

**AN EVALUATION RESEARCH STUDY COMPARING
PLACEMENT OUTCOMES OF TREATMENT FOSTER CARE
TO RESIDENTIAL CARE**

BY

KIMBERLEY J. THOMAS

**A Practicum
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of**

MASTER OF SOCIAL WORK

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Abstract

Treatment Foster Care is a relatively new model of care and treatment designed for severely disturbed children and adolescents. It combines the normalizing influence of family-based care with individualized treatment interventions. Treatment Foster Care is viewed as an alternative to more restrictive Residential Care settings. Although this model is being implemented throughout North America and Great Britain, there have been few evaluation research studies utilizing comparison groups reported in the literature. This evaluation research study presents a quasi-experimental design utilizing a non-equivalent comparison group. The purpose of this study was to examine the effectiveness of Treatment Foster Care relative to the outcome variables of problematic behaviour and social competency, self-concept, and restrictiveness of discharge settings, and to compare these placement outcomes with outcomes of a comparison group of children placed in Residential Care. The Achenbach Child Behavior Checklist, the Piers-Harris Self-Concept Measure, and a modified version of the Children's Restrictiveness of Living Environments Instrument were used to measure placement outcomes. The findings suggest that children in Therapeutic Foster Care have significantly less restrictive placement outcomes at the time of

discharge than do children in Residential Care. As well, children placed in Therapeutic Foster Care experienced an increase in self-concept over a six-month period, while the Residential Care sample displayed no change in self-concept over the same period of time. Results regarding changes in problematic behaviour and competency were less conclusive. Generally, these findings indicated that competency did not change in either the Residential Care or Therapeutic Foster Care samples over six months. The results of this study suggest that Therapeutic Foster Care is a viable alternative to Residential Care, and may be more effective for some children with respect to psychosocial functioning and post-placement functioning. Further evaluation research is recommended to more fully examine the premises upon which Therapeutic Foster Care is based and the effectiveness of these programs.

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CHAPTER I

INTRODUCTION

Child protection services and the development of foster care programming in North America dates back to the mid-nineteenth century. During that time, "normal", dependent children were placed in substitute families in order to provide a more acceptable type of care to children who would otherwise be assigned to work houses and adult prisons. Institutional care evolved as a specialized treatment setting to serve disturbed and handicapped children for whom family settings were thought not to be appropriate.

The evolution of Therapeutic Foster Care has been described as occurring in two stages (Bryant, 1981, 1983). During the first stage, in the 1950's and 1960's, specialized foster care programs were used as transition placements for youth returning to the community from psychiatric hospitals and residential treatment centers.

The second stage of development is traced by Bryant to the deinstitutionalization movement in the late 1960's. Specialized foster care services arose as an alternative to the institutionalization of children who had traditionally been placed in larger, more restrictive settings. Other community-based alternatives (e.g. group home, halfway houses) were also

developed in response to the deinstitutionalization movement. A normalization philosophy is the underpinning of this movement and this suggests that children and youth should be treated as normally as possible with minimum stigma as a result of being in care (Smith, 1989). Related to this is the premise that the more normalized a child's environment, the less intrusive it is. Least intrusive care can also be delineated by the degree of restrictiveness of the place where the child is living (Stroul, 1989). Therapeutic foster care programs aim to provide treatment in the least restrictive, most normalized environment possible. Children in therapeutic foster care live in families, can access community resources and these home settings are less restrictive than residential settings.

More recent trends related to the increasing level of difficulty of children entering care, and shrinking resource dollars have increased the demand for specialized foster care services.

The level of difficulty of behaviour exhibited by the children coming into care has changed in the last decade due to the emphasis in child welfare on preventing out-of-home placements and keeping birth families together. An unanticipated result of this practice is that those children who enter foster care tend to be older and because of longer exposure to pathological family situations, present more severe

problems that traditional foster family care can provide (Bryant, Simmens & McKee, 1989). Thus, Therapeutic Foster Care emerged as a resource that could serve a significantly more disturbed population.

Another impetus for the rapid development of therapeutic foster care programming has been the rapidly escalating costs of residential treatment centers, group homes, day treatment hospitals and the like. Proponents of therapeutic foster care claim that this kind of programming is more cost effective than residential placements. In view of the limited resources available to child welfare services, the relative economy of therapeutic foster care as compared with institutional care has made it an attractive alternative (Stroul, 1989).

Further developments in therapeutic foster care programming have continued over the last several years. The Foster Family-based Treatment Association (FFTA), a professional organization specific to therapeutic foster care services, has been formed. There have been international conferences focusing on specialized foster care, the body of literature devoted to this subject has grown and numerous treatment foster care programs have developed throughout North America (Hudson & Galaway, 1989).

An array of terms has been used to describe these programs, including specialist foster care, specialized foster

care, professional parenting and treatment foster care, to name a few. The terms "therapeutic foster care" and "foster-family based treatment" appear to be emerging as the preferred labels in the child welfare field (Stroul, 1989; Bryant & Snodgrass, 1990). Therapeutic foster care (hereafter referred to as TFC) will be the term generally used in this study.

TFC is still a relatively new form of care and treatment that is struggling to establish a clear cut identity (Meadowcroft, 1988; Webb, 1988). The variations in the way the model is applied and the recent and rapid growth have prevented agreement on a precise definition. The model is designed to fit the individual needs of children and this flexibility is one of the model's strengths. However, it also prevents a clear and precise definition of TFC.

TFC programs are a synthesis of the traditional foster family home with elements of a residential treatment setting (Bryant, 1983). Although there are similarities to traditional foster care, there are definite distinctions as well. The primary function of foster care is to provide a substitute family for dependent children, whereas the primary function of TFC is to provide a treatment environment for disturbed children (Stroul, 1989). TFC programs draw on the treatment technologies developed in more restrictive settings with their emphasis on planned treatment and re-education of children and

adolescents designed to assist their development of appropriate and effective interpersonal and social behaviour (Bryant & Snodgrass, 1990).

The TFC model, by combining elements of residential treatment programming and a foster family environment, offers an alternative to both the traditional foster family and residential settings for disturbed children and adolescents who cannot be appropriately or adequately served in either type of resource.

Despite differences in the way TFC programs are organized, these programs share a number of distinctive features. The major characteristics of TFC have been described by Bryant (1980a, 1981); Snodgrass and Campbell (1981); Webb (1988); Meadowcroft and Luster (1989); and Hudson and Galaway (1989). Summarizing the literature, it appears that TFC program have the following common features:

1. TFC provides a nurturant, family environment for one to three children who exhibit serious maladaptive behaviours. Treatment services are provided in the context of the treatment home.
2. TFC programs regard treatment foster parents as professional staff who are the primary agents of treatment for the child and who are viewed and dealt with as part of the treatment team. Payments are made to caregivers at

rates above those provided for regular foster care.

3. Consultation, training and intensive support services are provided to foster parents on an ongoing basis.
4. TFC programs involve biological parents in the child's treatment to the extent possible and appropriate.
5. TFC programs maintain active linkages with community agencies and resources.
6. An objective of the program is to serve children who would otherwise be admitted to or retained in a residential treatment setting.

