were directly related to the child. These factors related to the child included age, sex, ethnicity, and reason for placement.

Thompson and Fuhr (1992) wanted to obtain an estimate of psychopathology in the children in care. From a sample of fifty children and a one time battery of psychological

testing they found that 60 -80% of the children showed psychopathology; 56% of those children were referred for mental health services. The Achenbach CBCL was used as part of this battery testing along with three other checklists and psychosocial histories. Sexual abuse was the most common reason for these children to enter foster care, and the median length of time in care was 5.5 years. Interesting to note, Thompson and Fuhr found "an over-representation of psychopathology on psychotism, criminality, and externalizing behaviors. . . . [and a] striking deficit in social competence" (pg. 110). It is important to note that while these findings are of interest, they are not taken from a representative sample. Native Americans were over-represented in the sample as was the most common reason for children entering care: sexual abuse at 29% of the cases.

Palmer (Winter-1979) studied the case records of 200 children in care looking for predictors of long-term foster care. Outcome was defined as progress in functioning from the time of the child's admission to his or hers discharge (which was adulthood). She found that age and family conditions (mental illness, physical or sexual abuse, alcoholism), were not factors associated with long-term care. However, she did find that behavior problems were associated with more moves and poorer academic performance; yet children of lower intelligence actually fared better in care.

In "Behavior Problems of Children Adopted When Older" (1989) Berry and Barth used the Achenbach Checklist to assess eighty-five children who had been adopted and were experiencing stable placements or disrupted placements. They also interviewed families who assessed each child's behavior. They found five behaviors exhibited by the children that had specific and significant associations with disrupted placements: "threatening people, cruelty

or meanness to others, getting into fights, arguing, and disobedience at school." Of the children who had both high internalizing and externalizing clinical scores, the externalizing scores were reported as problematic and reason for adoption disruption. A history of sexual abuse was related to high externalizing behavior scores. Berry and Barth also supported Staffs and Fein's conclusion that preparation prior to placement and post-adoptive support greatly increases the chances for adoption stability.

In studying early and systematic screening of children entering custody, Urquiza, Wirtz, Peterson, and Singer (1994) followed 167 children and assessed them with seven different scales, including the Achenbach CBCL and TRF. They found that "68% percent of the children were identified as at risk on one or more of the four standardized assessment instruments" assessing developmental/cognitive, academic, behavioral, social/adaptive, and affective domains. Twenty-two percent of the children were at risk for cognitive deficits or delays. Forty-five percent of the children ages two and one-half and younger scored below the risk area on the Mental Development Index. In the academic domain the study found 28% of the children fell below the risk cutoff, while scores increased with age and were highest among Caucasian children. Thirty-nine percent scored in the clinical range on the CBCL; again, the younger group (under age four) had the highest clinical scores at 39%. Twenty-eight percent of the children scored below the at-risk cutoff for adaptive functioning. This study assessed the children on all domains of psychosocial functioning and found that 56% of the children were at significant risk in one or more domains.

Fanshel, Finch, and Grundy (1989) reviewed records of 585 children in the Casey Family Program from 1966 to 1984. They were interested in factors relating to the children's

placement into care, adjustment of the children at various points in care, and family and child characteristics. Some of their significant findings included:

> . . . children in foster care who had little prospect for reunification with their families presented more complex problems than other foster care children . . . the course of a child's career in foster care had a substantial degree of predictability . . . physically abused boys did less well in care than nonabused boys, were in poorer condition at exit from this agency, and were more likely to engage in criminal behaviors as adults . . . the absence of strong clinical intervention by the social workers sometimes handicaps the relationship of the child and foster family (pp. 470, 471).

A subset of 106 children from this study was interviewed seven years later. They determined that a child's level of hostility (and those children who experienced replacements and/or reentry into care were more hostile) upon entry was the best predictor of a child's adaptation to foster care. Adaptation was found to be the best predictor of the child's condition at exit from care. Subsequently, the child's condition at exit from care was the best predictor for adult adjustment. Adaptation was loosely defined as "a successful intervention occurred so that a child's oppositional behavior was overcome and the child led to a good adjustment."

Assessing nonreferred abused children for psychosocial characteristics was the goal of Flisher et al. (1997). Six hundred sixty- five youths from ages 9 to 17 in four major cities were interviewed along with their mothers. Interviews included self-reports and parental reports on several scales for suicidality, impairment, psychiatric disorders, social competence, family psychiatric history, physical health, receptive language ability, family

environment, perinatal problems, and sexual abuse. Out of the 665 children interviewed, 172 had experienced abuse. The associations between physical abuse and diagnosis (mood, anxiety, disruptive disorders) were all significant. Their overall finding was that "for both the youth and parent informants there were significant relationships between physical abuse and both global functional impairment and social competence . . . but not for school grades or receptive language ability" (135). Flisher et al. (1997) described their efforts as the first study that documented the range of psychopathology in nonreferred abused youth.

Demographics

Psychosocial functioning and the impact on reunification for children in foster care was the focus of a study done by Landsverk, Davis, Ganger, Newton, and Johnson (1996). Six hundred and sixty-nine children ages 2 to16 were measured on the Achenbach CBCL, and case files were reviewed for demographic information. Some of their general findings included: as time in foster care increased, children were less likely to return home; multi-problem children were likely to be in foster care rather than kinship care; and reunification rates were significantly affected by age, race, family structure at removal, emotional abuse, sexual abuse and having a sibling in care. They further stated:

> More specifically, older children, African-American children removed from their biological single parents or from non-parents, and children without a sibling in foster care were less likely to be reunified. Children whose reason for removal included sexual abuse or emotional abuse were significantly more likely to be reunified (pg. 455).

Most important, they found that children who did not have externalizing behavior were twice

as likely to be reunited as those who did.

The study "Children in Foster Care: Possible Factors Affecting Permanency Planning" by Albers, Reilly and Rittner (1993) described findings similar to Turner's (1984) studies but contrary to other studies. They reviewed 404 records of children in Nevada state care to study factors associated with longer stays in care, educational background of the social worker, and duration of services for the child. They found that many of the children in their study also came into care because of poverty and discovered that children from families on AFDC were less likely to be reunited with their families or placed in permanent adoptive homes. Minority children had longer stays, and the complexity of the child's behavior and medical needs overwhelmed caregivers and workers. No relationship was found for gender, but it was found that younger children (at time of entry of care) could expect longer stays in care.

Service Characteristics

Looking at the relationship of case management and community services in regard to outcome for reunification of children with their families or return to foster care was John Turner's (1984) focus in his study of 100 children. He reviewed the records of these children in 43 counties in Virginia and also conducted telephone interviews with the DSS worker. He found that in 24% percent of the cases when children were returned to their families, there was no reported improvement in the parental problems that were present when the children went into care. In 28% of the cases there was no improvement in the problems the child had when he\she entered placement. Turner found no relationship between the status of the children and any of the demographic variables for which the data were reported.

Failure to receive appropriate services was evident as Turner found in 20% of the cases that the parental problems reported at the time the child entered custody were community service needs (housing, finances, physical neglect, etc.), but only 5% of the cases received help with these needs while the children were in care.

White, Albers, and Bitonti (1996) also studied length of care factors. They studied 41 case records for association of factors in regard to parental visiting, social work activity, reunification, and promoting visitation. Their findings confirmed earlier studies: more frequent parent-child visitations are associated with shorter time in placements, and increased worker contact is associated with more parental visits and shorter stays in care. It is disturbing to note that they also found that minority children had longer stays in care, received fewer services, were placed with relatives more, and had less contacts with caseworkers.

Staff and Fein (1995) reviewed records of 244 children in out-of-home care from 1987 to 1991 to study factors associated with stability and change of placements. Fifty-one percent of the children who were later adopted experienced only one placement. Likewise, 49% of the children who were still in care at the end of the study had one placement. However, 11% of the children who had five or more placementsm, while 25% experienced one or more residential or hospital placements. Eighty-three percent of the multiple placement children and half of those having a residential treatment stay experienced both of these events. The study concluded that for a number of youths, family placement settings were not successful, and preparing the children prior to and post placement is the key to stable placements.

AIMS (Parent Project) Summary

As I reviewed the literature, I found there have been no other research projects that have attempted to assess children in custody on so many key variables and for the length of time with repeat measures as Glisson's (1992, 1994, 1996). Therefore, I will conclude with a review of some findings from Glisson (1992), head researcher of the project from which I will be obtaining my data. Glisson's first report from the study in 1992 focused on the effectiveness of the AIMS Pilot Project to increase coordination of services to children in custody. His global findings reported that children in the AIMS areas:

> . . . were more likely to be placed in less restrictive residential settings, more likely to be placed in a setting appropriate to the child's problem and were more likely to receive needed services from the state's mental health system . . . children in both the AIMS and control areas improved in psychosocial functioning (Glisson, 1992).

Glisson also found that 78% of children scored by parents on the CBCL fell within the 85th percentile on clinical psychosocial functioning. Sixty-six percent of the children scored by teachers using the TRF fell into the 85th percentile for clinical psychosocial functioning scores. Glisson compared this to the department of custody and found that a child's psychosocial functioning played almost no role in the courts' selection of the department that received custody of the child. Also, no relationship was found between the reason for custody and the child's psychosocial functioning. Sadly, no difference was found between the clinical and nonclinical groups and the receipt of mental health services or in the restrictiveness of their placements. In fact, Glisson reported only that 14% of the children received mental health services. Glisson's findings in the areas of demographics, child

characteristics, and service characteristics are summarized below.

> Children with more problems in psychosocial functioning move through more placements in a given time . . . older children experience more placements . . . girls changed more than boys and the majority of all children continued to require clinical intervention . . . initial levels of psychosocial functioning predict subsequent levels of functioning, the number of placements experienced by the child, and appropriateness of those placements . . . Children entering custody with higher externalizing behavior scores showed more progress in the pilot areas (coordinated services) (pg. 19-24).

Glisson emphasized the need for the child welfare system and its workers to identify and understand the child's level and kind of functioning upon entering custody in order to provide an effective case plan and goals for the child.

Summary of Literature Review

The largest research effort has been in the demographic area. Although there are some conflicting findings, most studies agree that older, male, and minority children do not "do as well" in state custody. They spend more time in care, have more behavior problems, experience more placements, and are less likely to return home.

The research focus in the child's characteristics area has been on physical and sexual abuse, and behavior problem type and level.

Children who have experienced physical and/or sexual abuse exhibit more severe behavior problems and externalizing problems, and are seen as "multi-problem" children. However, physical and/or sexually abused children receive more mental health services/treatment but

are likely to stay longer in care and have more placements.

The area that has seen the least is the service characteristics area (aside from the AIMS project). I also found it to be the area in which , given my practice knowledge and experience, I agree least with many research findings. Findings support that children whose workers have more contact with them and their families "do better" in state custody. My practice knowledge and experience tell me the opposite. Children and their families who have increased contact are often the children who exhibit disruptive behavior which increases their placements and necessitates frequent contact between the worker and the child and family.

There are conflicting findings regarding the effects of the number of services the child receives. Some findings support that a child who receives more services "does better" in state custody. However, Nugent and Glisson (1998) found the opposite: More services may be poorly targeted or be inappropriate services, which doesn't help the child. There is, however, a consensus that children who have more placements stay longer in state custody and have more behavior problems. I found no study that looked at proximity of children in care – that is examined the distance from the child's home to treatment or placement as a predictor of change in psychosocial functioning.

My review of the literature and findings led me to compose the following hypotheses. As I noted earlier, researchers have found that internalizing and externalizing behavior problems co-occur, a comorbidity consistent with my own clinical experience. This co-occurrence suggests the two moderating hypotheses stated immediately below.

Hypotheses

Hypothesis One - After controlling for age, gender, and ethnicity, the child's characteristics upon entering custody will explain more of the variation in change in psychosocial functioning at six-months than will the characteristics of the services the child received during those six-months.

Hypothesis Two - The relationship between Internalizing problems at six months and entry Internalizing problems is moderated by entry Externalizing problems.

Hypothesis Three - The relationship between Externalizing problems at six months and entry Externalizing problems is moderated by entry Internalizing problems.

Hypothesis Four - Children who enter custody with scores in the clinical range on both the CBCL and TRF will show less improvement over six months in custody than children who are not in the clinical range on both measures at entry.

Chapter III

METHODOLOGY

Subjects

The subjects and data for this study were obtained from a larger NIMH-supported research study known as the AIMS Research Project undertaken by Principal Investigator Dr. Charles Glisson of the University of Tennessee (Glisson, 1992, 1994 & 1996; Glisson & James, 1992). A random sample of 647 children, ages 5 to 19 was obtained from four research areas in Tennessee - two pilot areas and two control areas. The 647 subjects were tracked from their entry into custody until their discharge from custody, or until the end of the project.

The two pilot and two control areas consisted of six counties each, for a total of 24 counties. The pilot areas experienced the implementation of a case management model called AIMS (Assessment and Intake Management System) while the control areas did not. The pilot and control areas were matched on: population density, per capita income, custody rates, and proportion of children under eighteen (Glisson 1994).

These children had been placed in the State of Tennessee's custody and adjudicated by their county juvenile or family court judge to be abused, neglected/dependent, unruly, or delinquent. As a result, most of these children were removed from their homes and placed in foster care, emergency shelters, assessment centers, treatment centers, juvenile justice centers, psychiatric hospitals and/or group homes. The criteria for abuse, delinquency,

neglect, dependance, and unruliness were the State of Tennessee's Statutes Codes, though the reason a child actually entered custody was determined by juvenile court judges.

The subjects were identified over a two-year period from January 28, 1990, through approximately January 1, 1992. The Youth Service Officer in each county identified all the children entering the State of Tennessee's custody in their county on a weekly basis over this two-year period. The research assistants listed all children who had entered custody and selected every second child for approximately a 12-month period. After this 12-month period, every fourth child was selected for the remaining 12-month period. Occasionally sibling groups entering custody together were included in the study.

There were several exclusion criteria regarding subject participation in the AIMS study. The AIMS Project excluded children younger than five and older than nineteen. The study design and lack of effective instruments to assess preschool children's psychosocial functioning required the omission of these children. Occasionally, a child selected for tracking was dropped from the study at the state's request. This was due to legal issues or to the level of trauma experienced by the family which reduced the family's ability to be cooperative. No other exclusion criteria were used.

Full cooperation was assured from the state departments and its employees to implement both the AIMS Pilot Project and the research by UT through legislative action by the State of Tennessee. A letter from the Commissioner of the DOE, DHS, DMHMR, or DOC accompanied the requests for information that were sent to the agency workers and teachers. The letter from the commissioners asked for the complete cooperation of their department employees and gave them permission to release information on the children.

Information given to the teams by parents and surrogate parents was voluntary.

Design

Dissertation design

The Aims project collected data on a total of 647 children. Some of these children were in custody less than six months while others, who had entered custody at the beginning of the project, were still in custody when the study was over. I used data collected on children who were in custody at least six months. The data I used were gathered upon them entering custody and at six months. The data were obtained from the General Information Form (completed upon entering custody), the Coordination of Services and Quality of Services (CSQS) Form (completed at the six-month mark), and the Teachers Rating Form (TRF) and Child Behavior Checklist (CBCL) both completed upon entry and at the six-month mark.

AIMS Research Design

The AIMS Research Project employed a quasi-experimental design with panel design data collection schedules. A quasi-experimental design was chosen because no random assignment could be used. Again, the pilot groups received a treatment - the AIMS Pilot Project. Twelve counties each from Middle and East Tennessee were chosen to participate in this study. Each area (Middle and East Tennessee) had a pilot group and a control group. There were six counties in each region in each group. These counties were chosen and matched on population density, per capita income, custody rates, and proportion of children younger than 18 (Glisson 1994).

The Aims project tracked 647 children (all four areas) over a three-year period. The data collection of the AIMS Research Project was ongoing from January 28, 1990 (the implementation date of the AIMS Pilot Project) through June 30, 1992. The Youth Service Officer in each county identified all the children entering the state of Tennessee's custody in their county on a weekly basis over this two-year period. The research assistants listed all children who had entered custody and selected every second child for a period for 12 months, and then every fourth child for the remaining time.

Baseline information was gathered for each child upon his or her admission into states custody. The baseline information consisted of the General Information form (information obtained from the Youth Service Officer or AIMS team member), a Custody Information form completed by the caseworker, the Achenbach Child Behavior Checklist (CBCL) completed by a parent, and Teacher Report Form (TRF) completed by a teacher. Six months after the baseline information was gathered, the case managers completed the CSQS Worker Reevaluation form, and the parents or parent surrogates and teachers again completed the CBCL and TRF. The completion of these forms was repeated at six-month intervals until the child was discharged or until the project ended, whichever came first. During the baseline and at each succeeding evaluation, contacts were made with the child's teacher, parent or surrogate parent, and case manager. The teacher who had known the child the best in the last two months was selected to complete the TRF. The person acting as a surrogate parent (foster care parent, group home worker, or residential caseworker) in the child's current placement was asked to complete the CBCL.

Data Collection

Collection and Measurement of Variables

The dependent variable, psychosocial functioning, was measured using the Achenbach Child Behavior Checklist (Achenbach, 1991) for parents and the Achenbach Teacher Report Form (Achenbach, 1991) for teachers. The TRF and CBCL are well known, researched, and popular scales for measuring the general psychopathology of children. Developed by Achenbach, the CBCL is a 118-item scale taking 20 to 30 minutes to complete. The CBCL produces scores on eight cross-informant syndromes: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior and aggressive behavior. The broad band scale called the Internalizing score is comprised of withdrawn, somatic complaints and anxious/depressed behavior syndrome scales. The second broad band scale is called the Externalizing score and is comprised of aggressive and delinquent behavior syndrome scales. You can obtain Internalizing and Externalizing scores, as well as a Total Problem Behavior score. Normal, borderline, and clinical ranges can be obtained by selecting a cutoff percentile. Achenbach (1991) suggests selecting a percentile cut off between 82% and 90% because "between these percentiles were found to provide the most efficient discrimination for most sex/age groups on all three instruments" (pg. 58).

Depending on the parents' reading ability, they either read the CBCL themselves or had it read to them. The parents were asked to assess the child's functioning within the past 12 months prior to entering custody and at six-month intervals after that until the child left custody or the research project ended.

The TRF was modeled after the CBCL and measures a child's academic and adaptive functioning, as well as their psychosocial functioning. It is a 118-item scale in the same format as the CBCL. The TRF scores items in eight cross-informant syndromes: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent and aggressive behavior. Three scores can be obtained from the TRF: an Internalizing score comprised of withdrawn, somatic complaints, and anxious/depressed behavior; an Externalizing score comprised of the aggressive and delinquent behavior scales; and a Total Problem Behavior score. Normal, borderline, and clinical cutoff scores are also designated. Unlike the CBCL, teachers were asked to assess the child on these characteristics over the last two months. A teacher was asked to fill out a TRF upon the child's entering into custody and at six-month intervals until the child left custody or the research project ended. These were often than the ones who initially filled out the forms because the child had been in one or more placements since entering custody.

The empirical research on the CBCL from which Achenbach has developed a diagnostic classification system has been heralded by Garfield and Bergin (1986). They believe that the multi-variable statistically based approach to classification as opposed to the 'intuitive approach' (DSM-IV) leads to a better multi-functional diagnosis. The Achenbach CBCL has been used in more than 300 research studies (Vignoe & Achenbach, 1997). The CBCL and TRF were included in the AIMS study because of their many strengths.

The independent variables were measured and assessed from forms filled out by the child's caseworker upon the child entering custody and at six month intervals during custody. These forms were created by the Principal Investigator, Dr. Glisson of the AIMS Research

Project. The demographic variables (gender, age, and race) were gathered upon the child's entering custody on the General Information Form filled out by the caseworkers. The variables of mental health problems, alcohol/drug use, physical and/or sexual abuse victim, sexual perpetrator, child of alcohol and drug user, child's alcohol and drug level, sum of handicapping conditions, number of placements, sum of services received, proximity to placement, and contact of caseworkers with families and children were gathered on the CSQS form at six month intervals after the child's entry into custody. The psychosocial functioning scores (CBCL and TRF Externalizing, Internalizing, and Total Behavior Problem Scores) were obtained from the parents and teachers upon the child's entry into entering custody and at six-months intervals thereafter until the child left custody. The scores from the CBCL (Internalizing and Externalizing) and the TRF (Internalizing and Externalizing) were used separately. The separate use of scores was used to maximize the use of respondent information. Offord, Boyle, Racine, Szatmri, Fleming, Sanford, and Lipman (1996) review several approaches to using respondent information from several sources:

> (1.) Parents and teachers reports are considered separately (2.) Combine the informants based on their overall classification of the disorder (3.) Combine the informants based on their joint responses to individual items: Symptoms may be endorsed by either informant (4.) Combine the informant based on individual item agreements: Symptoms must be endorsed by both informants (pg. 2).

It was decided to use the CBCL and TRF scores separately after a review of the literature showed that parents and teachers have a low correlation of inter-rater agreement. Achenbach, McConaughy, and Howell (1987) did a meta-analysis of 119 studies and

reported a mean correlation of .27 between teachers and parents. The literature also suggested that parents and teachers differ in how effectively they assess certain characteristics or types of behavior. Loeber, Green, and Lahey, (1990) concluded that teachers were more useful in rating hyperactivity and inattentiveness, while mothers were more useful in rating oppositional, conduct, and internalizing behaviors. This suggests the efficacy of using a multi-informant approach and use of separate scores.

Definition of Variables

The variables of age, gender, and ethnicity are self-explanatory and were collected on the General Information form. The variables of mental health problem and alcohol and drug levels were taken from responses on the CSQS form. Caseworkers were asked to report a mental health problem (diagnosis if available), and/or mental retardation, and chose from three levels of alcohol and drug use by the child. Caseworkers were also asked to report on the child's applied or certified handicapping conditions, which included seriously emotionally disturbed, specific learning disability, mental retardation, speech, language, hearing, visual, physical or health impairment, multi-handicapped, and/or gifted. The caseworkers were then asked to report the number of services received from the following list: Special Education, Pre-Vocational, A&D Counseling, General Counseling, Family Preservation, Family Reunification, Case Management, Independent Living Skills, Day Treatment, Special Health Services, Alternative School, Individual Mental Health Therapy, Family Mental Health Therapy, Group Therapy, Other and/or None of the Above. The number of contacts with the family and child were measured by the caseworkers reporting separately their contacts with the child and family. Proximity of the child's current

placement to their home was calculated in miles. The number of placements was reported by the caseworkers and Youth Service Officers for the six-month period being assessed. The special needs list caseworkers were asked to complete had five categories: sex abuse victim, physical abuse victim, sex offender, and child of alcohol/drug abuser.

The dependent variable psychosocial functioning was defined as follows: An array of internal (feeling, thinking) and external (behavior) activities an individual employs to interact /cope with their social environment. Again, psychosocial functioning was measured using the Achenbach CBCL and TRF Externalizing, Internalizing, and Total Behavior Scores.

Chapter IV

RESULTS

Summary of Data Analysis

I conducted a missing data analysis first to determine the extent of missing data. The percentage of missing values calculated was contingent on the dependent variable used. Missing data for the CBCL and TRF baseline scores (see Tables 1 - 4 on the following pages) for those children with six-month CBCL and TRF data were 28.7% and 22.6%, respectively. All remaining variables had 0% to 7.2% missing data for those children with six-month CBCL or TRF data. All missing values were replaced with the series mean for each variable. The new series mean variables were then used in all regression analyses. The Expectation Maximization, or EM, imputation of missing values has been advocated as being superior to mean substitution (see for example, Acock, 1997). The data analysis discussed below were conducted using both methods of managing data and the results were essentially the same, regardless of which missing data method was used. Only results based on mean substitution are presented and discussed.

Means, ranges, minimums, maximums and standard deviations were computed for all quantitative variables. Category frequencies and percentages were obtained for all categorical variables.

Multiple Regression Analysis was used in the model testing of all four hypotheses. Psychosocial functioning -- the dependent variable was measured in four ways for each

Table 1. Missing Values when Dependent Variable is CBCL Externalizing Six-Month Scores

Variable	Number of Cases	Number Missing	Percent Missing
CBCL Externalizing 6 Month Scores	n = 414		
CBCL Externalizing Baseline T-Scores	295	119	28.7%
Gender	414	0	0%
Ethnicity	414	0	0%
Mental Health Problem	397	17	4.1%
Sex Abuse Victim	397	17	4.1%
Physical Abuse Victim	397	17	4.1%
Sex Offender	396	18	4.3%
Child of A&D User	396	18	4.3%
Sum of Services Received	394	20	4.8%
Proximity	385	29	7%
Age	414	0	0%
Child's A&D Level	397	17	4.1%
Number of Placements	413	1	.2%
Sum of Handicapping Conditions	396	18	4.3%
Contacts with Family	414	29	7%
Contacts with Child	414	29	7%

Table 2. Missing Values when Dependent Variable is CBCL

Internalizing Six-Month Scores

Variable	Number of Cases	Number Missing	Percent Missing
CBCL Internalizing 6 Month Scores	n = 414		
CBCL Internalizing Baseline T-Scores	295	119	28.7%
Gender	414	0	0%
Ethnicity	414	0	0%
Mental Health Problem	397	17	4.1%
Sex Abuse Victim	397	17	4.1%
Physical Abuse Victim	397	17	4.1%
Sex Offender	396	18	4.3%
Child of A&D User	396	18	4.3%
Sum of Services Received	394	20	4.8%
Proximity	385	29	7.0%
Age	414	0	0%
Child's A&D Level	397	17	4.1%
Number of Placements	413	1	.2%
Sum of Handicapping Conditions	396	18	4.3%
Contacts with Family	385	29	7.0%
Contacts with Child	385	29	7.0%

Table 3. Missing Values when Dependent Variable is TRF Internalizing

Six-Month Scores

Variable	Number of Cases	Number Missing	Percent Missing
TRF Internalizing 6 Month Scores	n = 415		
TRF Internalizing Baseline T-Scores	321	94	22.6%
Gender	415	0	0%
Ethnicity	415	0	0%
Mental Health Problem	398	17	4.1%
Sex Abuse Victim	397	18	4.3%
Physical Abuse Victim	397	18	4.3%
Sex Offender	396	19	4.6%
Child of A&D User	396	19	4.6%
Sum of Services Received	396	19	4.6%
Proximity	385	30	7.2%
Age	415	0	0%
Child's A&D Level	398	17	4.1%
Number of Placements	414	1	.2%
Sum of Handicapping Conditions	396	19	4.6%
Contacts with Family	389	26	6.3%
Contacts with Child	388	27	6.5

Table 4. Missing Values when Dependent Variable is TRF

Externalizing Six-Month Scores

Variable	Number of Cases	Number Missing	Percent Missing
TRF Externalizing 6 Month Scores	n = 415		
TRF Externalizing Baseline T-Scores	321	94	22.6%
Gender	415	0	0%
Ethnicity	415	0	0%
Mental Health Problem	398	17	4.1%
Sex Abuse Victim	397	18	4.3%
Physical Abuse Victim	397	18	4.3%
Sex Offender	396	19	4.6%
Child of A&D User	396	19	4.6%
Sum of Services Received	396	19	4.6%
Proximity	385	30	7.2%
Age	415	0	0%
Child's A&D Level	398	17	4.1%
Number of Placements	414	1	.2%
Sum of Handicapping Conditions	396	19	4.6%
Contacts with Family	389	26	6.3%
Contacts with Child	388	27	6.5%

Descriptive statistics were run and characteristics reviewed.

hypothesis -- CBCL and TRF Externalizing and Internalizing six month scores. Four separate analyses were conducted for Hypothesis One and Hypothesis Four using the following approaches:

Hypothesis One - In these analyses, six-month scores were predicted from entry scores, and residuals saved. These residuals were then used as the dependent variables in order to assess the relationship between change in psychosocial functioning and the predictor variables (Cohen & Cohen, 1983). Then a hierarchical analysis was done in which age, gender, and ethnicity were entered in a first set; child characteristics were entered as a second set; and then service characteristics were entered as a third set. This sequence of entering sets follows Cohen & Cohen's (1983) suggestions for entering sets in a sequence that follows a causal priority. In this case, age, gender, ethnicity, and the child characteristics upon entry into custody come causally prior to the services they received while in custody. My first hypothesis suggests that the child characteristics set should explain more variation in change in psychosocial functioning than the service characteristics set.

For Hypotheses Two and Three the scores were centered or transformed to deviation scores. An interaction term was created by using the product from the deviation scores from the CBCL or TRF Internalizing or Externalizing baseline scores. The independent variables were entered first, then the interaction term was entered last. Two analyses were completed for Hypothesis Two and Hypothesis Three using CBCL and TRF baseline and six-month scores for independent and dependent variables. Included as an independent variable was also a CBCL or TRF baseline Internalizing or Externalizing

baseline score -- centered to create deviation scores.

For Hypothesis Four I created a dummy variable. All independent variables were entered in the first step, then the dummy variable was entered. If a child had a T-score at or above the clinical cutting T-score (60) on both the CBCL and TRF, he or she was given a 1 on the dummy variable. If the child's T-score was below the clinical T-score cutting point (60) on either the CBCL and TRF, he or she was given a zero on the dummy variable. Four analyses were completed using CBCL and TRF six month scores for dependent variables as in Hypothesis One. CBCL or TRF baseline scores were included as independent variables in the first set entered.

Scatterplots, histograms and normal-plots were done. For testing of each hypothesis the R-Square change associated with each set of variables was tested for statistical significance. The significance of the regression coefficients for individual variables was reviewed and the main and interaction effects for Hypothesis Two and Three were determined.

I performed four correlation analyses: on the baseline CBCL and TRF scores; on the six-month CBCL and TRF scores (dependent variables); on the baseline and six-month CBCL and TRF scores; and with the baseline CBCL and TRF variables and mental health problem. The results of these analyses can be seen in Tables 5 through 8 below.

Control of overall type I error was done as follows. At the level of my hypotheses, the overall type I error rate was set at .10, so that with a total of twelve tests of my hypotheses, the critical alpha was set at .10/12 = .008, giving an overall type I error

Table 5. Correlations of CBCL and TRF Baseline Scores

		CBCL Externalizing	TRF Internalizing	TRF Externalizing	CBCL Internalizing
CBCL Externalizing	Pearson Correlation	1.00	.14	.22	.77
	Sig. (2-tailed)	.	.00	.00	.00
	N	548	548	548	548
TRF Internalizing	Pearson Correlation	.14	1.00	.53	.15
	Sig. (2-tailed)	.00	.	.00	.00
	N	548	548	548	548
TRF Externalizing	Pearson Correlation	.22	.53	1.00	.09
	Sig. (2-tailed)	.00	.00	.	.04
	N	548	548	548	548
CBCL Internalizing	Pearson Correlation	.77	.15	.09	1.00
	Sig. (2-tailed)	.00	.00	.04	.
	N	548	548	548	548

Note: Correlations computed on data where mean substitution has been used with missing CBCL and TRF baseline T-scores.

Table 6. Correlations for CBCL and TRF Six-Month T- Scores

		CBCL Externalizing T score - 6 months	CBCL Internalizing T score - 6 months	TRF Internalizing T score - 6 months	TRF Externalizing T score - 6 months
CBCL Externalizing T score - 6 months	Pearson Correlation	1.00	.72	.21	.38
	Sig. (2-tailed)	.	.00	.00	.00
	N	414	414	349	349
CBCL Internalizing T score - 6 months	Pearson Correlation	.72	1.00	.20	.22
	Sig. (2-tailed)	.00	.	.00	.00
	N	414	414	349	349
TRF Internalizing T score - 6 months	Pearson Correlation	.21	.20	1.00	.68
	Sig. (2-tailed)	.00	.00	.	.00
	N	349	349	415	415
TRF Externalizing T score - 6 months	Pearson Correlation	.38	.22	.68	1.00
	Sig. (2-tailed)	.00	.00	.00	.
	N	349	349	415	415

Note: Correlations computed on data where no mean substitution was used.

Table 7. Correlation of Baseline and Six-Month CBCL and TRF Scores

		CBCL Ext. B	TRF Int. B	TRF Ext. B	CBCL Int. B	CBCL Ext. 6 month	CBCL Int. 6 months	TRF Int. 6 month	TRF Ext. 6 month
CBCL Ext. B	Pearson Correlation	1.00	.14	.22	.77	.36	.31	.17	.19
	Sig. (2-tailed)	.	.00	.00	.00	.00	.00	.00	.00
	N	548	548	548	548	414	414	415	415
TRF Int. B	Pearson Correlation	.14	1.00	.53	.15	.10	.16	.15	.10
	Sig. (2-tailed)	.00	.	.00	.00	.03	.00	.00	.04
	N	548	548	548	548	414	414	415	415
TRF Ext. B	Pearson Correlation	.22	.53	1.00	.09	.24	.19	.15	.33
	Sig. (2-tailed)	.00	.00	.	.04	.00	.00	.00	.00
	N	548	548	548	548	414	414	415	415
CBCL Int. B	Pearson Correlation	.77	.15	.09	1.00	.21	.30	.07	.06
	Sig. (2-tailed)	.00	.00	.04	.	.00	.00	.17	.26
	N	548	548	548	548	414	414	415	415
CBCL Ext. score - 6 months	Pearson Correlation	.36	.10	.24	.21	1.00	.72	.21	.38
	Sig. (2-tailed)	.00	.03	.00	.00	.	.00	.00	.00
	N	414	414	414	414	414	414	349	349
CBCL Int. score - 6 months	Pearson Correlation	.31	.16	.197	.30	.72	1.00	.20	.22
	Sig. (2-tailed)	.00	.00	.00	.00	.00	.	.00	.00
	N	414	414	414	414	414	414	349	349
TRF Int. score - 6 months	Pearson Correlation	.17	.15	.15	.07	.21	.20	1.00	.68
	Sig. (2-tailed)	.00	.00	.00	.17	.00	.00	.	.00
	N	415	415	415	415	349	349	415	415
TRF Ext Score - 6 months	Pearson Correlation	.19	.10	.33	.06	.38	.22	.68	1.00
	Sig. (2-tailed)	.00	.04	.00	.26	.00	.00	.00	.
	N	415	415	415	415	349	349	415	415

CBCL Ext. B = CBCL Externalizing Baseline Scores
CBCL Int. B = CBCL Internalizing Baseline Scores
TRF Int. B = TRF Internalizing Baseline Scores
TRF Ext. B = TRF Externalizing Baseline Scores

Note: Correlations computed for data with no mean substitutions used.