The next section of this chapter will explore the status of TFC in Manitoba and will describe the TFC and the Residential Programs used as the samples in this research effort.

Treatment Foster Care Services in Manitoba

Current child welfare philosophy and legislation in Manitoba has mirrored developments that have been occurring across North America.

In 1983, the provincial government moved structurally to allow for the decentralization of Child Welfare services in Manitoba. This process aimed at increasing community involvement in the design and operation of services and allowed for emphasis to be placed on prevention and early intervention

services with the hope that these changes would improve the quality of services to families and reduce the costs associated with the need for expensive, high level care.

In 1985, Manitoba's Child and Family Services Act was passed. The Act emphasizes the importance of family preservation in stating that a child should be removed from his/her family only as a last alternative. When a child must enter agency care, that child is entitled to a "continuous family environment in which he/she can flourish and that child/ren should receive adequate care and supervision to meet their needs in the least restrictive way" (Child and Family Services Program Standards Manual, Section IV, p. 1-2, 1985).

The decentralization of child welfare services, and the emphasis on community-based care for children that is normalizing and less restrictive, set the stage for the development of specialized foster care resources in Manitoba. The six Winnipeg Child and Family Service agencies, established after decentralization, were faced with the challenge of creating their own foster care resource base. These agencies developed a range of foster care services, including specialized foster care settings for very damaged children. However, agencies still had difficulty finding appropriate resources for their most disturbed children, particularly adolescents. In an attempt to service these children, the Child and Family Service agencies

utilized residential treatment centers, group homes, and increasingly, used specialized foster homes as they became available. It was in this environment that treatment foster care programming began to develop.

Recently in Manitoba, child welfare administrative functions have been re-centralized, and one Winnipeg Child and Family Service agency serving four areas in the city, continues to deliver decentralized, community-based programming. Conservative philosophy and fiscal restraint have meant the reduction of many preventative programs (e.g. Family Support Programs, Independent Living Programs, Advocacy Programs). Although the future of TFC in Manitoba may be affected by the proposed structured Care Continuum that has been designed "to develop objective criteria by which special needs funding would be allocated to foster parents in a fair and consistent basis", TFC programming continues to expand in the Winnipeg region. However, in comparison to the development of TFC programming in other provinces, Manitoba is underdeveloped in terms of its specialist foster home resources.

There are two TFC programs operating in Manitoba at the present time. Both of these programs are administered by private, non-profit service agencies. Marymound Inc. has a TFC Program that has, on average, 30 to 35 children in placement. This program has experienced a 50% increase in

their population over the 1992/1993 fiscal year. As well, Marymound Inc. has made a conscious shift towards moving their program from a "Support Home Program", as it was called in 1992, to a TFC Program, which it is now called. The program meets the criteria of a TFC program, with the possible exception of the level of difficulty of children placed in the program. Not all of the clients placed in Marymound's TFC would be categorized as severely emotionally disturbed, nor would they necessarily have been placed in a more restrictive resource had TFC not be available.

The second TFC program operating in Manitoba is the Alternative Parent Home Program (APH), administered by Macdonald Youth Services. The APH program and Macdonald Youth Services' Residential Treatment Program were targeted for inclusion in this study. The programs will be described briefly in the following section.

The Alternative Parent Home Program

The APH program has grown, as well, over the last fiscal year, experiencing an increase in population from 33 clients in 1992 to 42 clients in 1993.

This program began in 1986, in response to a Child and Family Service agency's request for a specialized family-based

treatment setting for one child. In that year, the program served nine clients and in the following year dramatically increased the total number of children served to 35. This reflected the growing demand for TFC in Manitoba.

The APH program description outlines a "service which provides treatment for disturbed children within the homes of trained foster families. The program strives to combine the normalizing influence of foster family-based care with specialized treatment interventions, thereby creating a therapeutic environment in the context of a nurturing family home" (APH Program Description, 1992, p.1).

The APH program is viewed as an alternative to more restrictive settings. In order to be able to maintain the disturbed youth in family-based community settings, a high level of support, training and consultation is provided to APH caregivers. The caregivers are expected to function as part of a treatment team and are remunerated for their services at a higher rate than regular foster parents.

Residential Care Program

Macdonald Youth Services has been providing Residential Care for adolescent males for approximately 60 years. Programming has changed considerably over the years, and at

present the agency is licensed to operate two eight-bed and one six-bed Level IV treatment programs, one four-bed Level V program, and two four-bed Northern "family-based" residential treatment units for Level III to IV male children.

This research effort arose from an interest in evaluating the efficacy of TFC. Given that TFC is viewed as an alternative to more restrictive group settings, it seemed important to evaluate the effectiveness of TFC in relation to the effectiveness of Residential Care programming. The presence of the APH program, the TFC program, and the RCP program at Macdonald Youth Services provided a unique opportunity for comparative research and thus, these programs were targeted for inclusion in this study.

The Problem

Given that TFC is a relatively new program thrust, it is not surprising that rigorous evaluation research has been scarce, and until recently, these studies have had limited circulation (Focus, Foster Family-Based Treatment Association Newsletter, 1989/90).

In a survey of 293 TFC programs conducted by Hudson, Nutter and Galaway (1991), only 17% of the respondents reported that any research had been done on their programs.

The extent and sophistication of program evaluations and research efforts varies widely across programs. Stroul (1989) notes that, "a major shortcoming in the evaluation of therapeutic foster care has been the dearth of studies using comparison or control groups. Research comparing therapeutic foster care to other treatment conditions is rare" (p. 80).

Only three programs responding to the study done by Hudson, Nutter and Galaway (1991) reported comparison studies of their TFC programs to other interventions. In 1988, Freidman observed that although the TFC model was being implemented throughout North America as an alternative to the placement of emotionally disturbed children in group care, there were no comparison studies reported in the literature. Snodgrass and Campbell (1981) assert that "such studies are absolutely essential if the growth of what promises to be an increasingly available program model is to be guided by information concerning what works and what doesn't" (p. 18-19).

Funders, consumers and providers of TFC want to know if seriously emotionally disturbed children are being well-served by this model of care. The current conservative outlook regarding the funding of social programs has increased pressure to scrutinize established programs (Rossi, 1985). In this environment, treatment foster care programs must engage

in evaluation if they are to remain credible and financially viable (Meadowcroft, 1990). The child welfare community wants to know if programs are succeeding; funders want to know if they are getting their money's worth.

Purpose of the Study

The purpose of this evaluation research study was to examine the effectiveness of TFC in relation to the outcome variables of problematic behaviour and competency, self-concept and restrictiveness of discharge settings, and to compare these placement outcomes with outcomes of a client population residing in Residential Care.

A good TFC program should involve accountability at all levels. Such accountability and evaluation should include documenting the intervention components intended, the components actually delivered, the number and characteristics of the children served, the outcome achieved during the children's placement, outcomes during a follow-through phase and later outcomes (Hawkins, Almeida & Samet, 1989).

While examining accountability at several levels in TFC programming is desirable, it is beyond the scope of this research study. The research questions posed in this study aim to meet a more limited set of objectives. These are: to

increase knowledge regarding the efficacy of treatment foster care; to provide information to improve TFC programming; to assist in meeting the accountability requirements of funders, consumers and providers; and to describe and clarify TFC programming by using the data to educate funders, consumers, policy makers, and the general public. The questions which guide this study are as follows:

1. How does the client population placed in TFC compare to the client population placed in residential care on the outcome variables of problematic behaviour, self-concept and restrictiveness of living setting after discharge?
2. Does the client population in TFC show a significant improvement in problematic behaviour and self-concept after a six-month period of placement in the program and/or at the point of discharge?
3. Is the TFC client population being discharged to less restrictive settings (i.e. less restrictive than treatment foster care services)?

The next chapter will review the current literature regarding outcome evaluation in the field of TFC.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the relevant evaluation research studies that relate to TFC programming. It focuses primarily on research efforts that have examined program efforts and results, rather than on studies completed regarding particular features of TFC programming such as consumer satisfaction and the effect of programming on treatment foster parents. Research studies that focus on program outcomes have more relevance to the research questions posed in this study.

Descriptive studies that provide information regarding client characteristics are briefly discussed at the outset. Following this, research efforts that examine program success, defined in terms of restrictiveness of discharge settings and cost effectiveness are reviewed. Finally, studies that explore treatment outcomes with respect to behavioural changes or progress during placement are outlined.

The early evaluation literature concerning TFC is primarily formative or descriptive in nature, reflecting a focus on "how to do it" versus "how does it compare to" other program types (Bryant, 1981). However, descriptive studies have provided information on the characteristics of children and youth served by TFC programs providing a foundation on which to base

evaluation efforts. A few of these will now be discussed.

Stroul (1989) describes a number of TFC programs including key players and procedures involved in service delivery and cross-program comparison costs, parent payment levels, discharge statistics, services to biological parents and evaluative measures such as post-discharge client follow-up.

Meadowcroft and Trout (1989) also provide descriptive data regarding three established TFC programs, comparing and contrasting youth and family demographics. They discuss discharge outcomes as well. In these three programs, more than one-half of the children served had experienced at least one more restrictive placement prior to entry. As a group, these children had an average of 3.6 previous placements and had been out of their own homes and in the child welfare system for approximately four years prior to TFC admission (Timbers, 1989). In a review of Florida's TFC programs, Freidman (1980, 1981) demonstrated that almost two-thirds of all children served had received out-patient mental health services and a third had at least one prior psychiatric hospitalization. Jones (1989) compared 100 TFC clients with 1,000 adolescents in group care and found that the TFC youth were comparable to, if not more disturbed, than the group home youth. Timbers (1989), when compiling data on the history of problems among children served in their TFC programs, felt the most striking

observation was the severity and variety of problems they exhibit. He found that some problems were common among all three programs: various types of school problems; peer relationship problems; verbal and physical aggressiveness to adults and children; poor self-concept and dishonest behaviour.

A common indicator of program success, mentioned in the literature, is the restrictiveness of the setting to which a child is discharged (Meadowcroft, 1990; Jones, 1989; Bryant, 1989). Stroul (1989) asserts that much of the evaluation efforts regarding the effectiveness of TFC has relied upon discharge data and the majority of these studies have used a one-group posttest design. There appears to be agreement among programs that a "successful" discharge is one in which the youth leaves the program and is able to go to a less restrictive setting. Less restrictive settings include biological or extended family, independent living, regular foster care or an adoptive home. More restrictive settings include facilities such as group homes, residential programs, psychiatric hospitalization, emergency shelters, and correctional facilities (Hawkins, Almeida, Fabry & Reitz, 1990). The assumption is that the child has shown improvement in behavioural and psychological functioning sufficient to allow him or her to live in a less structured setting. Therefore, many programs define program effectiveness in terms of the percentage of children discharged

to less restrictive settings and the extent to which children enter less restrictive settings is considered a fundamental measure of a program's success (Jones, 1989; Snodgrass & Bryant, 1989; Stroul, 1989).

Summarizing overall discharge data from 14 TFC programs, Stroul (1989) reports a range of 62% to 89% of youth leaving these programs for less restrictive settings. Snodgrass and Bryant (1989), in their survey, report an average of 77% of the children discharged to less restrictive settings. Jones (1989) maintains that developers and consumers of TFC services should expect or aim for a 75% successful discharge rate of children served.

These findings suggest that TFC programs do have the potential to divert youth from more restrictive placements. However, most information on post-discharge placements relates to the immediate transition from TFC and few programs regularly collect follow-up information (Snodgrass & Bryant, 1989). One exception is the PRYDE program (Hawkins, Meadowcroft, Trout, & Luster, 1988) which collects follow-up information on children on an ongoing basis. The program evaluated how children were adjusting one to three years after discharge in the areas of employment, school, antisocial behaviour, and marital/parent status. PRYDE's findings suggest sustained positive outcomes over time, with more than

70% of discharged youth still living in less restrictive settings at one and two years post-discharge and over 70% of the youth either attending school or being employed (Meadowcroft, 1990; Jones, 1989).

The Ohio National Youth Advocate Program (YAP) also collected follow-up information on its clients' post-placement progress. YAP conducted an effectiveness evaluation of its treatment services for juvenile delinquents after they had been discharged (Selby, 1985). The study compared the treatment effectiveness of YAP with a Residential Treatment Center, using post-program measures to examine the client's success after discharge. Their findings, pertaining to clinical effectiveness, indicated that the use of youth advocates had no significant influence on determining the outcome of youth behaviour; however, the foster family component had the most positive impact on treatment outcomes after discharge, and had "considerably more success" than the Residential Treatment Centre comparison group (Hudson & Galaway, 1989).

There have been a few studies that have utilized a comparison group to examine the restrictiveness of post-placement settings.

Campbell and Heinrich (1993) compared a group of children placed in the APH program to children placed in Macdonald Youth Services' Residential Care Program. Their findings

suggest that children placed in TFC were discharged to less restrictive and less costly placements both at the time of immediate discharge and when placements were tracked for these children over time.

This finding compares favourably to those found by Hughes (1992) who also compared restrictiveness and cost of discharge settings for clients placed in TFC with clients placed in Residential Care. He too found TFC to be more cost effective than Residential Care and that children who had been placed in TFC went to significantly less restrictive placements and remained in less restrictive placements over a one-year period.

The studies described above provide a foundation on which to base evaluation and research efforts by describing the kinds of youth generally served in TFC and by providing suggestive measures of success through examination of discharge data. However, overall, these studies are limited in their ability to support the efficacy of the TFC model. They provide limited examination of outcomes and do not offer control group comparisons that would give meaning to single program results, or provide comparisons between other treatment settings and the TFC model.

Gabor and Charles (1993) assert that a higher level of evaluation activity is required. They propose four general

criteria as guidelines to be used in evaluation activities. These guidelines are: the use of minimally, a one-group pre-test / posttest; indicators of success that are outcome oriented; outcomes that can be recorded at the end of placement; and standardized measures to gather outcome data (p.15).