Table 8. Correlation of Baseline CBCL and TRF Variables with Mental Health Problem

		Mental Health Problem	Home Externalizing T score - baseline	Home Internalizing T score - baseline	School Internalizing T score - baseline	School Externalizing T score - baseline
Mental Health Problem	Pearson Correlation	1.000	.185	.213	.090	.151
	Sig. (2-tailed)	.	.000	.000	.076	.003
	N	521	361	362	389	388
Home Externalizing T score - baseline	Pearson Correlation	.185	1.000	.767	.189	.299
	Sig. (2-tailed)	.000	.	.000	.001	.000
	N	361	377	377	289	288
Home Internalizing T score - baseline	Pearson Correlation	.213	.767	1.000	.192	.120
	Sig. (2-tailed)	.000	.000	.	.001	.042
	N	362	377	378	290	289
School Internalizing T score - baseline	Pearson Correlation	.090	.189	.192	1.000	.548
	Sig. (2-tailed)	.076	.001	.001	.	.000
	N	389	289	290	406	405
School Externalizing T score - baseline	Pearson Correlation	.151	.299	.120	.548	1.000
	Sig. (2-tailed)	.003	.000	.042	.000	.
	N	388	288	289	405	405

Note: Correlations computed for data with no mean substitutions used.

of $1-(1-.008)^{12}<.10$.

At the level of tests of individual regression coefficients, there were up to seventeen possible tests of individual regression coefficients, numbers possibly inflating type I error even after the control at the level of my hypotheses. Thus, the overall type I error rate over all tests of regression coefficients for each analysis was set at .10, giving a critical alpha for tests of regression coefficients of $.10/17 \approx .006$, and an overall type I error rate less than .10 (Cohen & Cohen, 1983).

Characteristics of the Sample

The mean age of the children in this study was 14.64 years, with a standard deviation of 2.96 and a range of 5 years to 19 years. The sample included 42.9% females and 57.1% males. A majority of the children 84.7%, were white, with 15.3% minority. 12.6% of the total sample was black. The mean number of placements was 2.34 with a standard deviation of 1.55 and a range of 0-10. Thirty-eight percent of the children in the sample were alcohol and drug users. The mean number of miles between home and placement was 50.08 miles, with a standard deviation of 78.53 and a range of 0-500 miles. The mean number of contacts with the child by workers was 3.10, with a standard deviation of 6.31 and a range of 0-52. The mean sum of contacts with the family by workers was 3.44, with a standard deviation of 4.87 and a range of 0-45. The mean number for the sum of services received by children was 3.65, with a standard deviation of 2.73 and a range of 0-17. The mean number of handicapping conditions was .38, with a standard deviation of .81 and a range of 0-10. Thirty-three percent of the children had

parents who were alcohol and/or drug users. The percentage of children who were sex offenders was 4.6%. The percentage of children who were physical and sexual abuse victims were 19.5% and 2.8%, respectively. Twenty-six and a half percent of the children were identified by their case managers as having mental health problems.

Testing the Hypotheses

Hypothesis One **After controlling for age, gender, and ethnicity, the child's characteristics upon entering custody will explain more of the variation in change in psychosocial functioning at six-months than will the characteristics of the services the child received during those six-months.**

The CBCL entry Externalizing T-scores explained 13% of the variation in CBCL six-month T-scores [$F(1,412) = 61.5$, $p < .001$]. The overall R-square for the model testing Hypothesis One in which the change in CBCL Externalizing T-scores at six-months was the dependent variable was about .11 (see Table 9), indicating the model explains about 11% of the variation in change in psychosocial functioning in children at six months in custody. The child characteristics set was statistically significant [increase in R-square = .048; $F(7,403) = 3.01$, $p<.008$]. The service characteristics set was statistically nonsignificant [$F(5,407)=3.11$, $p>.008$] with an R-square change of .035 (Table 9). Individual variables that were statistically significant were mental health problem [$B=3.46$, $t(397)=2.75$, $p = .006$] and sum of services received [$B=.70$, $t(398)=3.49$, $p <.006$] (see Table 10). The histogram of standardized residuals suggests no serious departures from normality (see Figure 1). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 2). The

Table 9. Model Summary for Hypothesis One

Dependent Variable - Residuals from predicting CBCL Externalizing Six-Month - T-Scores from entry CBCL Externalizing scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.15	.023	.016	10.25	.023	3.25	3	410	.022
2	.27	.072	.049	10.08	.048	3.01	7	403	.004
3	.33	.107	.073	9.95	.035	3.108	5	398	.009

* Series means were used for all independent variables
Dependent Variable: residuals from predicting CBCL Externalizing Six-Month T - scores from CBCL Externalizing Behavior Baseline T Scores
1. Age of child
Ethnicity of child
Gender of child
2. Sum of handicapping conditions of child
Child's parent/s alcohol/drug user
Child is a sex offender
Child is a physical abuse victim
Child is a sex abuse victim
Child has a mental health problem
Child's A&D level
3. Number of contacts with child by caseworker at six months
Sum of services child received by six months
Number of placements child experienced by six months
Proximity of placement at six months to child's home
Number of contacts with family by caseworker by six months

Table 10. Coefficients for Hypothesis One

Dependent Variable - Residuals from predicting CBCL Externalizing Six-Months T-Scores from entry CBCL Externalizing T-scores

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
	Constant	-3.94	3.17		-1.24	.215
	gender (0 = male; 1 = female)	-2.4	1.08	-.12	-2.25	.025
	age	.192	.197	.05	.973	.33
	ethnicity	-.56	.52	-.05	-1.08	.28
	sex abuse victim	.21	1.32	.009	.159	.87
	physical abuse victim	.06	1.34	.002	.045	.96
	child of alcohol and drug user	.46	1.08	.02	.423	.67
	sum of handicapping conditions	.82	.61	.066	1.33	.18
	sex offender	-.26	2.64	-.005	-.10	.92
	presence of mental health problem	3.465	1.26	.15	2.746	.006
	alcohol and drug level	-1.86	1.28	-.07	-1.46	.145
	sum of services received	.70	.20	.181	3.49	.001
	proximity of services	-.007	.007	-.05	-1.0	.32
	number of placements	-1.0	.33	-.015	-.295	.77
	number of contacts with family	-.08	.12	-.04	-.70	.48
	number of contacts with child	-.05	.083	-.04	-.66	.51

* Series Means used for all independent variables

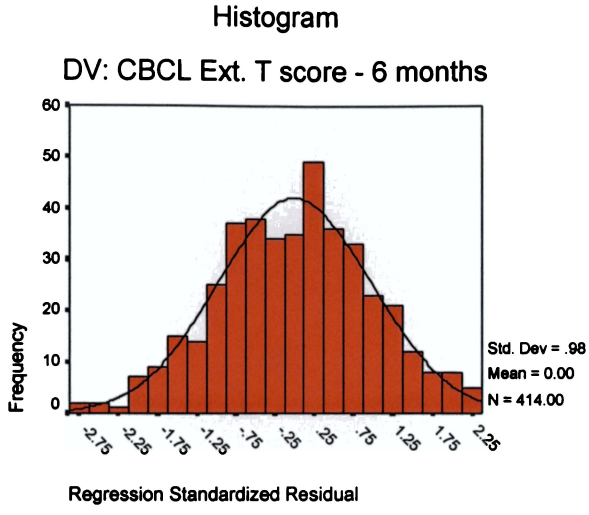

Figure 1. Residuals plot from analysis of CBCL six-month Externalizing T-scores.

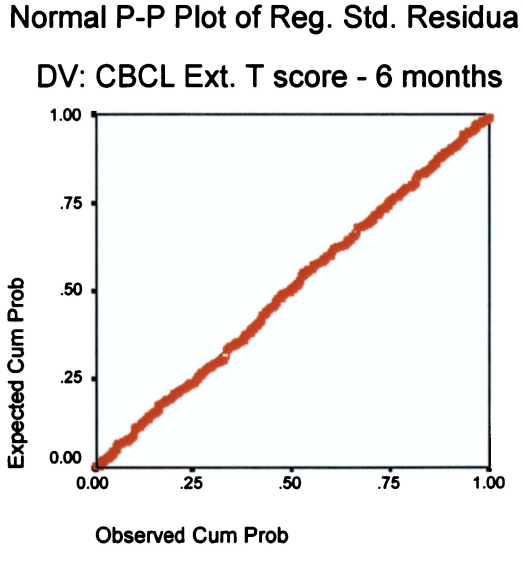

Figure 2. Normal P-P plot of residuals from analysis of CBCL six-month Externalizing T-scores.

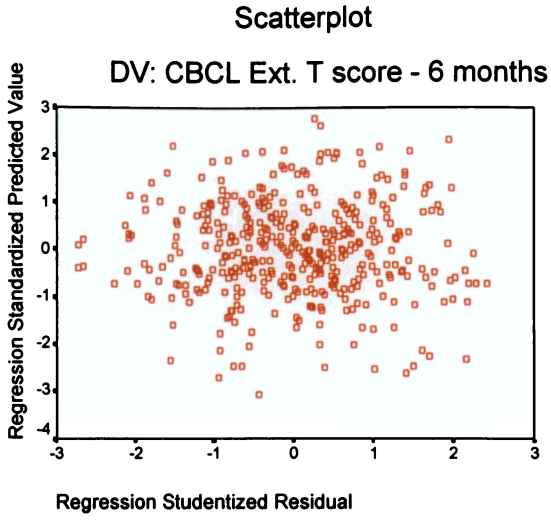

Figure 3. Scatterplot of residuals versus predicted values of six-month CBCL Externalizing T-scores.

scatterplot of studentized residuals suggests no serious violations of the assumption of homogeneity of variance (see Figure 3). These findings do support my hypothesis. Since the R-square increase uniquely associated with the child characteristics set was more than that associated with the service characteristics set (.048 versus .035), the results are consistent with my hypothesis.

The CBCL entry Internalizing T-scores explained 9% of the variation in CBCL six-month Internalizing T-scores [$F(1,412) = 39.14$, $p < .001$]. The overall R-square for the model testing Hypothesis One in which the change in CBCL Internalizing T-scores at six-months was the dependent variable was about .11 (see Table 11), indicating the model explains about 11% of the variation in change in psychosocial functioning in children at six months in custody. The increase in R-square associated with the child characteristics

Table 11. Model Summary for Hypothesis One

Dependent Variable - Residuals from predicting CBCL Internalizing Six-Months T-Scores from entry CBCL Internalizing T-scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.17	.029	.022	9.35	.029	4.05	3	410	.077
2	.278	.077	.055	9.19	.049	3.04	7	403	.004
3	.324	.105	.071	9.11	.027	2.42	5	398	.035

* Series means were used for all independent variables

Dependent Variable: residuals from predicting CBCL Internalizing Six-Month T - scores from CBCL Internalizing Behavior T Score Baseline

1. Age of child, Gender of child, Ethnicity of child
2. Sum of handicapping conditions of child, Child's parent/s alcohol/drug user, Child is a sex offender, Child is a physical abuse victim, Child is a sex abuse victim, Child has a mental health problem, Child's A&D level
3. Number of contacts with child by caseworker at six months, Sum of services child received by six months, Number of placements child experienced by six months, Number of contacts with family by caseworker by six months, Proximity of placement at six months to child's home

set was .049 [F(7,403)=3.04, p < .008], indicating that the this set explains about 5% of change in psychosocial functioning in children at six months in custody. The service characteristics set was statistically nonsignificant [F(5,398)=2.42, p=.035] with an R-square change of .03. The only individual variable that was statistically significant was sum of services received [B=.49, t(398)=2.69, p < .006] (see Table 12). The histogram of standardized residuals suggests no serious departures from normality (see Figure 4). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 5). The scatterplot of studentized residuals suggests no serious violations of the assumption of homogeneity of variance (see Figure 6). These findings support my hypothesis. Since the R-square increase uniquely associated with the child characteristics set was greater than that associated with the demographic and service charateristics set (.049 versus .027), the results, are consistent with my hypothesis.

The TRF entry Internalizing T-scores explained 2% of the variation in TRF six-month Internalizing T-scores [F(1,413) = 9.54, p = .002]. The overall R-square for the model testing Hypothesis One in which the change in TRF Internalizing T-scores at six-months was the dependent variable was about .10 (see Table 13), indicating the model explains about 10% of the variation in change in psychosocial functioning in children at six months in custody. The increase in R-square associated with the child characteristics sets was .07 [F(7,404)=4.44, p <.008], indicating that the set explains about 7% of change in psychosocial functioning in children at six months in custody. The service characteristics were statistically nonsignificant [F(5,399)=1.97, p> .008] with an R-square change of .02. The only individual variable that was statistically significant was the

Table 12. Coefficients for Hypothesis One Dependent Variable - Residuals from predicting CBCL Internalizing Six-Months T -Scores from CBCL Internalizing entry T-scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
	Constant	-7.95	2.91		-2.73	.007
	gender (0 = male; 1= female)	-2.1	.99	-.11	-2.12	.034
	age	.47	181	.14	2.60	.01
	ethnicity	-.82	.47	-.08	-1.73	.08
	sex abuse victim	.69	1.21	.031	.57	.57
	physical abuse victim	2.02	1.23	.09	1.64	.10
	child of alcohol and drug user	-1.57	.99	-.08	-1.58	.11
	sum of handicapping conditions	.90	.56	.08	1.61	.11
	sex offender	-2.79	2.42	-.06	-1.15	.25
	presence of mental health problem	2.03	1.16	.096	1.755	.08
	alcohol and drug level	-1.83	1.17	-.08	-1.57	.12
	sum of services received	.49	.18	.14	2.69	.007
	proximity of services	-.004	.006	-.03	-.60	.55
	number of placements	.42	.303	.07	1.37	.17
	number of contacts with family	.04	.11	.023	.40	.69
	number of contacts with child	-.12	.076	-.09	-1.56	.12

* Series Means used for all independent variables

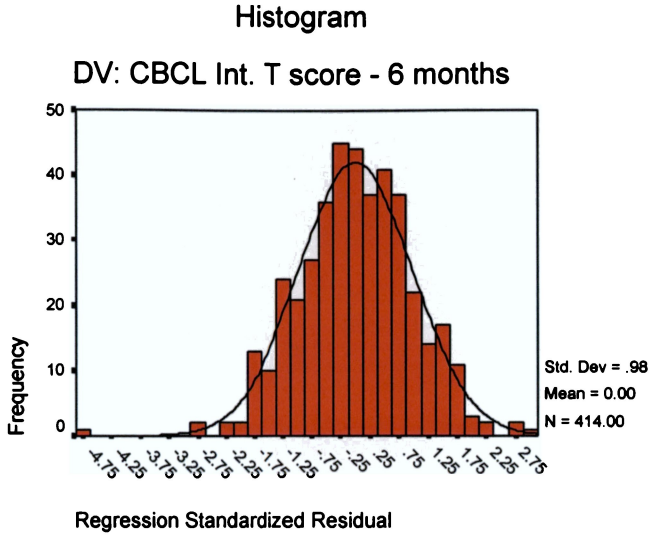

Figure 4. Residuals from analysis of CBCL Internalizing six-month T-scores.

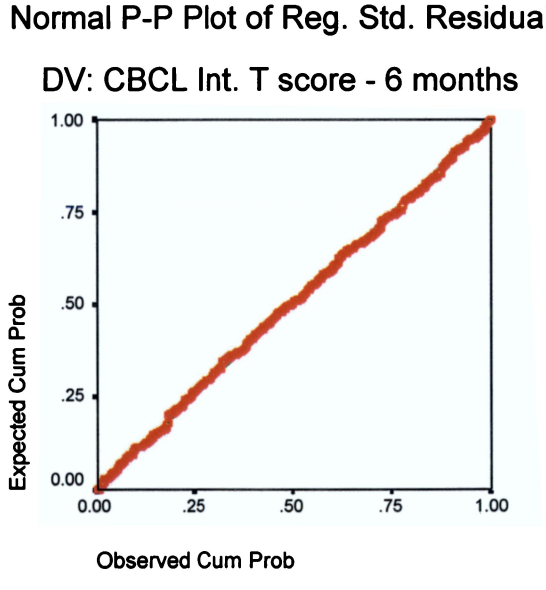

Figure 5. Normal P-P plot of residuals from analysis of CBCL Internalizing T-scores.

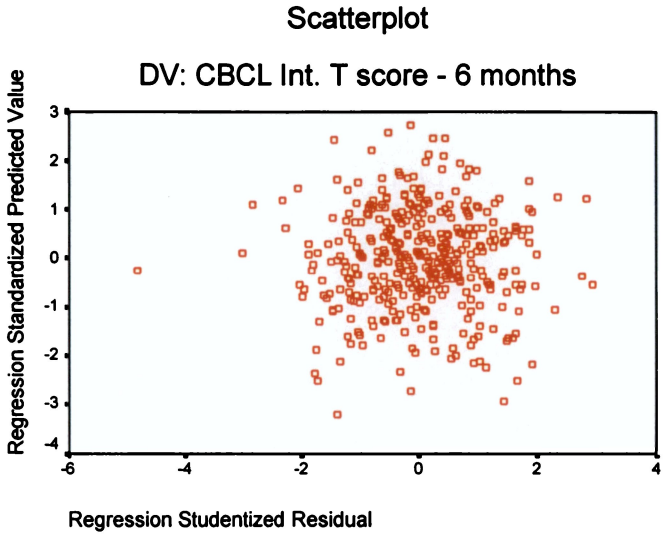

Figure 6. Scatterplot of residuals versus predicted values of CBCL Internalizing six-month T-scores.

Table 13. Model Summary for Hypothesis One

Dependent Variable - Residuals from predicting TRF Internalizing Six-Month T-Scores from entry TRF Internalizing scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.101	.010	.003	10.23	.010	1.43	3	411	.230
2	.285	.081	.058	9.94	.071	4.44	5	404	<.001
3	.321	.103	.069	9.88	.022	1.97	7	399	.082

* Series means were used for all independent variables
Dependent Variable: residuals from predicting CBCL Internalizing Six-Month T- Scores from CBCL Internalizing Behavior T Score Baseline
1. Age of the child, Ethnicity of child, Gender of child
2. Child's parent/s alcohol/drug user, Child is a sex offender, Child is a physical abuse victim, Child has a mental health problem, Child is a sex abuse victim, Child's A&D level, Sum of handicapping conditions of child
3. Number of contacts with child by caseworker at six months, Proximity of placement at six months to the child's home, Number of placements child experienced by six months, Sum of services child received by six months, Number of contacts with family by caseworker by six months

presence of a mental health problem (see Table 14) [B=5.31, t(399)=4.25, p<.006]. The histogram of standardized residuals suggests no serious departures from normality (see Figure 7). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 8). The scatterplot of studentized residuals suggests no serious violations of the assumption of homogeneity of variance (see Figure 9). These findings support my hypothesis. Since the R-square increase uniquely associated with the child characteristics set was more than that associated with the service charateristics set, the results, are consistent with my hypothesis.

The TRF entry Externalizing T-scores explained 11% of the variation in TRF six-month Externalizing T-scores [F(1,413) = 50.82, p < .001]. The overall R-square for the model testing Hypothesis One in which the change in TRF Externalizing T-scores at six-months was the dependent variable was about .105 (see Table 15), indicating the model explains about 10.5% of the variation in change in psychosocial functioning in children at six months in custody. The child characteristics set was statistically significant [F(7,404)=3.09, p <.008], while the service characteristics set was statistically nonsignificant [F(5,399)=1.44, p >.008], with an R-square change of .01 (Table 15). Individual variables statistically significant were mental health problem [B=3.74, t(399)=3.30, p<.006] and age at [B= -.795, t(399)= -4.50,p <.006] (see Table 16). The histogram of standardized residuals suggests no serious departures from normality (see Figure 10). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 11). The scatterplot of studentized residuals suggests no serious violations of the assumption of homogeneity of variance (see Figure

Table 14. Coefficients for Hypothesis One

Dependent Variable - Residuals from predicting TRF Internalizing Six Month T-Scores from TRF entry Internalizing T-scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
	Constant	3.45	3.01		1.14	.25
	gender (0 = male; 1 = female)	-1.2	1.09	-.06	-1.11	.27
	age	-.41	.19	-.18	-2.19	.029
	ethnicity	-.55	.58	-.05	-.95	.34
	sex abuse victim	-.38	1.33	-.07	-.28	.78
	physical abuse victim	-1.45	1.33	-.06	-1.08	.28
	child of alcohol and drug user	-.09	1.07	-.004	-.09	.93
	sum of handicapping conditions	.15	.59	.013	.26	.796
	sex offender	-.08	2.39	-.002	-.033	.97
	presence of mental health problem	5.3	1.25	.23	4.25	.000
	alcohol and drug level	.55	1.31	.02	.42	.68
	sum of services received	.16	.197	.04	.82	.41
	proximity of services	.008	.006	.06	1.23	.22
	number of placements	.75	.32	.116	2.32	.021
	number of contacts with family	-.06	.118	-.03	-.51	.61
	number of contacts with child	-.05	.085	-.04	-.69	.49

* Series Means used for all independent variables

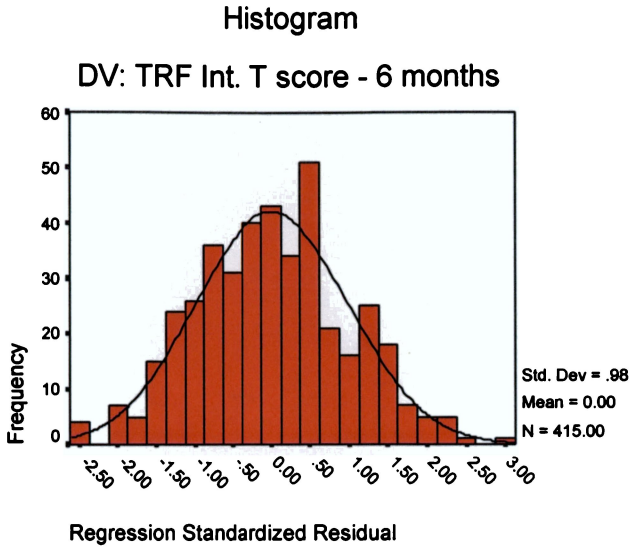

Figure 7. Residuals from analysis of TRF Internalizing six-month T-scores.

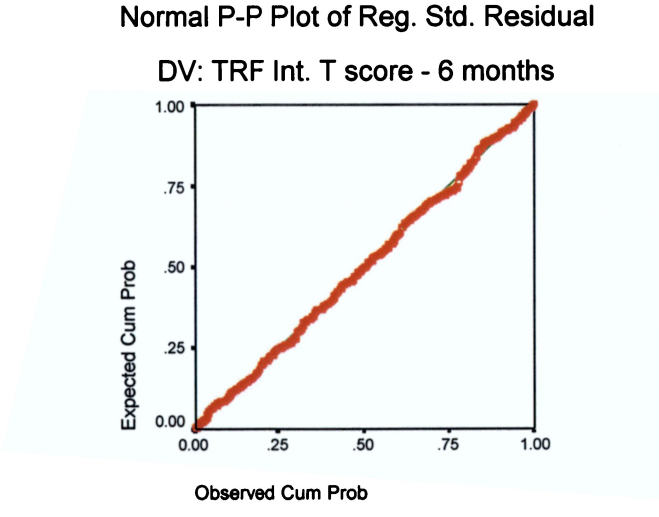

Figure 8. Normal P-P plot of residuals from TRF Internalizing T-scores.

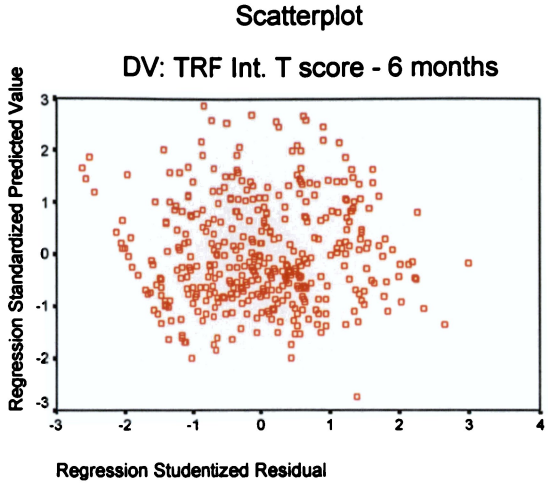

Figure 9. Scatterplot of residuals versus predicted values of TRF six-month Internalizing T-scores.

Table 15. Model Summary for Hypothesis One

Dependent Variable - Residuals from predicting TRF Externalizing Six-Month T-Scores from entry TRF Externalizing T-scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.201	.040	.033	9.58	.040	5.78	3	411	.001
2	.299	.089	.067	9.41	.049	3.09	7	404	.004
3	.325	.105	.072	9.39	.016	1.44	5	399	.208

Series means used for all independent variables
Dependent Variable: Residuals from predicting TRF Externalizing Six-Month T- scores from TRF Externalizing Baseline
1. Age of child, Ethnicity of child, Gender of child
2. Child of A&D user, Child is a physical abuse victim, Child has a mental health problem, Child is a sexual abuse victim, Child's A&D level, Sum of handicapping conditions
3. Contacts with family by caseworker at six months, Number of placements child experienced by six months, Sum of services child received by six months, Proximity of child's home to placement at six months, Contact with child by caseworker at six months

Table 16. Coefficients for Hypothesis One

Dependent Variable -Residuals from predicting TRF Externalizing Six-Month T-Scores from entry TRF Externalizing T-scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
	Constant	10.9	2.86		3.80	.000
	gender (0 = male; 1 = female)	-1.86	1.03	-.09	-1.80	.07
	age	-.79	.18	-.24	-4.50	.000
	ethnicity	-.265	.55	-.02	-.49	.63
	sex abuse victim	1.40	1.27	.06	1.10	.27
	physical abuse victim	-.14	1.27	-.006	-.11	.91
	child of alcohol and drug user	-.42	1.01	-.02	-.41	.68
	sum of handicapping conditions	-.025	.56	-.002	-.045	.96
	sex offender	-1.07	2.27	-.024	-.47	.64
	presence of mental health problem	3.74	1.18	.17	3.15	.002
	alcohol and drug level	2.4	1.24	.097	1.93	.054
	sum of services received	.05	.19	.013	.25	.80
	proximity of services	.003	.006	.023	.46	.65
	number of placements	.27	.31	.044	.89	.38
	number of contacts with family	-.25	.112	-.13	-2.26	.024
	number of contacts with child	.02	.08	.01	.27	.79

* Series Means used for all independent variables

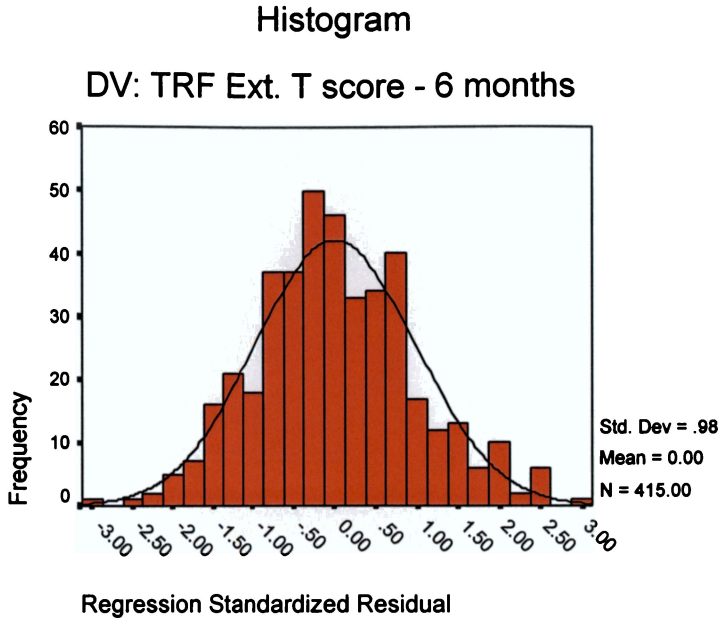

Figure 10. Residuals from analysis of TRF Externalizing six-month T-scores.

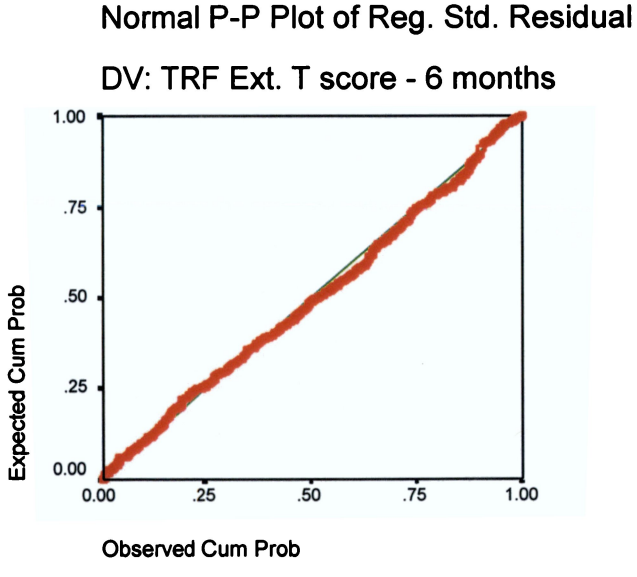

Figure 11. Normal P-P plot of residuals from analysis of TRF Externaling T-scores.

12). These findings support my hypothesis. Since the R-square increase uniquely associated with the child characteristics set was more than that associated with the service characteristics set, the results are consistent with my hypothesis.

Hypothesis Two - **The relationship between Internalizing problems at six months and entry Internalizing problems will be moderated by entry Externalizing problems.**

The overall R-square for the model testing Hypothesis Two in which the CBCL Internalizing and Externalizing Interaction term was used as an independent variable and the CBCL Internalizing scores at six months were used for the dependent variable was .20 (see Table 17). The interaction term was non- significant (see Table 18) [$F(1,395) = .06$, $p > .008$]. The histogram of regression standardized residuals suggests no serious departures from normality (see Figure 13). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (Figure 14). The scatterplot of studentized residuals suggests no violations of the assumptions of homogeneity of variance (Figure 15). These findings do not support my hypothesis that entry Internalizing scores are moderated by entry Externalizing scores.

The overall R-square for the model testing Hypothesis Two in which The TRF Internalizing and Externalizing Interaction term was used as an independent variable and the TRF Internalizing six month T-scores were used for the dependent variable was .13 (Table 19). The interaction term, entered second, was not statistically significant (see Table 20). The histogram of

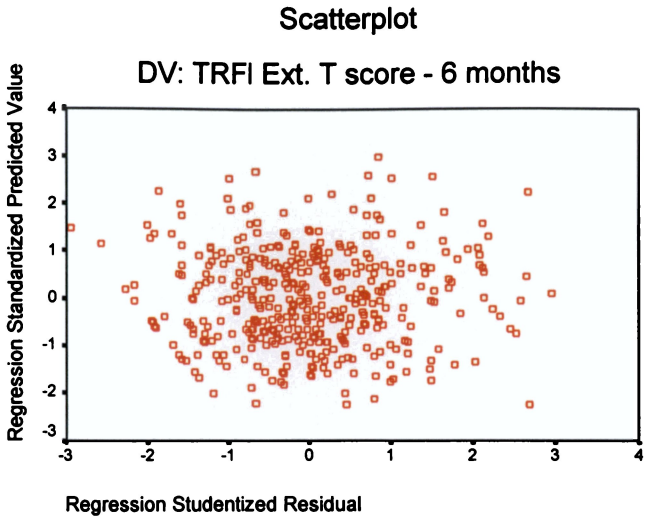

Figure 12. Scatterplot of residuals versus predicted values of TRF Externalizing six-month T-scores.