Outcome evaluations that follow these guidelines are rare in the TFC literature. However, there is a small, but significant, body of research and program evaluation work that has begun to develop. These studies will now be reviewed.

The Alberta Parent Counsellors program was established in 1974 and their research efforts assessed 72 youth placed in the program over a period of approximately one and one-half years (Larson & Allison, 1977). In addition to formative assessment measures, Parent Counsellors, using a quasi-experimental design, attempted to measure youth progress on several treatment dimensions, both for youth who had not yet been discharged from the program and for youth who had been discharged from the program at the time of the research. Data collection methods used to determine changes in the adolescents before and after treatment included interviews with treatment parents and youth, questionnaires completed by social workers regarding children's progress, examination of case records about youth progress and the use of standardized measures that included the Tennessee Self-Concept Scale, the Piers-Harris

Self-Concept Scale, the Jesness Inventory and the Jesness Behavior Checklist. Significant improvement for the youth still in the program was reported in pre/posttest scores measuring self-concept and these children made progress with respect to more than half of the problem behaviours that were identified in their treatment plans. No significant differences were found between posttest scores for the discharged youth. Sixteen of the 25 children discharged went to less restrictive settings and, after nine months, all but one of the youth discharged remained out of institutional care. As well, the Parent Counsellors Program found that children with no history of prior placements made more significant positive changes than those with multiple placements.

The Alberta results were used for comparison purposes in a study of 33 youth discharged from People Places' TFC program in 1976. Snodgrass and Campbell (1981), in this study, examined restrictiveness of post-discharge settings, attainment and maintenance of treatment goals, educational status, new involvement with public agencies and consumer satisfaction with the program's services. With the exception of five children, all remained in less restrictive settings seven months after discharge. On all other measures of success at, and following discharge, outcomes of 75% or better were reported. People Places also found that younger children were

more successful at achieving treatment goals.

The Maryland Department of Human Resources (1987) attempted to evaluate improvement in children's functioning in TFC by administering the Achenbach Child Behaviour Checklist, the Functional Status Index, and other instruments at the time of placement and again six months after placement. Their results indicated that behavioural problems decreased in almost all categories of youth in TFC while increased behaviour problems were found in a control group composed of children referred to TFC but not placed (Maryland Department of Human Resources, 1987).

The Parent Therapist Program in Colorado evaluated their program on several aspects: the feasibility of maintaining the program over the long term; comparative costs of the program with residential treatment centers and the program's effectiveness as a treatment modality. The effectiveness of treatment was determined by comparing the outcome for children, six to twelve years old, in their TFC program with those in two residential treatment centers, using a number of clinical measures. Assessments were made of the improvement of each child's intellectual functioning, academic performance, and symptoms based on a number of psychosocial and educational measures (such as the Wechsler Intelligence Scale for Children, the Wide Range Achievement Test, the Gilmore

Oral Reading Test, and the Quay-Peterson Behavior Checklist) and on pre and post-treatment clinical judgments. Preliminary analysis of comparative outcomes revealed that both TFC and Residential Treatment approaches resulted in significant improvement in the severity of behaviour problems. However, the children treated in the Parent Therapist Program did not make improvements that were significantly greater than those in Residential Treatment centers (Rubenstein, Armentrout, Levin & Herald, 1978).

Hawkins, Almeida and Samet (1989) compared the PRYDE TFC program with several other types of placements serving troubled youth (i.e. residential treatment centers, specialized foster care programs, group homes, intensive treatment units and potential homes). The groups in these placements were found to be generally comparable, allowing for a comparison of outcomes across a range of treatment environments. Using the Restrictiveness of Living Environments Scale (ROLES) (Hawkins, Almeida, Rabry & Reitz, 1990), adolescents were compared on several post-discharge outcomes: restrictiveness of discharge placement, the percentage of time in further out-of-home placements and the length and cost of the treatment program.

Results indicated that, on average, PRYDE discharged youth to less restrictive settings than the other target

programs and discharged the highest proportion of children to their own homes, adoptive homes, or independent living. These results suggest that many youth who could be served in TFC are placed in more restrictive settings.

A systematic comparative study of specialized foster family and residential child care practices was carried out by M. J. Colton (1990) in Great Britain. TFC homes and residential settings were compared along four dimensions of care practice: the management of daily events, children's community contacts, the provision of physical amenities and the controls and sanctions used by foster parents and residential staff in relation to children. The findings indicate that, overall, treatment foster families were found to be significantly more child-oriented than the residential homes on each dimension of care practice.

The Kent Family Placement Project, a foster family-based program established in Kent, England in 1975, instituted a series of three evaluation studies. This research aimed to demonstrate that disturbed youth could be maintained in families as an alternative to custody or residential care.

The first study was conducted by M. Yellowly (1979) on 25 children placed in the program during the first two years of its existence, with the aim to discover the amount of change occurring in children placed in the program relative to specified

behavioural problems described in referral reports. Data collected by means of interviews found that sixty-four percent of the placements were completed as planned and 76% of the youth were considered to have clearly benefited during the period of placement.

The second evaluation, reported by N. Hazel (1989) and carried out by the project social work team in 1979, studied 156 youth over a four-year period. Again, the aim was to evaluate progress relating to the problems defined at the onset of placement. Children's progress was assessed by the social work team at the conclusion of placement, using a five-point scale covering good progress, fair progress, no change, somewhat worse than at the time of placement, and disastrous. The two highest assessments together described the outcome of 71% of the youth placements.

The third evaluation reported on the Kent Project (Smith, 1986), examined the extent to which 92 placements ended in breakdown ("breakdown" being all unplanned discharges), and looked at contacts maintained by youth with their biological parents while in care. The evaluation found that 64% of these placements did not end in breakdown; thus, the overall breakdown rate was 36%, and if transfers were not included, the breakdown rate was 28%. Moreover, the breakdown rate was 20% if both false starts and transfers were excluded. As

well, 35% of youth placed were found to maintain frequent and regular contact with their biological parents.

Chamberlain (1988, 1990) reported two studies regarding the Oregon Social Learning Center's (O.S.L.C.) TFC programs which targeted chronic delinquent and severely emotionally disturbed youth selected from two psychiatric hospitals.

In the first study, 16 youth placed in the O.S.L.C. TFC program were matched post hoc, on age, sex and date of commitment to the state training school, with youth in the system who were provided with other community placements (e.g. residential treatment centers). The results showed that a higher proportion of youth in the experimental group completed their six-month placements rather than being revoked to the institution, or running away. Over a one-year period, the average amount of time spent in community placements was higher in the TFC group than in the control group.

The second study matched 20 severely disturbed youth, all of whom had been hospitalized, on demographic and diagnostic variables and then randomly assigned ten of these youth to an O.S.L.C. TFC program, with ten going to other community placements typically utilized as post-hospital placements. Both groups were followed for one year after placement. The average time from referral to placement was less for the experimental group than the control group (81.7 days as

compared to 181.6 days). All subjects in the experimental group were placed in family settings whereas in the control group, four were placed in family settings and three remained in hospital. Once placement in the community was made, the average number of days the youth placed in TFC were maintained in placement was slightly greater than the comparison group, indicating that the use of TFC has good potential as a treatment model even for the most distressed groups of children (Chamberlain, 1988).