Table 17. Model Summary for Hypothesis Two

Dependent Variable - CBCL Internalizing Six-Month T-Scores

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
Model					R Square Change	F Change	df1	df2	Sig. F Change
1	.44	.20	.16	9.09	.19	5.49	17	396	<.001
2	.44	.20	.15	9.10	.00	.06	1	395	.82

Series means used for all independent variables
Dependent Variable: CBCL Internalizing Six-Month T - Scores
1. Child of A&D user
Child is a sex abuse victim
Number of contacts with child by caseworker at six months
Proximity of placements at six months to child's home
Sum of handicapping conditions of child
Ethnicity of child
Sum of services child received by six months
Number of placements child experienced by six months
Age of child
Child is a sex offender
Gender of child
Child is a physical abuse victim
Child has a mental health problem
Number of contacts with family by caseworker at six months
Child's A&D level
DCBEXB_1
INEX_DCB
2. DCBINB_1 (interaction between CBCL entry Externalizing and Internalizing T-scores in deviation form)

Table 18. Coefficients for Hypothesis Two

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	Constant	52.59	3.45		15.25	.00		
	Contact with Child	-.12	.08	-.08	-1.55	.12	.74	1.36
	Contact with Family	1.88E-02	.11	.01	.17	.86	.70	1.43
	Number of Placements	.43	.31	.07	1.40	.16	.87	1.15
	Proximity	-6.43E-03	.01	-.05	-1.00	.32	.85	1.17
	Sum of Services Received	.52	.19	.14	2.72	.01	.78	1.28
	Gender	-2.28	1.00	-.11	-2.27	.02	.81	1.24
	Age	.53	.20	.15	2.70	.01	.67	1.52
	Ethnicity	-1.37	1.31	-.05	-1.04	.30	.95	1.05
	Child's A&D Level	-1.81	1.23	-.09	-1.46	.14	.56	1.80
	Child of A&D User	-1.14	1.08	-.06	-1.06	.29	.77	1.30
	Handicapping Conditions	.97	.56	.08	1.72	.09	.92	1.10
	Mental Health Problem	2.05	1.16	.09	1.76	.08	.75	1.34
	Physical Abuse Victim	1.91	1.24	.08	1.54	.12	.79	1.27
	Sex Abuse Victim	.77	1.24	.03	.62	.53	.72	1.39
	Sex Offender	-1.97	2.44	-.04	-.81	.42	.81	1.30
	CBCL Int. entry scores	.17	.08	.16	2.25	.03	.39	2.56
	CBCL Ext.. entry scores	.11	.08	.11	1.46	.14	.39	2.58
	interaction of CBCL Int. and Ext. entry T-scores	8.916E-04	.00	.01	.23	.82	.88	1.14

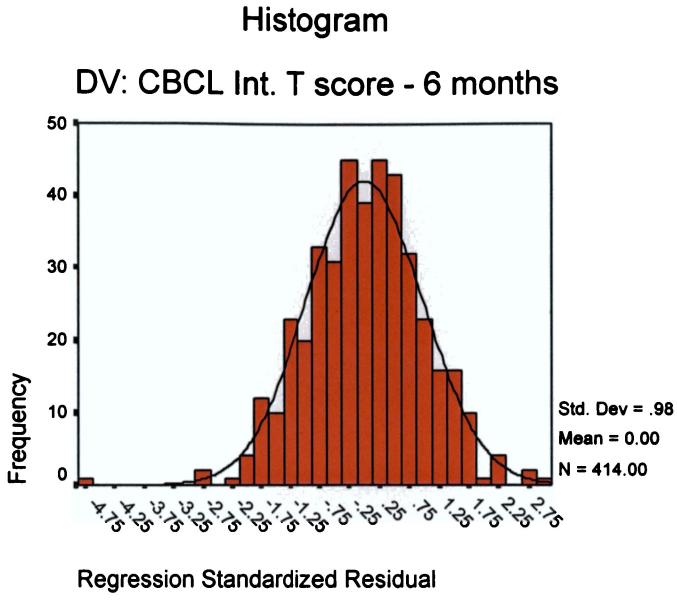

Figure 13. Residuals from analysis of CBCL Internalizing six-month T-scores.

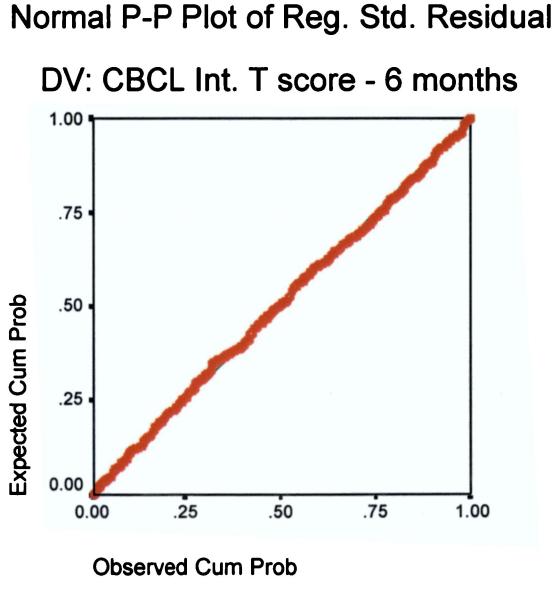

Figure 14. Normal P-P plot of residuals from analysis of CBCL Internalizing T-scores.

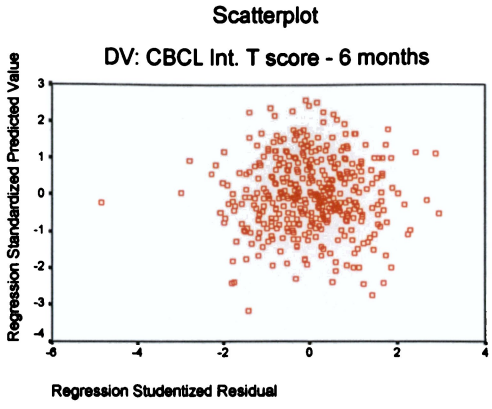

Figure 15. Scatterplot of residuals versus predicted values.

Table 19. Model Summary for Hypothesis Two

Dependent Variable - TRF Internalizing Six-Month T-Scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.36	.13	.10	9.86	.13	3.53	17	397	<.001
2	.37	.13	.10	9.86	.00	.85	1	396	.36

Series means used with all independent variables
Dependent Variable: TRF Internalizing T score - Six-Months
1. Child of A&D user
Child is a sex offender
Number of contacts with child by caseworker at six months
Age of child
Sum of handicapping conditions of child
Ethnicity of child
Number of placements child experienced by six months
Gender of child
Sum of services child received by six months
Proximity of placement at six months to child's home
Child is a physical abuse victim
Child has a mental health problem
Child is a sex abuse victim
Number of contacts with family by caseworker by six months
DTRINB_1
Child's A&D level
INEX_DTR
2. DTREXB_1 (interaction between TRF Externaling and Internalizing entry scores in deviation form)

Table 20. Coefficients for Hypothesis Two

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
2	(Constant)	65.15	3.50		18.59	.00		
	Contact with Child	-7.01E-02	.09	-.05	-.82	.41	.74	1.36
	Contact with Family	-7.55E-02	.12	-.04	-.64	.53	.70	1.44
	Number of Placement	.75	.33	.11	2.29	.02	.89	1.13
	Proximity of Placement to Home	8.04E-03	.01	.06	1.25	.21	.87	1.15
	Sum of Services Received	.12	.20	.03	.59	.56	.79	1.26
	Gender of Child	-1.16	1.10	-.06	-1.06	.29	.79	1.27
	Age of Child	-.48	.20	-.14	-2.43	.02	.71	1.41
	Ethnicity of Child	-1.85	1.41	-.06	-1.32	.19	.94	1.06
	Child's A&D Level	1.62	1.30	.08	1.24	.22	.60	1.67
	Child of A&D User	-.70	1.15	-.03	-.61	.54	.80	1.25
	Sum of Handicapping Conditions	.29	.60	.02	.37	.72	.89	1.12
	Child has Mental Health Problem	5.35	1.26	.23	4.23	.00	.75	1.34
	Child is Physical Abuse Victim	-1.36	1.34	-.05	-1.01	.31	.82	1.22
	Child is Sex Abuse Victim	-.42	1.34	-.02	-.31	.76	.73	1.38
	Child is Sex Offender	.17	2.42	.00	.07	.95	.84	1.20
	DTRINB_1	8.38E-02	.06	.08	1.31	.19	.66	1.52
	DTREXB_1	3.43E-02	.07	.03	.53	.60	.62	1.61
	INEX_DTR	-3.95E-03	.00	-.04	-.92	.36	.95	1.06

standardized residuals suggests no serious departures from normality (Figure 16). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (Figure 17). The scatterplot of studentized residuals suggests no violations of the assumptions of homogeneity of variance (Figure 18). These findings do notsupport my hypothesis that entry Internalizing scores are moderated by entry Externalizing scores.

Hypothesis Three - **The relationship between Externalizing problems at six months and entry Externalizing problems will be moderated by entry Internalizing problems.**

The overall R-square change for the model testing Hypothesis Three in which the CBCL Internalizing and Externalizing Interaction term was used as an independent variable and the CBCL Externalizing six-month T- scores were used as the dependent variable was .23 (see Table 21). The interaction term, entered second, was not statistically significant [$F(1,395) < .01$, $p = .99$] (see Table 22). The histogram of regression standardized residuals suggests no serious departures from normality (see Figure 19). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 20). The scatterplot of studentized residuals suggests no serious violations of the assumptions of homogeneity (see Figure 21). These findings do not support my hypothesis that entry Externalizing scores are moderated by entry Internalizing scores.

The overall R-square for the model testing Hypothesis Three in which the TRF Externalizing and Internalizing Interaction term was used as an independent variable and

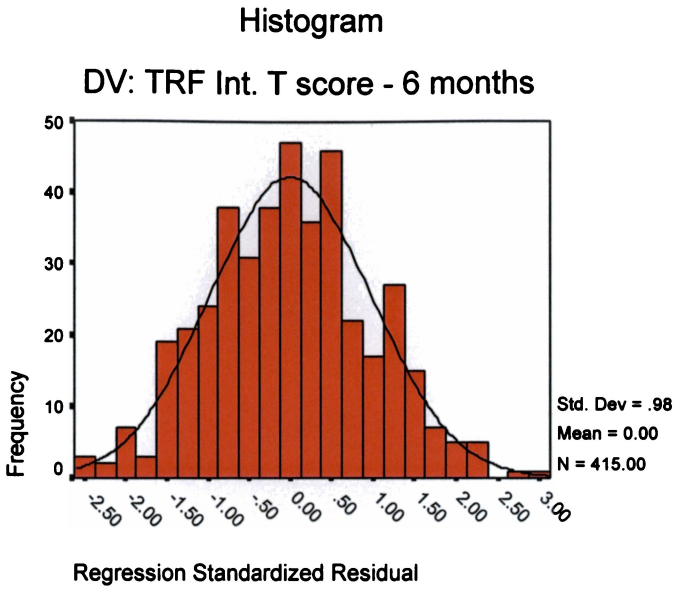

Figure 16. Residuals from analysis of TRF Internalizing six-month T-scores.

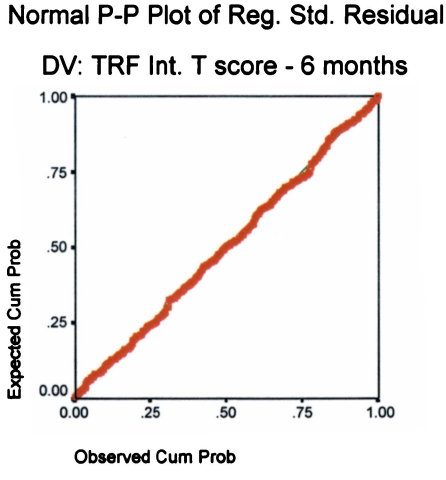

Figure 17. Normal P-P plot of residuals from analysis of TRF Internalizing T-scores.

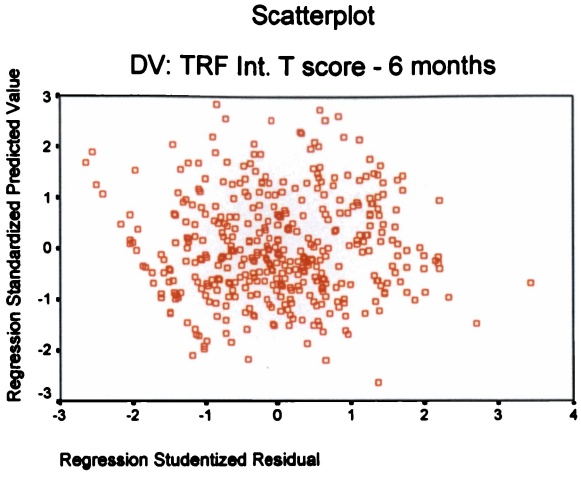

Figure 18. Scatter plot of residuals versus predicted values.

Table 21. Model Summary for Hypothesis Three

Dependent Variable - CBCL Externalizing T-Scores Six-Months

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.48	.23	.20	9.91	.23	7.07	17	396	<.001
2	.48	.23	.20	9.92	.00	.00	1	395	.99

Series means used on all independent variables
Dependent Variable: Home Externalizing T score - Six-Months
1. Child of A&D user
Child is a sex abuse victim
Number of contacts with child by caseworker at six months
Proximity of placement at six months to child's home
Sum of handicapping conditions of child
Ethnicity of child
Sum of services child received by six months
Number of placements child experienced by six months
Age of child
Child is a sex offender
Gender of child
Child is a physical abuse victim
Child has a mental health problem
Number of contacts with family by caseworker at six months
Child's A&D level
DCBEXB_1
INEX_DCB
2. DCBINB_1 (interaction between CBCL Internalizing and Externalizing T-scores at entry in deviation score form)

Table 22. Coefficients for Hypothesis Three
Dependent Variable - CBCL Externalizing Six-Month T-Scores

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
2	Constant	57.92	3.76		15.41	.00		
	Contact with Child	-4.78E-02	.08	-.03	-.58	.57	.74	1.36
	Contact with Family	-.11	.12	-.05	-.92	.36	.70	1.43
	Number of Placement	-3.71E-02	.33	-.01	-.11	.91	.87	1.15
	Proximity of Placement to Child's Home	-8.93E-03	.01	-.06	-1.28	.20	.85	1.17
	Sum of Services Received	.70	.21	.17	3.41	.00	.78	1.28
	Gender of Child	-2.40	1.09	-.11	-2.19	.03	.81	1.24
	Age of Child	.22	.21	.06	1.02	.31	.66	1.52
	Ethnicity of Child	.76	1.43	.03	.53	.60	.95	1.05
	Child's A&D Level	-1.04	1.34	-.05	-.78	.44	.56	1.79
	Child of A&D User	.69	1.17	.03	.59	.56	.77	1.30
	Sum of Handicapping Conditions	.88	.61	.07	1.44	.15	.92	1.09
	Child has Mental Health Problem	3.71	1.27	.15	2.93	.00	.75	1.34
	Child is Physical Abuse Victim	.34	1.35	.01	.25	.81	.79	1.27
	Child is Sex Abuse Victim	.24	1.36	.01	.18	.86	.72	1.39
	Child is Sex Offender	.61	2.66	.01	.23	.82	.81	1.24
	DCBEXB_1	.53	.08	.45	6.37	.00	.39	2.56
	DCBINB_1	-.22	.08	-.18	-2.59	.01	.39	2.58
	INEX_DCB	-3.41E-05	.00	.00	-.01	.99	.88	1.14

Series Means used for all independent variables

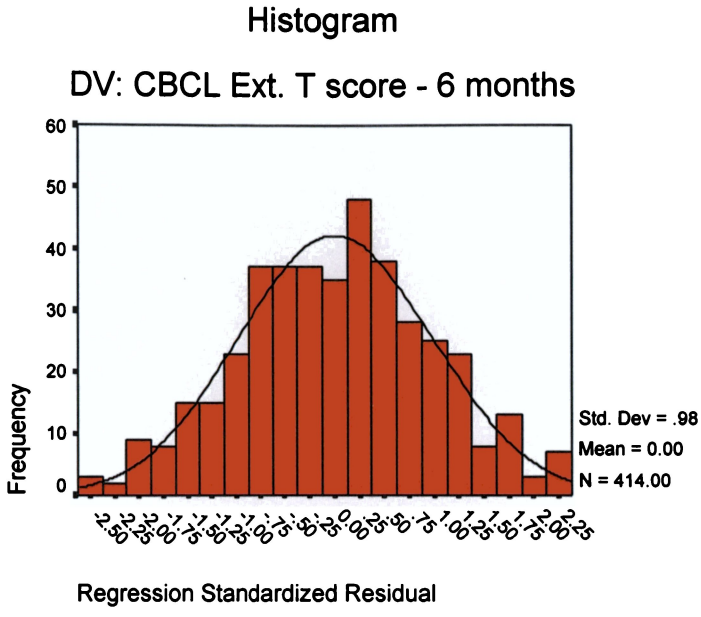

Figure 19. Residuals from analysis of CBCL Externalizing six-month T-scores.

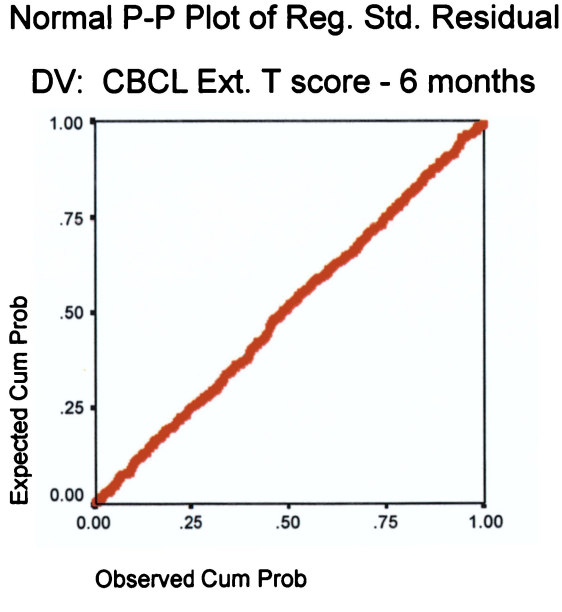

Figure 20. Normal P-P plot of residuals from CBCL Externalizing T-scores.

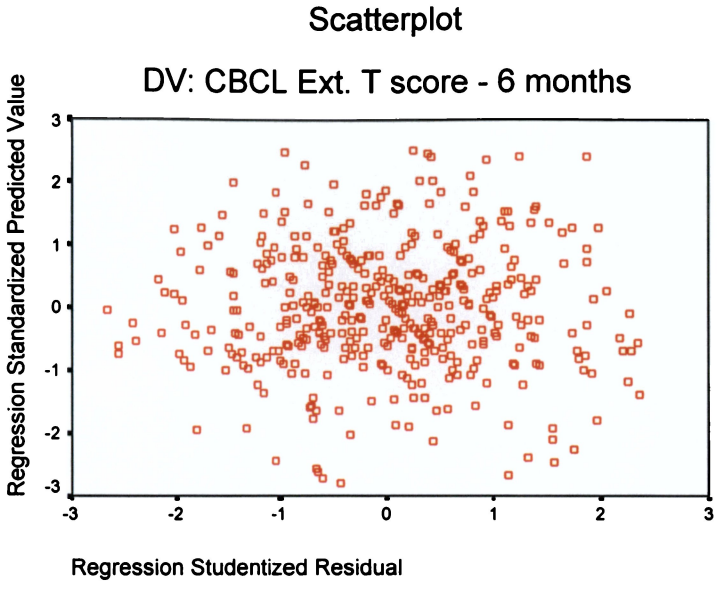

Figure 21. Scatterplot of residuals versus predicted values.

the TRF Externalizing six-month scores were used as the dependent variable was .22 (see Table 23). The interaction term was statistically non-significant [F(1,396)=4.93, p >.008] with an R-square change of .01 (see Table 24). The histogram of standardized residuals suggests no serious departures from normality (see Figure 22). The normal p-p plot of regression studentized residuals suggests no serious departure from normality (see Figure 23). The scatterplot of studentized residuals suggests no serious violations of the assumptions of homogeneity of variance (Figure 24). These findings do not support my hypothesis that entry Externalizing scores are moderated by entry Internalizing scores.

Hypothesis Four - **Children who enter custody with scores in the clinical range on both CBCL and TRF will show less improvement over six months in custody than**

Table 23. Model Summary for Hypothesis Three

Dependent Variable - TRF Externalizing Six-Month T-Scores

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
Model					R Square Change	F Change	df1	df2	Sig. F Change
	.46	.22	.18	9.3	.23	6.39	17	397	<.001
2	.47	.22	.19	9.3	.01	4.93	1	396	>.008

Dependent Variable: School Externalizing T score - Six-Months
Series means used for all independent variables
1. Child of A&D user
Child is a sex offender
Number of contacts with child by caseworker at six months
Age of child
Sum of handicapping conditions of child
Ethnicity of child
Number of placements child experienced by six months
Gender of child
Sum of services child received by six months
Proximity of placement at six months to child's home
Child is a physical abuse victim
Child has a mental health problem
Child is a sex abuse victim
Number of contacts with family by caseworker by six months
DTRINB_1
Child's A&D level INEX_DTR
2. DTREXB_1 (interaction between TRF Internalizing and Externalizing T-scores at entry in deviation score form)

Table 24. Coefficients for Hypothesis Three
Dependent Variable - TRF Externalizing Six-Month T-Scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
2	Constant	68.34	3.30		20.69	.00		
	Contact with Child	2.46E-02	.08	.02	.31	.76	.74	1.36
	Contact with Family	-.28	.11	-.13	-2.48	.01	.70	1.44
	Number of Placement	.35	.31	.05	1.14	.26	.89	1.13
	Proximity of Placement to Home	4.48E-03	.01	.04	.74	.46	.87	1.15
	Sum of Services Received	9.82E-02	.19	.03	.52	.61	.79	1.26
	Gender of Child	-1.83	1.04	-.09	-1.76	.08	.79	1.27
	Age of Child	-.81	.19	-.23	-4.40	.00	.71	1.41
	Ethnicity of Child	1.55	1.33	.05	1.17	.24	.94	1.06
	Child's A&D Level	1.27	1.23	.06	1.04	.30	.60	1.67
	Child of A&D User	-.68	1.09	-.03	-.62	.53	.80	1.25
	Sum of Handicapping Conditions	6.60E-02	.56	.01	.12	.91	.89	1.12
	Child has Mental Health Problem	3.98	1.19	.17	3.34	.00	.75	1.34
	Child is Physical Abuse Victim	-5.23E-03	1.26	.00	-.00	.10	.82	1.22
	Child is Sex Abuse Victim	1.29	1.26	.05	1.02	.31	.73	1.38
	Child is Sex Offender	-1.33	2.28	-.03	-.58	.561	.84	1.20
	DTRINB_1	-.14	.06	-.13	-2.29	.02	.66	1.52
	DTREXB_1	.37	.06	.34	6.05	.00	.62	1.61
	INEX DTR	-8.97E-03	.00	-.10	-2.22	.03	.95	1.06

Series means used for all independent variables

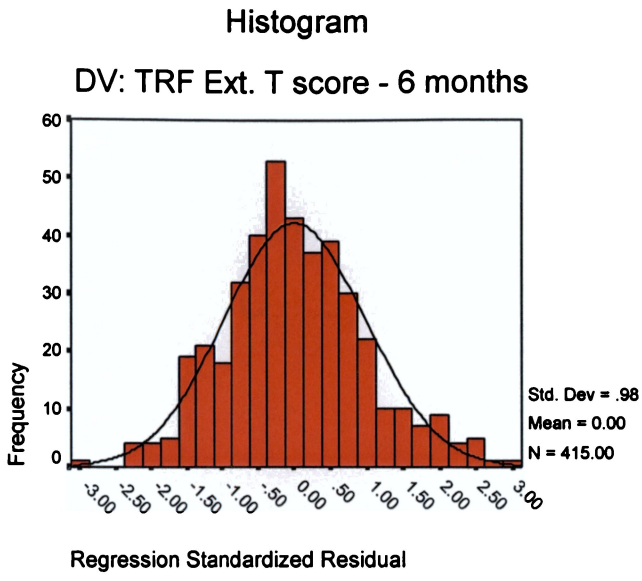

Figure 22. Residuals from analysis of TRF Externalizing six-month T-scores.

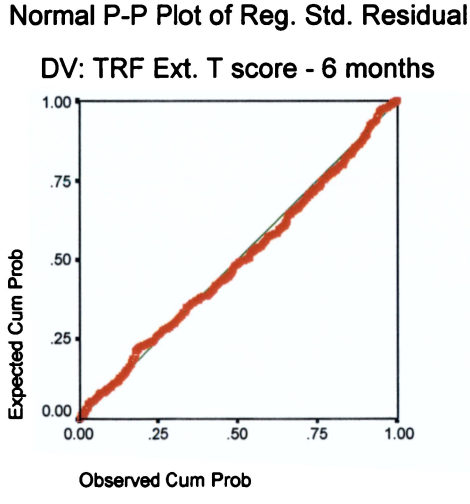

Figure 23. Normal P-P plot of residuals from analysis of TRF Externalizing T-scores.

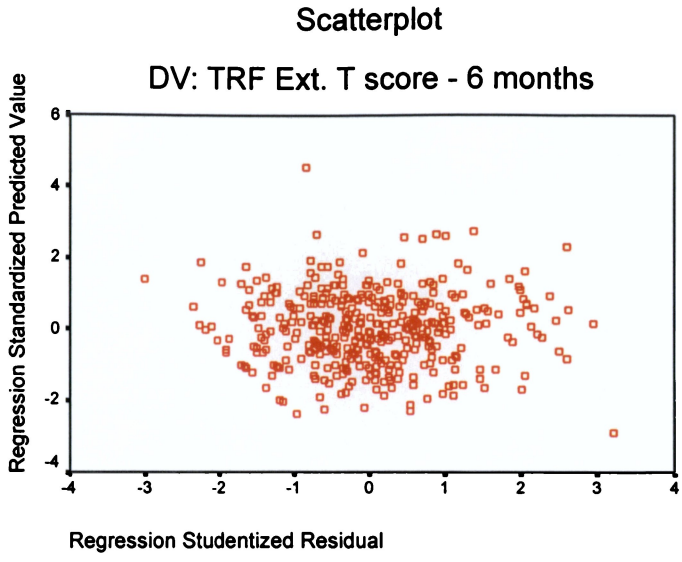

Figure 24. Scatterplot of residuals versus predicted values.

children who are not in the clinical range on both measures.

The overall R-square for the model testing Hypothesis Four in which CBCL and TRF clinical scores were used as an independent variable and the CBCL Externalizing six-month scores were used as the dependent variable was .28 (see Table 25). The R-square means the overall model explains 21% in children's psychosocial functioning (CBCL Externalizing T-scores six month scores) when in custody at six months. The dummy variable (clinical scores) was not statistically significant [F(1,205)=2.52, p=.114] with an R-square change of .01 (Table 26). However, statistically significant was the first entry set (demographics, service characteristics, and child characteristics)

Table 25. Model Summary for Hypothesis Four

Dependent Variable -CBCL Externalizing Six-Month T - Scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.52	.27	.21	9.72	.27	4.68	16	206	.00
2	.53	.22	.22	9.69	.10	2.52	1	205	.11

1.Child is sex offender
Child's A&D level
CBCL Externalizing Baseline T-Scores
Number of contacts with child by caseworker
Ethnicity of child
Sum of handicapping conditions of child
Child is a sexual abuse victim
Number of placements child experienced by six months
Child is a physical abuse victim
Proximity of placement at six months to treatment
Number of contacts with family by caseworker
Gender of child
Child of A&D user
Child has a mental health problem
Sum of services received
Age of child
2. DUMMYEX
Dependent Variable: CBCL Externalizing T score - Six-Months

Table 26. Coefficients for Hypothesis Four
Dependent Variable - CBCL Externalizing Six-Month T-Scores

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
2	(Constant)	38.71	6.18		6.26	.00
	CBCL Externalizing T-score - baseline	.32	.07	.33	4.39	.00
	Contacts with Child	-9.17E-02	.10	-.06	-.88	.38
	Contacts with Family	-5.90E-02	.16	-.03	-.37	.71
	Number of Placements	-.30	.52	-.04	-.57	.57
	Proximity of Placement	-1.89E-03	.01	-.01	-.18	.86
	Sum of Services Received	.43	.31	.10	1.4	.16
	Gender of Child	-1.72	1.49	-.08	-1.2	.25
	Age of Child	.13	.29	.03	.44	.66
	Ethnicity of Child	-.76	1.98	-.02	-.38	.70
	Child's A&D Level	-1.46	1.86	-.07	-.79	.44
	Child of A&D User	2.43	1.57	.11	1.55	.13
	Sum of Handicapping Conditions	-.11	.72	-.01	-.16	.88
	Child has Mental Health Problem	4.54	1.73	.19	2.63	.01
	Child is Physical Abuse Victim	.20	2.0	.01	.097	.92
	Child is Sexual Abuse Victim	-.62	1.74	-.03	-.36	.72
	Child is Sex Offender	2.73	3.64	.06	.75	.45
	DUMMYEX	2.54	1.60	.12	1.59	.11

[F(16,206)=4.68, p<.001] with an R-square change of .27 (Table 25). The histogram of regression standardized residuals suggests no serious departures from normality (see Figure 25). The normal p-p plot of regression studentized residuals suggests no serious departures from normality (see Figure 26). The scatterplot of studentized residuals suggests no serious violations of the assumptions of homogeneity of variance (see Figure 27). These findings do not support my hypothesis.

The overall R-square for the model testing Hypothesis Four in which the CBCL and TRF clinical scores were used as independent variables and the CBCL Internalizing six-month scores were used as the dependent variable was .21 (Table 27). The R-square means the overall model explains 21% of change in children's psychosocial functioning (CBCL Internalizing six month T-scores) when in custody at six months. The dummy variable (clinical CBCL and TRF scores combined) was not statistically significant [F(1,206)=2.74, p=.10] with an R-square change of .01 (Table 28). The first entry set (service characteristics, demographics, and child characteristics set) was statistically significant [F(16,207)=3.12, p<.001] with an R-square change of .20 (Table 27). The histogram of regression standardized residuals suggests no serious departures from normaility (see Figure 28). The normal p-p plot of residuals suggests no serious departures from normality (see Figure 29). The scatterplot of residuals versus predicted values suggests no serious violations of the assumption of homogeneity of variance (see Figure 30). These results do not support my hypothesis.

The overall R-square for the model testing Hypothesis Four when using the CBCL and TRF clinical scores as an independent variable and the TRF Internalizing

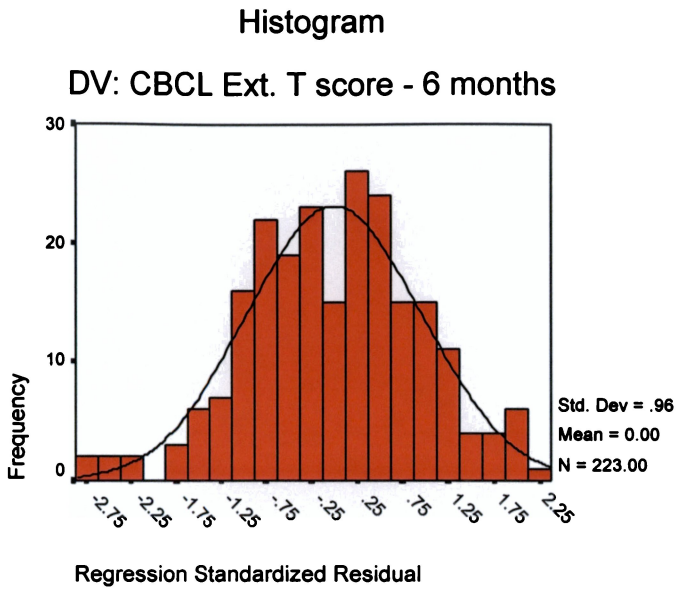

Figure 25. Residuals from analysis of CBCL Externalizing six-month T-scores.

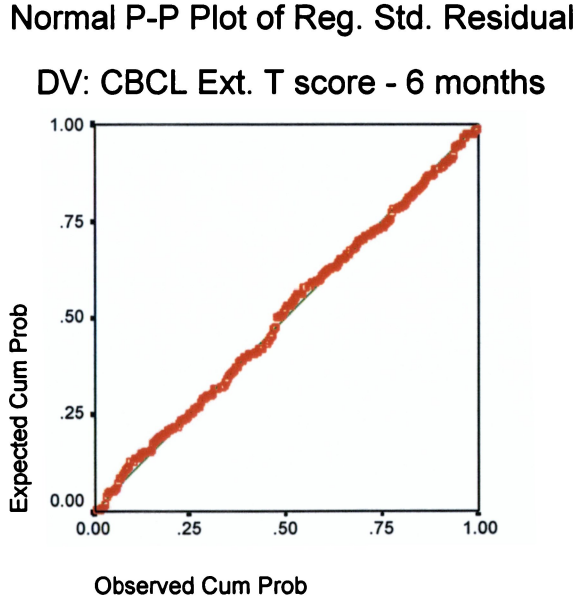

Figure 26. Normal P-P plot of residuals from analysis of CBCL Externalizing T-scores.

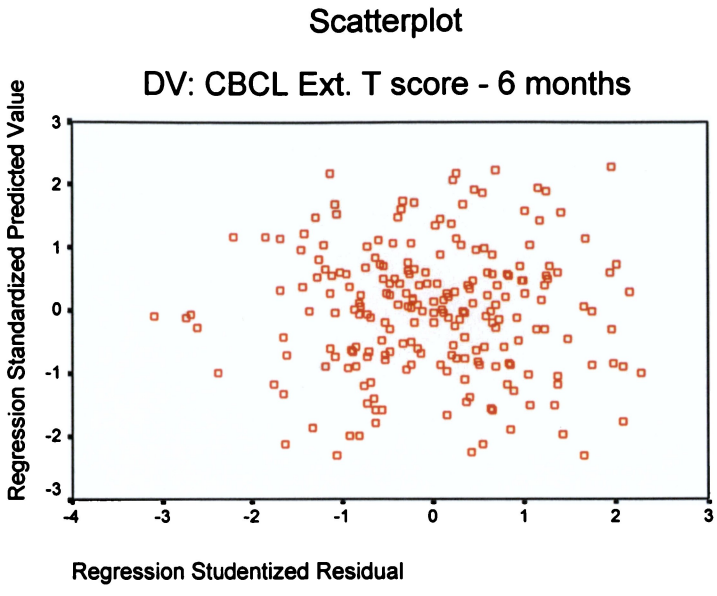

Figure 27. Scatterplot of residuals versus predicted values.