The study also examined social functioning of both groups using a variety of instruments. The Family Interaction Coding System was used to examine ongoing family interactions. As well, a Total Aversive Behavior (TAB) measure and a Parent Daily Report (PDR) comprised of problem behaviour categories, assessed treatment outcomes for children placed in the program. None of the subjects approached the normal range of functioning on the measures during the period of study, however, the experimental group demonstrated decreases in their rates of deviant behaviour.

Mountain Places Community Services in Alberta conducted a program evaluation of their two TFC resources (Meade, 1991). Using a quasi-experimental, pre/posttest design, they examined behavioural and psychosocial gains made by their clients, at regular intervals, over a one-year time period. Utilizing

standardized measures such as the Hudson's Index of Self Esteem, and the Achenbach Child Behavior Checklist, Mountain Plains reported positive changes in self-esteem, problematic behaviour and competencies in their client population. Additionally, the program was effective in terms of increasing clients' social support network, school attendance and school performance.

Osmond (1992) conducted an evaluation study of the TFC programs administered by the Children's Aid Society of Durham, Kawartha-Haliburton, and Northumberland, Ontario. The evaluation compared client characteristics of children in group care to children in TFC, respectively. They found that children in TFC exhibited more severe presenting problems than children placed in group care. The evaluation also examined cost effectiveness, program effectiveness and treatment home satisfaction. Clinical effectiveness was measured using an "Achenbach-like" outcome questionnaire and the Ontario Child Health Study Parent and Youth Self-Report Forms. Each measure offered a three-point differential on questions of child functioning in many dimensions, as observed by the caregiver or the child. Results indicated that there were no significant changes in functioning between pre and posttest scores. When composite data was broken down, it was found that boys in the program made improvements in the statistically significant

range, while girls were more likely to stay the same or even deteriorate.

As mentioned earlier, the APH evaluation (Campbell & Heinrich, 1993) looked at discharge outcomes and also examined program effectiveness defined in terms of clinical outcomes. Using the Achenbach Child Behavior Checklist and the Piers-Harris Self-Concept Scale Measure to record clinical effectiveness over a six month period, their findings suggest that children placed in the program experienced a statistically significant increase in positive self-concept. However, with the exception of improvements in social competence experienced by the girls in the sample, the children remained in the borderline clinical range of the Child Behavior Checklist.

This literature review has focused primarily on describing the research studies and program evaluations that examined TFC outcomes, as opposed to those conducted on training and support for treatment foster parents, payment levels, and so forth.

Apart from the descriptive studies, this literature review included 16 evaluation research studies of TFC. These studies represent most of the known research efforts in this area.

Four of the evaluation studies were done in England (Colton, 1988; Smith, 1986; Hazel, 1981; Yellowby, 1979); six were conducted in the United States (Chamberlain, 1988, 1990;

Almeida, Hawkes, Meadowcroft & Luster, 1989; Maryland TFC Evaluation, 1987; Selby, 1985; Snodgrass & Campbell, 1981; Rubenstein, Armentrout, Levin & Herald, 1978); and six were done in Canada (Campbell & Heinrich, 1993; Hughes, 1992; Oswald, 1992; Thomlison, 1992; Meade, 1991; Larson and Allison, 1977).

These evaluation studies have generally defined effectiveness in TFC in terms of the restrictiveness of settings to which children are discharged and improvements made by children in the areas of psychosocial functioning and changes in behaviours. Much of the evaluation of the effectiveness of TFC has relied on post placement information. Thirteen of the 15 studies reviewed, included as part of their study, an examination of discharge settings (Campbell & Heinrich, 1993; Hughes, 1992; Oswald, 1992; Thomlison, 1992; Mountain Plains, 1991; Chamberlain, 1988 & 1990; Almeida et al, 1989; Maryland TFC, 1987; Smith, 1986; Selby, 1985; Hazel, 1981; Snodgrass & Campbell, 1981; Larson & Allison, 1977). Only three of these studies utilized comparison groups (Campbell & Heinrich, 1993; Hughes, 1992; Chamberlain, 1988, 1990).

Of the outcome studies aimed at demonstrating clinical effectiveness, only three utilized comparison or control groups (Chamberlain, 1988, 1990; Colton, 1988; Rubenstein et al, 1978). These studies used a variety of comparison treatment

programs including residential treatment centers, group homes, alternative forms of specialized foster care, and treatment as usual in the community. The remaining eight studies reviewed, involved no control or comparison groups (Campbell & Heinrich, 1993; Oswald, 1992; Meade, 1991; Maryland TFC Evaluation, 1987; Smith, 1986; Hazel, 1981; Yellowby, 1979; Larson & Allison, 1977).

Only one study (Chamberlain, 1988, 1990) utilized an experimental design. Three involved a posttest only measure (Smith, 1986; Hazel, 1981; Yellowby, 1979) and seven utilized repeated measures: pre-test, during, and posttest (Campbell & Heinrich, 1993; Oswald, 1992; Meade, 1991; Colton, 1988; Maryland, 1987; Rubenstein et al, 1989; Larson & Allison, 1977).

Standardized measures were used in six of the studies and the remainder utilized a variety of non-standardized measures, interviews, and file recordings to examine behavioural and psychosocial changes in youth.

Based on a review of the literature, comparative research utilizing experimental, quasi-experimental methods and standardized measures to examine effectiveness is generally lacking in the field of TFC. This study was designed as an attempt to begin to bridge this gap and contribute to knowledge regarding the efficacy of TFC.

The next chapter describes the questions arising from the literature review and outlines the hypotheses that guide this research. As well, the methodology that was used in the study is discussed.

CHAPTER III

METHODOLOGY

As identified in the literature review, there are few research studies that have evaluated the efficacy of TFC, and even fewer that have compared TFC with Residential Care programs.

The purpose of this evaluation research study was to examine the effectiveness of TFC in relation to several outcome variables: restrictiveness of discharge settings; self-concept; problematic behaviour and competency. As well, a comparison group of youth placed in Residential Care was utilized to explore the effects of the two program modalities regarding these outcome variables. The two programs included in this study were Macdonald Youth Services Alternative Parent Home Program (APH) and Residential Care Program (RCP). The study aimed to address whether TFC is effective and whether this kind of programming is a viable alternative to Residential Care.

Research Questions and Hypotheses

Questions having some support in the literature which were identified as important to this study are as follows:

1. Is the APH client population being discharged to settings that are less restrictive than TFC services?

As reported earlier in the literature review, a large number of programs use discharge data to determine program success. In a survey conducted by Snodgrass and Bryant (1989), an average of 77% of the children served in TFC were discharged to less restrictive settings. Stroul's (1986) review of 14 TFC programs found a range of 62% to 89% of youth leaving their programs for less restrictive settings. Jones (1989) suggests that programs might anticipate an approximate rate of successful discharges at 75%. This leads to the following hypothesis:

(1) Seventy-five percent of the total APH population will be discharged to settings less restrictive than TFC.

2. Does the client population in APH show a significant improvement in problematic behaviour, competency, and self-concept following a six-month period of placement in the program?