Table 27. Model Summary for Hypothesis Four

Independent Variable - CBCL Internalizing Baseline T-Scores

Dependent Variable - CBCL Internalizing Six-Month T - Scores

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
Model					R Square Change	F Change	df1	df2	Sig. F Change
1	.44	.20	.13	9.07	.20	3.12	16	207	.00
2	.45	.21	.14	9.04	.01	2.74	1	206	.10

1 Series means used for all independent variables.
1. Child is a sex offender
Child's A&D level
Number of contacts with child by caseworker at six months
CBCL Internalizing Baseline T-Scores
Ethnicity of child
Sum of handicapping conditions of child
Child is a sex abuse victim
Number of placements child experienced by six months
Proximity of placement at six months to child's home
Child is a physical abuse victim
Number of contacts with family by caseworker by six months
Gender of child
Child of A&D user
Child has a mental health problem
Sum of services child received by six months
Age of child
2. DUMMYIN
Dependent Variable: CBCL Internalizing T score - Six-Months

Table 28. Coefficients for Hypothesis Four
Dependent Variable - CBCL Internalizing Six-Month T-Scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
2	(Constant)	39.65	5.55		7.15	.00
	Home Internalizing T score - baseline	.18	.07	.21	2.77	.01
	Contact with Child	-6.03E-02	.10	-.04	-.62	.54
	Contact With Family	5.98E-02	.15	.03	.41	.69
	Number of Placements	.77	.48	.11	1.61	.11
	Proximity of Placements to Home	-3.32E-03	.01	-.02	-.35	.73
	Sum of Services Received	.22	.29	.06	.76	.45
	Gender of Child	8.78E-02	1.40	.00	.06	.95
	Age of Child	.51	.27	.15	1.88	.06
	Ethnicity of Child	-1.79	1.87	-.06	-.96	.34
	Child's A&D Level	-.47	1.74	-.02	-.27	.79
	Child of A&D User	-1.07	1.46	-.05	-.73	.46
	Sum of Handicapping Conditions	.28	.68	.03	.42	.68
	Child has Mental Health Problem	2.99	1.61	.14	1.86	.07
	Child is Physical Abuse Victim	.88	1.8	.04	.48	.63
	Child is Sex Abuse Victim	-.74	1.61	-.03	-.46	.65
	Child is Sex Offender	-2.21	3.36	-.05	-.66	.51
	DUMMYIN	2.50	1.51	.13	1.66	.10

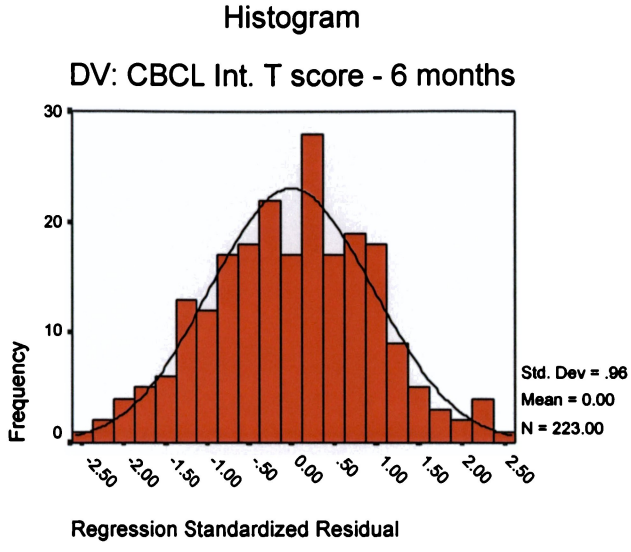

Figure 28. Residuals from analysis of CBCL Internalizing six-month T-score.

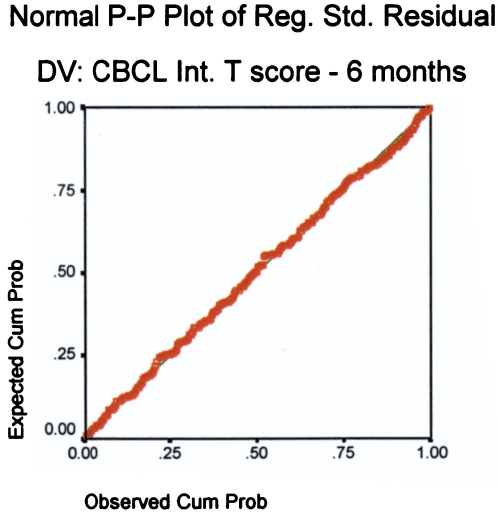

Figure 29. Normal P-P plot of residuals from analysis of CBCL Internalizing T-scores.

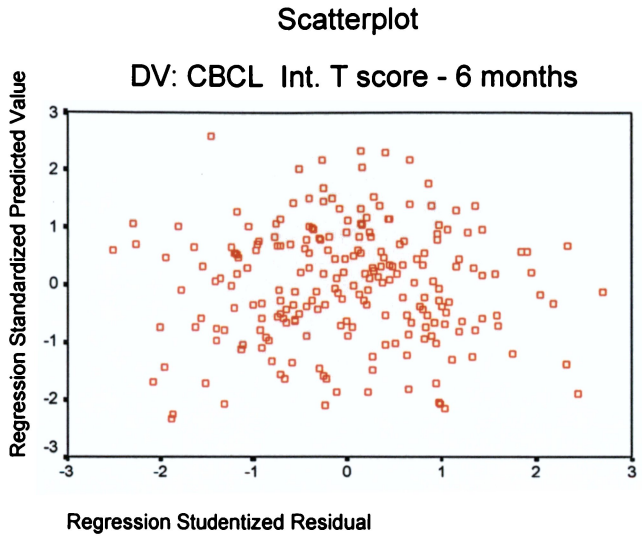

Figure 30. Scatterplot of residuals versus predicted values.

Six-month scores as the dependent variable was .18 (see Table 29). The model explains 18% of change in children's psychosocial functioning (TRF Internalizing six month T-scores) when in custody at six months. The first entry set (demographics, service characteristics, child characteristics) was statistically significant [$F(16,208)=3.16$, $p<.001$] with an R-square change of .20 (Table 29). The dummy variable (clinical CBCL and TRF scores combined) was not statistically significant [$F(1,207)=.43$, $p=.51$] with an R-square change of less than .01 (see Table 30). The histogram of regression standardized residuals suggests no serious departures from normality (see Figure 31). The normal p-plot of regression studentized residuals suggests no serious departures from normality (see Figure 32). The scatterplot of studentized residuals suggests no serious

Table 29. Model Summary for Hypothesis Four

Dependent Variable - TRF Internalizing Six-Month T-Scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.44	.20	.13	9.68	.20	3.16	16	208	.00
2	.44	.20	.13	9.70	.00	.43	1	207	.51

1. Child is a sex offender
Number of contacts with family by caseworker by six months
TRF Internalizing Baseline T-Scores
Child of A&D user
Gender of Child
Sum of handicapping conditions of child
Number of placements experienced by six months
Ethnicity of child
Child is Physical Abuse Victim
Sum of services received
Proximity of placement at six months to child's home
Number of contacts with child by caseworker at six months
Child has a mental health problem
Age of child
Child is a sex abuse victim
Child's A&D level
2. DUMMYIN
Dependent Variable: TRF Internalizing Six Month T-Scores

Table 30. Coefficients for Hypothesis Four

Dependent Variable - TRF Internalizing Six Month T-Scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
2	(Constant)	57.06	6.74		8.48	.00
	TRF Externalizing Baseline	.15	.08	.15	1.83	.07
	Contacts with Child	-6.16E-02	.11	-.04	-.56	.58
	Contacts with Family	-7.30E-02	.16	-.03	-.45	.65
	Number of Placements	1.26	.52	.16	2.44	.02
	Proximity of Placement	1.28E-02	.01	.10	1.43	.16
	Sum of Services Received	-.12	.29	-.03	-.42	.67
	Gender of Child	-.65	1.46	-.03	-.44	.66
	Age of Child	-.45	.28	-.12	-1.62	.11
	Ethnicity of Child	-3.87	1.94	-.13	-2.0	.05
	Child's A&D Level	2.09	1.83	.10	1.14	.25
	Child of A&D User	-.36	1.57	-.02	-.23	.82
	Sum of Handicapping Conditions	-.19	.71	-.02	-.26	.80
	Child has Mental Health Problem	6.27	1.67	.27	3.76	.00
	Child is Physical Abuse Victim	-.76	1.88	-.03	-.41	.68
	Child is Sexual Abuse Victim	-1.69	1.82	-.07	-.93	.36
	Child is Sexual Offender	.95	3.41	.02	.28	.78
	DUMMYIN	-1.16	1.76	-.06	-.66	.51

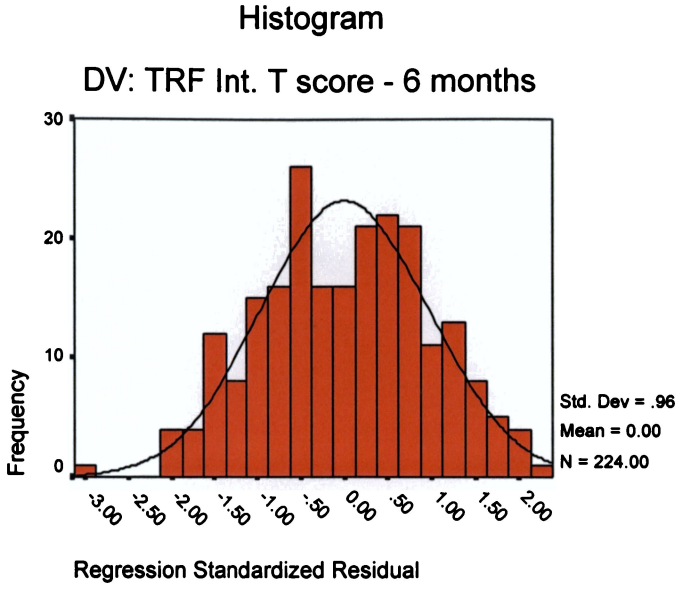

Figure 31. Residuals from analysis of TRF six-month Internalizing T-scores.

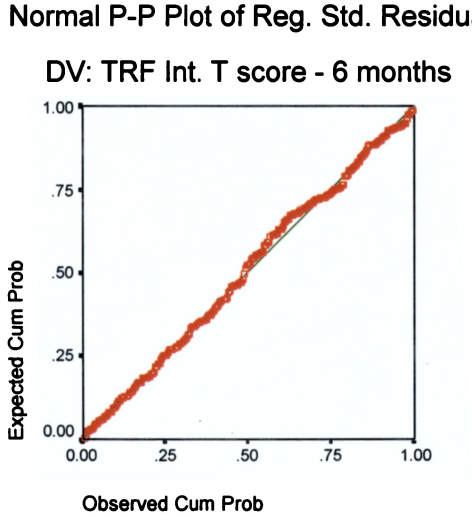

Figure 32. Normal P-P plot of residuals from analysis of TRF Internalizing scores.

violations of the assumptions of homogeneity of variance see (Figure 33). This finding does not support my hypothesis.

The overall R-square for the model testing Hypothesis Four in which clinical scores for the CBCL and TRF were used as an independent variable and the TRF Externalizing six-month scores were used as the dependent variable was .28 (see Table 31). The R-square means the overall model explains 28% of change in children's psychosocial functioning (TRF Externalizing six-month T-scores) when in custody at six months. The clinical dummy variable was not statistically significant (see Table 32). The demographics, service characteristics, and child characteristics set was statistically significant [$F(16,207)=5.72$, $p<.001$] with an R-square change of .28 (Table 31). The histogram of regression standardized residuals suggests no serious departures from normality (see Figure 34). The normal p-p plot of regression studentized residuals suggest no serious departures from normality (see Figure 35). The scatterplot of studentized residuals suggests no serious violations of the assumptions of homogeneity of variance (see Figure 36). These findings do not support my hypothesis.

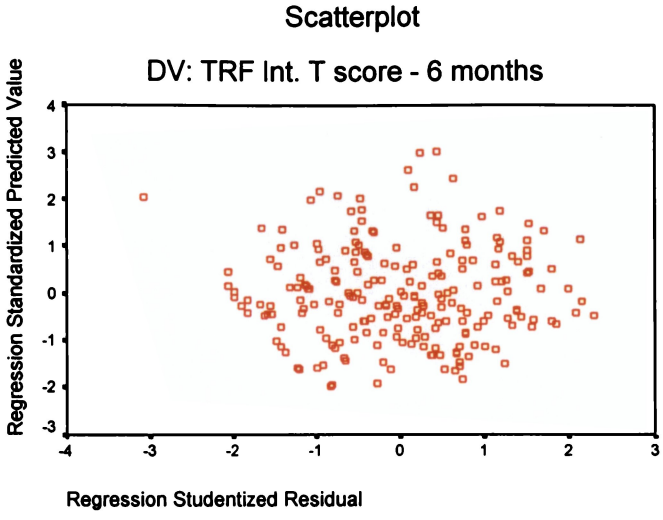

Figure 33. Scatterplot of residuals versus predicted values.

Table 31. Model Summary for Hypothesis Four

Dependent Variable - TRF Externalizing Six-Month T-Scores

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.53	.28	.23	9.09	.28	5.07	16	207	.00
2	.53	.28	.22	9.10	.00	.41	1	206	.52

1. Child is a sex offender
TRF Externalizing Baseline T-Scores
Number of contacts with family by caseworker at six months
Child of A&D user
Gender of child
Sum of handicapping conditions
Ethnicity of child
Number of placements child experienced by six months
Sum of services received
Child of a physical abuse victim
Proximity of placement at six months to child's home
Number of contacts with child by caseworker by six months
Age of child
Child has a mental health problem
Child is a sex abuse victim
Child's A&D level
2. DUMMYEX
Dependent Variable - TRF Externalizing Six-Month T-scores

Table 32. Coefficients for Hypothesis Four

Dependent Variable - TRF Externalizing Six-Month T-Scores

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
2	(Constant)	43.01	7.14		6.02	.00
	TRF Externalizing Baseline T-Scores	.37	.08	.39	4.52	.00
	Contacts with Child	6.13E-02	.11	.04	.59	.56
	Contacts with Family	-.14	.15	-.07	-.95	.34
	Number of Placements	.47	.49	.06	.96	.34
	Proximity to Home	6.75E-05	.01	.00	.01	.99
	Sum of Services Received	-.15	.28	-.04	-.53	.59
	Gender of Child	-.94	1.38	-.05	-.68	.50
	Age of Child	-.74	.27	-.20	-2.72	.01
	Ethnicity of Child	.10	1.80	.03	.55	.58
	Child's A&D Level	.84	1.74	.04	.49	.63
	Child of A&D User	1.09	1.49	.05	.73	.47
	Sum of Handicapping Conditions	-.46	.66	-.04	-.69	.49
	Child has Mental Health Problem	4.62	1.57	.20	2.94	.00
	Child is Physical Abuse Victim	-1.75	1.77	-.07	-.99	.32
	Child is Sexual Abuse Victim	1.37	1.71	.06	.80	.42
	Child is Sex Offender	1.26	3.22	.03	.39	.70
	DUMMYEX	1.12	1.75	.05	.64	.52

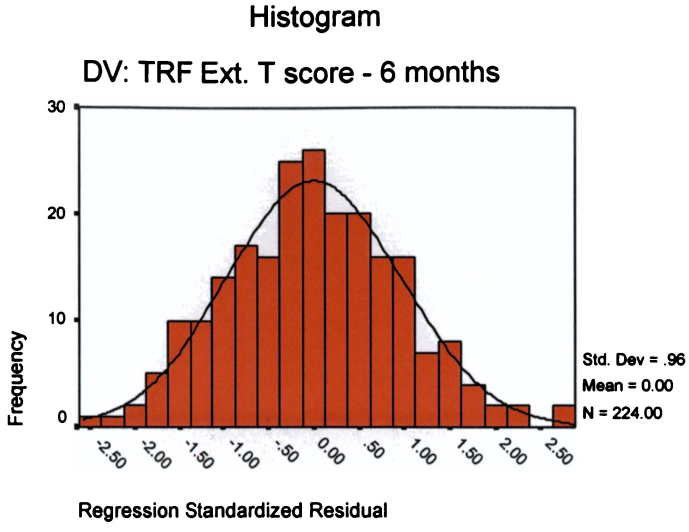

Figure 34. Residuals from analysis of TRF Externalizing six-month T-scores.

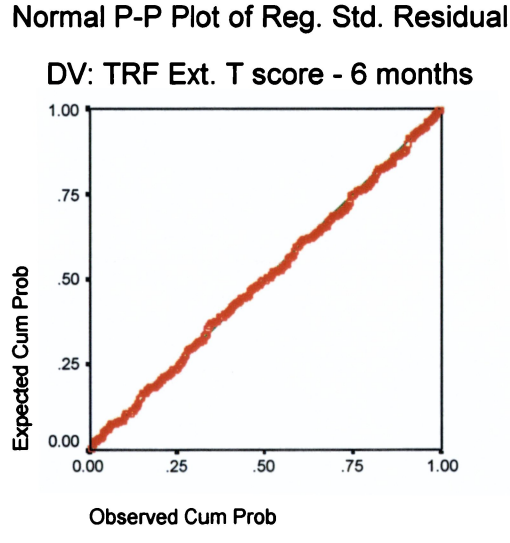

Figure 35. Normal P-P plot of residuals from analysis of TRF Externalizing scores.

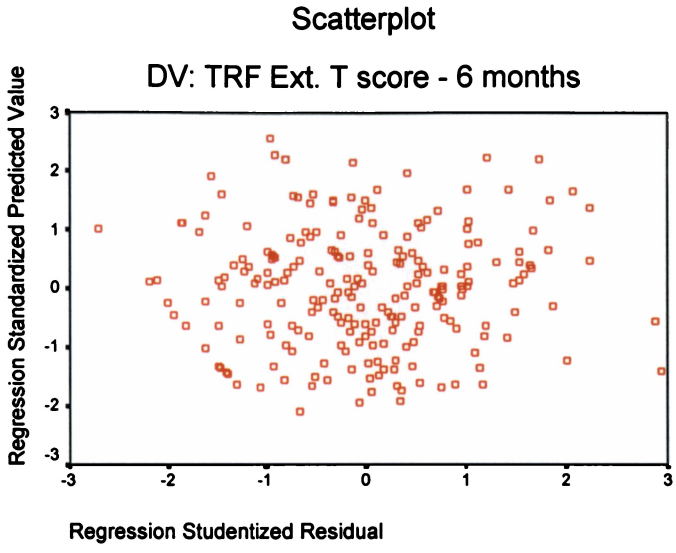

Figure 36. Scatterplot of residuals versus predicted values.

CHAPTER V

DISCUSSION AND CONCLUSION

Summary of Research Project

I undertook this research project to determine which independent variables predicts best psychosocial functioning change of children in state custody at six months. Secondary data were obtained from a larger research project that tracked 600 children over a three-year period and assessed them on a number of variables to determine coordination and quality of services. For this secondary analysis, data were used from children who had been in custody at least six months and who had their psychosocial functioning assessed by the Achenbach Child Behavior Checklist. The Achenbach CBCL and TRF Internalizing and Externalizing six-month scores were regressed on the three sets of predictor variables to determine the best predictors in psychosocial functioning change.

The most consistent results suggest that the child's characteristics upon entry into custody, and more specifically the presence of a mental health problem upon entry into custody, are the best predictors of change in psychosocial functioning at six-months. To a lesser extent the sum of services received is a significant predictor of change in psychosocial functioning at six months. These findings seem to suggest that the services provided to children while in custody have less to do with how the children change during their stay in custody than do the characteristics of the child upon

entry into custody. If this is accurate, it would suggest that the custody system is failing the children it is responsible for caring for.

The findings in regard to the presence of a mental health problem indicate that children who enter custody with mental health problems experience more negative changes in well being than children without mental health problems. The findings concerning the number of services received suggest that children who receive more services experience more negative changes than those who receive fewer services. This pair of results fits with the findings of Nugent & Glisson (1999) which indicated that the children's services system in Tennessee may actually operate in a reactive manner, meaning that it operates reactively to children who have problems. The service system reacts to children with more serious problems as they display inappropriate behavior while in custody as opposed to responding to the mental health needs of children as they enter custody.

Discussion of Hypothesis One

Hypothesis One - After controlling for age, gender, and ethnicity, the child's characteristics upon entering custody will explain more of the variation in change in psychosocial functioning at six-months than will the characteristics of the services the child received during those six-months.

Hypothesis One was supported in all four of the analyses when using either CBCL or TRF Internalizing and Externalizing baseline and six-month scores as independent and dependent. The child characteristics set was statistically significant in each analysis and accounted for more variation in change in psychosocial functioning than did the service

characteristics set. There were significant individual variable predictors of children's change in psychosocial functioning: mental health problem, age, and sum of services received.

Significant predictors of CBCL Externalizing Scores at six months were sum of services received (more services predicted doing worse at six months), and a reported mental health problem. Significant predictors of higher CBCL Internalizing Scores at six months were sum of services received (more services predicted doing worse at six months). The only significant predictor of TRF Internalizing six-month change scores was reported mental health problem. Significant predictors of TRF Externalizing six-month scores were age (older children doing better), and a reported mental health problem.

In two of the analyses (CBCL Externalizing and CBCL Internalizing), sum of services received was statistically significant at predicting change in psychosocial functioning at six-months. This finding indicates that the more services a child received, the larger the increases in their CBCL Externalizing and Internalizing six-month scores; that is, the child deteriorated in psychosocial functioning. This sounds contrary to popular belief that "more is better" and that the more services a child receives means the more improvement the child should experience. What it may indicate is that specifically targeted services, matched to the child's behavior problems, would be more effective at helping the child improve their psychosocial functioning than just providing more of what ever services are available, regardless of whether the services meet the child's specific needs. It might also indicate that the system is reactive and not selective in its use of

services, as I discussed above and as suggested by Nugent & Glisson (1999). Typically "externalizing children" create crises or surround themselves with crises that require immediate attention and intervention, which results in disrupted placements. This requires caseworkers to "over" function in the crisis intervention mode to de-escalate disruptive behavior, remove the child from their current placement, and re-place them. When a child cycles through multiple placements, they are not in one place long enough to engage in treatment, and their "acting out" behavior is reinforced as a way to cope, get attention, get their needs met, and avoid treatment issues. Nugent & Glisson (1999) describe this as system reactivity, which " . . . refers to patterns in service systems in which the systems act in opposition to children's behavioral and mental health problems reducing the likelihood that children will receive the services they need."

Gender

In three out of four analyses gender approached but did not reach statistical significance in predicting change in psychosocial functioning. In all three of these analyses the results suggested that male children may be at risk for deterioration in psychosocial functioning while in custody. This possibility is supported by previous research that finds males to have higher externalizing scores than females and the existence of externalizing behavior as a predictor of longer stays in custody and less improvement in psychosocial functioning while in custody (Glisson, 1992 &1994). It also concurs with Glisson's (1992) conclusion that increases in both the sum of services and number of placements predicts higher six-month scores for older males who have a

mental health problem.

Mental Health Problem

The presence of a mental health problem is a significant and important predictor of change in psychosocial functioning. Specifically, **children who enter custody with a reported mental health problem are likely to experience deterioration in psychosocial functioning.** This may suggest that children who enter a state's custody have fewer internal resources (adaptation, flexibility, coping, intellect, energy) to cope with the custody experience than those who do not have a serious mental illness or problem. This finding also suggests several important system issues. (1.) How a child "looks" when they come into custody is a strong predictor of how they will "look" at six months of custody. (2.) It is important to identify children with a mental health problem upon entering custody so that appropriate placements and treatment can be secured. (3.) It is important not only to assess a child's global psychosocial functioning but also his or her specific behavior profiles and patterns and the severity of the problem (whether it is in the clinical range) so appropriate levels of treatment and placements are secured. (4.) Identifying a child's behavior profile will give important information for developing case plans that include effective crisis interventions plans. These plans can then better reduce system reactivity, particularly with externalizing behavior problems. (5.) Mental health problems that go unidentified and untreated will likely worsen, resulting in longer stays in care, disrupted and multiple placements, and a solidifying of the maladaptive behavior as a coping mechanism. (6.) The longer term impact of untreated mental health problems

for children in custody is that they are more likely to live in the system until adulthood without improved psychosocial functioning, so they are at risk for experiencing multiple and chronic problems throughout adulthood.

Age

Age was a statistically significant predictor in one analysis, and approached statistical significance in two others. These results suggested that an older child who enters custody exhibiting externalizing behavior is at risk for deterioration in externalizing scores by six months in custody. Being younger is a predictor for having higher internalizing scores (that is, a deterioration in internalizing problems) at six months in custody. This may indicate that older children have more internal resources to cope with the custody experience than younger children, at least with regard to their internalizing problems.

Percentages of Improvement and Deterioration

To understand better who and what changed, the percentages of children who improved, stayed the same, and deteriorated in their problem behaviors were calculated and these percentages are shown in Table 33.

There was a larger percentage of children that deteriorated versus improved or stayed the same. Parents and parent surrogates that rated children for Internalizing and Externalizing behavior problems reported the most deterioration: 66.2.4% and 63.4% respectively. Teachers rating children on Internalizing and Externalizing behaviors

Table 33. Change in Psychosocial Functioning

Dependent Variable	Improved Psychosocial Functioning at Six Months	No Change in Psychosocial Functioning at Six Months	Deterioration of Psychosocial Functioning at Six Months
CBCL Externalizing Six Month T-Scores	35.1%	1.5%	63.4%
CBCL Internalizing Six Month T-Scores	31.6%	2.2%	66.2%
TRF Externalizing Six Month T- Scores	38.6%	1.6%	61.4%
TRF Internalizing Six Month T-Scores	36.9%	3.3%	59.8%

reported rates of 59.8% and 61.4 % respectively, in deterioration. The range of percentage of children improving was 31.6% to 38.6%.

Hypothesis One Summary

The best predictors for children's change in psychosocial functioning at six months in custody are a reported mental health problem, and to a lesser extent, the sum of services received, age, and gender.

Discussion of Hypotheses Two and Three

Hypothesis Two - The relationship between Internalizing problems at six months and entry Internalizing problems will be moderated by entry Externalizing problems.

Hypothesis Three - The relationship between Externalizing problems at six months and entry Externalizing problems will be moderated by entry Internalizing problems

Hypotheses Two and Three were not confirmed in any of the tests of each of these hypotheses. While contrary to my expectations, these results may be congruent with some previous research. Gjorne & Stevenson (1997) state:

> Studies have indicated that children with comorbid externalizing and internalizing problems are relatively similar to pure externalizing children in terms of antisocial outcome and social impairment . . . studies indicate that the internalizing-externalizing co-occurrence is influenced by factors similar to those underlying pure externalizing conditions. (p. 33)

However, much research is needed to understand the coexistence of internalizing and externalizing behavior, whether they are in the clinical or nonclinical range for the child. Accurately diagnosing and treating a child that has both internalizing and externalizing behavior problems is complicated and the co-occurrence of these behaviors is not fully understood.

Discussion of Hypothesis Four

Hypothesis Four - Children who enter custody with scores in the clinical range on both CBCL and TRF will show less improvement over six months in custody than children who are not in the clinical range on both measures.

My Hypothesis Four was not confirmed by any of the four analyses. This may be explained in several ways: (1) Previous research findings state that children who have greater clinical problems improve more in custody than those that have less significant problems because they have greater room for improvement. (2) A Type 2 error could have occurred - that I did not find a statistically significant relationship but one existed, though this is unlikely given the relatively large sample size in my study. (3) There is a high correlation **within** the CBCL and TRF scales (i.e., between CBCL subscales and between TRF subscales) but **not between** each other (i.e., between CBCL and TRF subscales). As a result of the high within (but not between) correlations, combining scores to create the dummy variable may have been ineffective. The group of behaviors the teachers were rating as clinical were not the same group of behaviors the parents rated as clinical, thus clouding the issue of combining scores to create the dummy clinical

variable.

Recommendations

Implications for Practice

The multi-problem children and their families that are seen today in the child welfare system demand trained and knowledgeable child welfare workers. They also demand a coordinated, creative, quick, and effective system response. Assessment, appropriate placement and treatment (for child and family) combined with clear and realistic client outcomes are key.

Astute assessment skills and/or the ability to understand assessments by others are central in understanding a child's psychosocial functioning. It drives the decision for what type of treatment (if any) the child should have and the appropriate placement to access. A complete psychological, psychiatric, and psychosocial assessment is needed on every child entering custody, first to determine if a child fits any global clinical criteria, and then to understand patterns of behavior in specific areas (such as internalizing or externalizing behavior).

The findings of my study may appear to suggest to some that the only factor that should be considered is whether or not a child has a mental health problem upon entry into custody and that only a mental health diagnostic focus is needed. I disagree. What I believe it does demand of us who work with children in custody is to work smarter. How do we work smarter? Child welfare workers work smarter by being able to predict the child's ability to change upon entering custody and knowing the risk factors that may

complicate the child's custody experience.

The knowledge area that should be obtained by child welfare workers to effectively assess and determine appropriate placement and treatment is enormous. First, a systems approach is needed to adequately assess behavioral, environmental, and/or community resource-based concerns. Being able to understand family functioning and the child's individual functioning by identifying both strengths and weaknesses to set goals for out-of-home care and treatment plans is imperative.

Assessing and planning intervention with the child and the family requires knowledge in many areas. Family functioning includes the areas of communication, parenting styles, family development, generational issues, and levels of dysfunction. Equally significant is understanding the individual child and their development, personalty, IQ, effects of possible trauma, behavior, and emotional and cognitive functioning. The area of behavioral assessment alone should include the child's coping, adaptability, impulsiveness, resistance, and internalizing, and externalizing characteristics. Finally is the ability to determine the prognosis for change for the child and family depending on functioning, needs, resources, and treatment provided.

At the time the AIMS study was done, it was usual for a child in Tennessee to enter custody without prior information on the child or family. Psychological and behavior assessments were not done routinely on children. Those with disruptive and/or externalizing behavior demanded attention and more secure placements, thus receiving assessment more frequently than those who did not "act out." Children were put in placements based on availability and not always based on appropriateness. Mental health

treatment was given to only 14% of the children, although over half had clinical scores (Glisson, 1992).

Again, thorough assessment from multiple informants is needed to achieve a clear picture of the child and family and to set realistic goals that address the reasons why the child is in custody - whether it is behavioral, environmental and/or community resource based. Skilled case managing approaches and clear outcome goals and how to achieve them are required for each child and family.

In conclusion, my first recommendation is to integrate, on a practice level, the findings of this study. On a case management level, what does this mean? Children who enter custody with a mental health problem are at risk for deteriorating in psychosocial functioning unless specific problem-focused treatment is secured in a timely fashion. Understanding that offering more services, or giving what is available is not better and will not likely help the child increase their psychosocial functioning. Again, assessing the child and offering problem specific treatment is more effective. It is imperative to pay attention to entry level behavior -- global behavior and specific categories of behavior -- because that behavior will help predict improvement or deterioration in the child's psychosocial functioning. Understanding the child's behavior and coping mechanisms will also guide the selection for problem specific treatment. Knowing the risk factors for a child entering custody makes you aware that this child may present challenges in securing treatment, having a stable placement, returning to their family, and functioning more effectively within their social environment.

Implications for Policy

As noted in the introduction, the Federal government has attempted to "overhaul" the present welfare system and encourage states to follow its lead by setting fiscal incentives and practice standards. Unfortunately, many reforms have come through legal recourse when states and/or agencies have been sued for neglect. Changes in policy should be system-focused, as child welfare workers should be.

Below are listed some suggestions for policy change:

1. Integrate client and agency outcome goals so workers do not work at cross-purposes providing services and treatment to clients while adhering to agency outcomes.

2. Develop assessment and client outcome policies so that every child and family has a thorough assessment and their foster care and treatment plans are integrated and agree on outcome goals.

3. Pay more attention to the child's entry into custody and the process the child and family experience when entering custody. Do the policies and procedures conveyed by workers interactions increase their dysfunction?

4. Hire educated and trained workers or provide them training in prevention, assessment, crisis management, service outcome, and client outcome.

5. Develop programs for risk populations in custody: older, nonwhite, internalizing children and their families.

Limitations of Study

The limitations of this study are several: methodological, subjects, sample size,

and data collection. Children ages five and under were excluded from the study, and these children typically are the ones that enter custody because of neglect, abuse and/or abandonment. The sample was not a truly random sample. Every second or fourth child was loosely chosen over a period of time, but these participant names were given voluntarily by the County Youth Service Officer; sometimes sibling groups were tracked. Some agencies and their workers were more committed to completing forms and relaying information so one area may have a more "complete picture" of children than another. As a research assistant I saw patterns of missing data that pertained to two areas. The first area pertained to worker and agency cooperation, motivation, and thoroughness of completing forms and reporting information. The second area pertained to the research assistant's motivation, thoroughness, and perseverence in requesting information, following up on information, and efficiency of coding information. Many of the AIMS youth may have resided in an Intake and Observation Center for a large part of six months awaiting appropriate placement and not received any treatment by six months.

This project and the parent project were not family focused. No information was gathered on the family outside of income level and parent alcohol and drug use. No information was gathered on the family, such as environmental concerns, family history, development, or basic family functioning. The study also did not focus on environmental concerns that may have contributed to the child entering custody. This could have included such things as poverty, unemployment, illness (mental or physical), recidivism with the child welfare system, and/or homelessness. No information was gathered on the children or family when they left custody and no follow-up was done. It

was not determined under what circumstances a child left custody, where they were going to live, and/or what their psychosocial functioning was at exit.

The data gathered for this project were gathered on children entering custody in the State of Tennessee. This limits my ability to generalize the findings to other states or to the child welfare system as a whole.There is not overwhelming support in the literature for assessing psychosocial change at six months after intervention. The debate continues on how to combine multiple informant information due to the evidence in the literature that parents and teachers are not 'assessing' the same behavior. Lastly, a Type I or Type II error could have occurred in the research, either finding significance or not, thus confirming or not, a particular hypothesis.

Implications for Further Research

An ideal and encompassing study for children in custody would be to build and add components to the parent project of this study. Two components would include family assessment and tracking, and longitudinal research of the child and family as they exit custody and throughout their lives course. Another component would be a review of system files to determine state compliance with federal and state requirements regarding foster care plans, reviews, terminations, treatment, and reunification.

More research is needed on child and family functioning. Identifying the degree of dysfunction or level of crisis and points of effective intervention and treatment for both families and children should be priorities. Equally important is to focus on children's adaptive behavior, coping mechanisms, internalizing and externalizing behavior, and how these factor into psychosocial functioning and children weathering the custody

experience. The research can be accomplished by using more sensitive and problem-specific measuring instruments for subcategories of internalizing and externalizing behavior, such as depression, aggression, attention problems, impulse control, and anxiety. The research should focus on how to effectively combine multiple informant scores in use of rating scales determining who is most accurate in assessing certain behaviors. Lastly, research should establish how to effectively integrate complex family and individual child assessment information for intervention which should increase the likelihood of improving psychosocial functioning of children in custody and in out-of-home care.

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Vita

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