A number of studies suggest that youth placed in TFC will improve significantly in regard to psychosocial functioning and problematic behaviour (Campbell & Heinrich, 1993; Oswald,

1992; Meade, 1991; Colton, 1990; Hazel, 1989; Maryland Department of Human Resources, 1987; Larson & Allison, 1977).

This leads to the following hypothesis:

(2) Problematic behaviour will decrease in the APH sample population and competency will increase after a six month period of placement in the program.

(3) The sample population in APH will display an increase in self-concept after a six month period of placement in the program.

3. How does the client population placed in APH compare to the client population in Residential Care on the outcome variable of restrictiveness of living settings after discharge?

The extent to which these children enter less restrictive settings is considered a benchmark of a program's success. On this variable, TFC is expected to produce a less restrictive placement outcome following discharge. Campbell and Heinrich (1993) and Hughes (1992) found that children leaving TFC have significantly less restrictive placement outcomes than children receiving Residential Care and that the TFC population

continued to reside in less restrictive settings one year post-discharge. This leads to Hypothesis 4:

(4) The post-discharge restrictiveness of living settings for APH clients will be lower than for RCP clients.

When setting the levels of significance for this research evaluation study, a judgment was made to set the criterion level for hypothesized relationships at .05 and the relationships for the exploratory questions at a .10 level of significance. The lack of evaluation research comparing alternative treatment modalities to TFC and the documented benefits of TFC suggest that a less strict criterion of significance be set for the exploratory relationships to reduce the possibility of making a Type II error; that is, failing to detect a real program effect.

Additionally, there were two questions examined in this study at the exploratory level. These are:

4. Are there differences between the changes observed in the APH and RCP sample populations on the outcome variables of problematic behaviour, competency and self-concept reported over a six month period?
5. Do age and gender differences in the APH population affect the general differences noted between the APH and

the RCP sample populations?

The Research Design

The research design selected to address the hypotheses and research questions posed regarding the efficacy of a TFC model, was a quasi-experimental design utilizing a non-equivalent comparison group. A sample population served in a Residential Care setting was compared to a sample population in TFC on several outcome variables: problematic behaviour and competency; self-concept; and restrictiveness of discharge settings.

A quasi-experimental design was selected in this study, as it was not possible to assign clients randomly to each program, nor was it possible to control all of the relevant variables (Isaac and Michael, 1985). Whenever possible, the use of randomized experiments is preferable. However, when this kind of design cannot be implemented, the quasi-experimental design provides the most plausible estimate of net effects. Quasi-experimental designs with statistical controls and comparison groups such as the design implemented in this study, can be used with considerable confidence (Rossi & Freeman, 1989).

Because few studies have contrasted TFC with Residential

Care programs, a comparative study of these options has several advantages. TFC is considered to be an alternative to Residential Care and this design allowed for comparison of client characteristics, comparisons of client progress related to several treatment outcomes, and comparisons of discharge settings between children placed in TFC and those placed in Residential settings. The data were then used to draw conclusions regarding the effectiveness of the two treatment programs, as well as to address the question of whether TFC is a viable alternative to Residential Care.

The Setting

The independent variables are the treatment programs that will be used for comparison in this study: the APH program and the RCP program. The selection of these programs for study was influenced by a number of factors. Both programs were administered by the same agency and this was an advantage in comparing programs. Close geographical proximity allowed for easier access to comparison group populations. In general, a similar treatment philosophy and similar administrative practices are utilized by staff in both programs, potentially reducing the number of significant intervening variables. In addition, as the program coordinator of the TFC program, this writer had

familiarity with and access to both programs.

Another factor determining the selection of these programs arose from Macdonald Youth Services' (MYS) desire to evaluate their treatment programs. MYS received funding through the Winnipeg Foundation to conduct a program evaluation. As a result, in February of 1992, Campbell and Heinrich Research Associates (CHRA) were retained to conduct a clinical and program evaluation of the APH program, both as a means of improving the quality of its TFC services and as a vehicle to respond to the proposed restructuring of foster care services in Manitoba. The research evaluation study presented here was done in collaboration with CHRA. The samples that they utilized to examine the clinical effectiveness of the APH program included a number of the same subjects that were included in the samples examined in this research study. Therefore, Campbell and Heinrich's results will be cited throughout this report, to both augment and serve as a base for comparison for the findings in this study. The characteristics of the APH and RCP will now be described.

The Programs

Treatment Foster Care Program

The APH program characteristics are similar to those that

describe other TFC programs. The program's target population consists of severely emotionally disturbed children, male or female, aged 16 to 18 years, that are classified at a Level IV. Many of these children were also referred to Residential resources at the time of their referral to APH. The Alternative Home parents are selected based on their skills, experience and motivation to handle the challenge posed by severely disturbed children. APH parents are viewed as co-professionals on the treatment team and as such are active participants in the process of selecting children to be placed in their home, preplacement planning, designing treatment plans and goals, and assessing childrens' progress (APH Program Description, 1992). The program offers an alternative to residential care through the development and implementation of individualized treatment plan designed by a treatment team. The goals of the program are: to improve child and adolescent functioning; to maximize APH parents' ability to care for and teach the target population; and, to successfully discharge children to less restrictive settings.

The objectives of the program are to improve self-concept; to reduce aggressive and/or self-destructive behaviour; to increase the ability of the target population to express an appropriate range and degree of emotion; to increase target population's ability to establish and maintain personal

relationships; to improve or maintain client's involvement in educational or work programs; to increase parents' knowledge and skill level related to child and adolescent functioning; to increase parents' knowledge and skill level in special needs areas relevant to the target population; and, to increase parents' ability to provide and access support to/from other APH foster parents.

The APH parents are viewed as co-professionals and are integral members of the treatment team. As such, they are active participants in the process of selecting children for their home, designing treatment plans and goals, and assessing progress. Payment of Alternative Parents reflects their status as professional parents and therefore they are paid at a rate significantly higher than that of regular foster parents. Intensive support services are provided by APH staff through a combination of frequent contact with parents, made possible by small caseloads; 24 hour crisis intervention available through a pager; regular parent support meetings; ongoing clinical consultation; respite and youth care support; and ongoing training.

Residential Care Program

The RCP target population consists of emotionally disturbed youth between 12 to 18 years. The goals of the

program are as follows:

1. To help stabilize the resident's behaviour and teach more functional, socially acceptable behaviours;
2. To assess the resident's functional ability and through treatment planning, identify and address areas of deficit;
3. To assist the resident to gain insight into his dysfunctional behaviours and attitudes and work towards learning new behaviours and coping skills;
4. To enhance the resident's self-image;
5. To improve the resident's ability to interact positively with others and form healthy, lasting relationships;
6. To upgrade the resident's educational level and/or to teach good work habits and skills; and
7. To help the resident improve his functioning within his family and to strengthen family relationships where appropriate.

In the RCP, the emphasis is placed on the residents' ability to develop lifeskills and the responsibility required to take control over the direction of their lives. Extensive use is made of community resources to keep youth involved in the mainstream of community life.

Hawkins et al (1989) suggest that TFC and Residential Care centers have both similarities and differences. This appears to be true of APH and RCP as well. Macdonald Youth

Services' programming operates from a Family Systems and development perspective, and treatment intervention in both programs are designed within this framework. There are similarities in treatment objectives relating to client functioning in both programs. For example, improvement of self-concept, improvement of educational and/or work habits, a focus on changing dysfunctional behaviours and enhancement of relationship skills are mentioned as objectives in both programs.

APH and RCP programming develop individualized treatment plans, applied 24 hours per day. These treatment interventions are, for the most part, carried out by the RCP Youth Care Workers and APH parents, who are not credentialed mental health professionals. Differences arise in that the treatment in APH is delivered in a family setting; only one to four clients live in a home and treatment is more personalized and consistent than RCP because the treatment parents are constant throughout the duration of placement.

The Residential Care program and the TFC program in this study share a similar referral base. Referrals to both programs are made by Child and Family Service Agencies throughout Manitoba and from out of province as well. At any given time, a number of the same children may be referred to both programs simultaneously.

Resources for disturbed adolescents in Manitoba are scarce

and often children are referred to a particular program because there is an opening, not because that resource best meets the child's needs.

The target population in the RCP and APH programs differ in terms of age and gender; however, the selection criteria is the same for both programs in that all children and youth placed in the RCP and APH are categorized as meeting the criteria for Level IV placement and funding.

In Manitoba, Residential Care resources are categorized through a level of care system. This system indicates the level of a child's need and the care provided by the facility (Residential Care Licensing Manual, 1990). The levels of difficulty of children's problems range from Level I to Level V, with Level V children exhibiting the most severe disturbance. Although the APH program is not prohibited from accepting children who are categorized at a lower level, placing agencies cannot access additional funding for these children and as a result target Level IV children for placement in the APH program. With both programs targeting Level IV children for placement, this suggests that these populations may have similar presenting problems at intake. This is not unusual in that a review of TFC literature suggests that TFC and Residential Care populations are similar in both demographic and behavioural characteristics (Fabry, Breis, Fixen & Blase, 1983;

Breir et al, 1984; Bryant, 1984).

Program size differs between the two programs. The number of clients in APH is slightly higher. The maximum population in Residential Care is 26 clients; the average population in APH at the time of study was 35 clients.

Instrumentation

This evaluation research study involved several design components, each of which addressed specific research objectives, as outlined by the hypotheses. This section of the report describes the methodology that was employed in more detail.

Three dependent variables, as outlined earlier, were identified for study to examine the effectiveness of TFC. These were restrictiveness of discharge settings; self-concept; problematic behaviour and social competency. It is relevant to examine these outcome variables as aggressiveness, school and peer problems, as well as poor self-concept have been identified as the most commonly reported pre-referral problems of children in TFC (Jones, 1989). Restrictiveness of living environments, after discharge, has been another outcome indicator used extensively by TFC programs to measure effectiveness. As well, these outcome variables are linked to APH program

objectives.

Measurement of Dependent Variables

Restrictiveness of Discharge Setting. To assess the extent to which children placed in TFC are discharged to less restrictive environments, the following research design components were implemented:

1. Data collected for the APH Program Evaluation by Campbell and Heinrich Research Associates and this writer, targeting all children discharged from APH from April 1, 1990 to March 31, 1991 was utilized to determine the percentage of APH children who were discharged to less restrictive settings.
2. Discharge data was collected jointly by Campbell and Heinrich Research Associates and this center, for all clients discharged from RCP between April 1, 1990 to March 31, 1991. The average Children's Restrictiveness of Living Environment (CRLE) rating for this sample and the APH sample was compared to determine which population had been discharged to less restrictive settings.

Placement outcome, one of the dependent variables in this research study, was operationalized by using the Children's Restrictiveness of Living Environments Instrument (Thomlison &

Krysiak, 1992) (CRLE). The development of this scale drew on Hawkins, Almeida, Fabry and Reitz's (1990) earlier discussions of the variable of restrictiveness and the rating instrument that they developed, the Restrictiveness of Living Environments Scale (ROLES).

The CRLE instrument ranked 34 children's living environments for their degree of restrictiveness. Mean restrictiveness scores were determined by averaging the scores for the number of placements a child has occupied. The change in the level of restrictiveness a child has experienced is measured on a seven-point category partition scale from not very restrictive to very restrictive. For example, the CRLE instrument assigns a value of 1.51 for a self-maintained residence, up to 6.58 for a secure treatment facility. In this way, a value can be given to the level of restrictiveness of the environment where a child resides. The CRLE instrument was developed in Alberta. In order to increase the applicability of this instrument to the Manitoba Child Welfare arena, the instrument was modified to include those placement alternatives that are unique to Manitoba. These additional placements and their rankings were determined based on consultation with child welfare professionals and inserted into the scale, as appropriate. The modifications made to the CRLE instrument were slight, and should have little impact on the psychometric properties of the

instrument. The additional placement resources and their mean level of restrictiveness, that were added to the instrument were as follows: Four-Bed Receiving Unit (3.52); Special Rate Foster Home (3.57); Receiving Group Home (3.62); Long Term Group Home / Residential Care Level III (3.67); Long Term Group Home / Residential Care Level IV (3.67); Long Term Group Home / Residential Care Level V (3.76); YOA Open Custody Home (4.52); Secure Youth Emergency Shelter (5.45) (see Appendix A).

The CRLE instrument also outlines a procedure for measuring the costs associated with a setting by calculating the number of days in placement and multiplying by the corresponding per diem cost.

Reliability. Comparison of this scale with ROLES suggests that the distribution of environments follow a similar pattern. Correlation coefficients between two independent measurements of expert opinions produced a level of reliability significant at the .05 level of probability for a two-tailed test on all living environment values. Test-retest reliabilities indicated the existence of a reliable and consistent opinion of restrictiveness (Thomlison & Krysik, 1992).

Validity. Content validity was established utilizing an expert panel approach, who contributed to the description of the concept of restrictiveness and who generated a list of

living environments. To maximize content validity, these experts provided comments regarding the administration process, the inclusiveness and clarity of the living environment values, the aesthetic quality and other comments related to the task of rating restrictiveness. Revisions were made to the instrument and then a 7-point category partition scale was used to rate the degree of restrictiveness of each variable value. Finally, the scale was pilot tested (Thomlison and Krysik, 1992).

The CRLE instrument was chosen for use in this study for a number of reasons. As discussed, it provides a method of rating restrictiveness of children's living environments that is easy to administer and interpret. The measure demonstrates content validity and reliability, and allows for the application of statistical techniques that ROLES does not. The CRLE has also been used effectively in several other studies as a measure of program outcome (Campbell & Heinrich, 1993; Hughes, 1992).

Self-Concept and Problematic Behaviour. To assess the extent to which children's psychosocial functioning and problematic behaviour improved while placed in TFC, this research study implemented the following components:

1. All of the children placed in the APH and RCP programs from January 1, 1992 to August 31, 1992, were targeted for inclusion in the study;

2. Background information was collected regarding those children from MYS files, including age, sex, presenting problems, length of time in the program and racial origin to determine if the samples were comparable on key variables;
3. A pre-test/posttest comparison of the APH and RCP samples was conducted, utilizing standardized clinical measures;
4. The APH and the RCP samples were compared, controlling for age and gender, to ascertain whether there are general differences in the findings which are affected by the inclusion of eight to 11 year olds and female clients in the APH sample.
5. Client progress in APH was measured using pre-test results in the comparison study as a baseline to track changes in self-concept and problematic behaviour after six months of placement in APH.

It should be noted that the APH sample used in this study, was similar to the sample used by Campbell and Heinrich (1993) in their evaluation of the APH Program. Their study targeted for inclusion APH clients who were placed in the program as of April, 1992. Therefore, many of the clients in their sample were included in this study, which began in January, 1993. Campbell and Heinrich used the pre and

posttest data collected by the writer to examine clinical outcomes in their sample, and added to this by collecting data using the Achenbach Child Behavior Checklist and the Piers-Harris Self Concept Measure on those clients placed after January 1, 1993.

This writer used the background information collected by the APH evaluators regarding their sample to examine demographic variables, and augmented this with data collected from Macdonald Youth Services' files regarding clients not included in their sample.

In this study, self-concept, problematic behaviour and competency were operationalized by using two standardized clinical measures: the Piers-Harris Self-Concept Measure (PHSCM) (Piers and Harris, 1964) and the Achenbach Child Behaviour Checklist (ACBCL) (Achenbach, 1978). The rationale for choosing these measures and their utility will be discussed in the following section.

TFC programs have utilized a variety of clinical measures to track improvements in psychosocial functioning and problematic behaviours. The Alberta Parent Counsellors Program (Larson et al, 1978) assessed children's functioning in social, emotional, academic, and behavioural areas, before and after treatment, based on the Tennessee Self-Concept Scale, the Piers-Harris Self-Concept Scale, the Jesness Inventory, and the

Jesness Behaviour Checklist. The Maryland Department of Human Resources TFC program utilized the Achenbach Child Behavior Checklist and the Functional Status Index to assess children's levels of functioning on intake and six months after placement. The PRYDE program also utilized the Achenbach Child Behavior Checklist to track improvements in problematic behaviour. Meade (1991) used the Achenbach CBCL as well. Levin et al (1976) used the Wechsler Intelligence Scale for Children, the Wide Range Achievement Test, the Gilmore Oral Reading Test, and the Quay-Peterson Behavior Checklist to compare the outcomes for children in TFC and Residential Care.

The PHSCM was used to examine the degree of change in self-concept over time. The scale is a brief, self-report measure for school-aged children (8 - 18 years) and is based on a model in which the self is considered to be unidimensional.

The measure is completed by the child, who responds to the questionnaire, "The Way I Feel About Myself", by circling "yes" or "no" after each item. This 80-item scale provides a total self-concept rating, as well as six cluster scales to aid in the interpretation of the scale. The cluster scales are organized into a number of key areas: Behaviour, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity and Happiness and Satisfaction. Numerous investigations of the reliability and validity of the PHSCM

support the use of the overall self-concept score for research and clinical purposes (Witt, Heffer & Pfeiffer, 1990). Although both the total score and individual cluster scores are available for analysis, only the total score was used in this research study to examine change over time. According to the Piers-Harris manual, "the single most reliable measure for the Piers-Harris, and the one with the best research support, is the total score." (Piers, 1984, p. 37)

Reliability. A number of studies have investigated the test-retest reliability of PHSCM (Piers, 1984). Reliability coefficients ranged from .42 to .96 after administration of the scale to both normal and special populations. The median test-retest reliability was .73, lending support for the high reliability of this instrument. As well, reliability estimates for the total score ranged from .88 to .93. These results indicate that the PHSCM is a highly reliable measurement device.

Validity. Estimates of content, criterion-related and construct validity of the PHSCM have been obtained from a number of studies.

The validity of the PHSCM has been assessed by relating teacher and peer ratings of individuals to scale scores. In several studies, it was found that peer ratings were consistently related to the Piers-Harris, although results from teacher ratings were less conclusive (Piers, 1984).

The PHSCM has also been found to be significantly correlated with the Coppersmith Self Esteem Inventory, a measure that resembles the Piers-Harris in format and age range. As well, the PHSCM was found to be positively related to the Personal Attribute Inventory, the Lipsett's Children's Self-Concept Scale and the Tennessee Self-Concept Scale (Piers, 1984).

The PHSCM has also discriminated between age, racial, and clinical groups in numerous studies (Witt, Heffer & Pfeiffer, 1990).

Several factors contributed to the decision to use the PHSCM in this research study. As noted earlier, numerous investigations of the PHSCM support the use of the overall self-concept scale for research and clinical purposes. The Piers-Harris is a self-rating instrument, and as such, provided a measure that indicates how an important consumer of TFC service, the child, views the way he/she feels about him/herself.

The ACBCL was designed to record, in a standardized format, the behavioural competencies of children aged four to 18.

The ACBCL is filled out by the child's parent or caregiver and is comprised of 188 behaviour problem items. The items are used to define a series of behaviour problem scales, which

vary according to the age and sex of the child. The behaviour problem scales in all age/sex groups are clustered into narrow groupings: schizophrenic or anxiety, depression, uncommunicative behaviour, obsessive-compulsive behaviour, somatic complaints, social withdrawal, hyperactivity, aggression, delinquency, cruelty, sex problems, and hostile withdrawal. These behaviour problem scales are then clustered by Achenbach into two broad groups: the internalizing factors and the externalizing factors.

The internalizing dimension refers to fearful, inhibitive and over-controlled behaviour, while the externalizing dimension refers to aggressive, anti-social and under-controlled behaviour. Three additional scales which address the construct of social competence are used to provide a balance to the problem oriented behaviour items. The 20 social competence items obtain caregivers' reports of the amount and quality of the child's participation in activities, peer relationships, how the child works and plays by him/herself and school functioning (Achenbach, 1983). The scores on these three scales yield a total competence score which can be compared with normative data. The scoring of the behaviour profile is based on calculating raw scores and standardized T-scores for each scale. The T-scores permit comparisons with a normal sample across three different age groupings (ages 4 - 5, 6 - 11, and

12 - 16) by gender.

Reliability. The test-retest reliability of the ACBCL was determined by asking the mothers of normal children to respond to the scale twice, with an interval of one week between their responses. The test's authors reported test-retest reliability coefficients for the narrow-band factors (Obsessive-Compulsive) ranged from .61 to .96 (Hyperactive) with a median 1-week test-retest reliability coefficient of .81. The broad-band factors had 1-week stability coefficients of .82 for Internalizing and .91 for Externalizing. Reliability coefficients for the total scales are in the low .90's. This indicates satisfactory stability in scores obtained from the mothers' reports when their children's behaviour is presumably not significantly changing (Achenbach, 1990).

Validity. The validity of the ACBCL has been examined by relating the scale to other behaviour checklists such as the Conners Parent Rating Scale (Conners, 1973) and the Revised Behaviour Problem Checklist (Quay and Peterson, 1983). The resulting correlations were adequate to demonstrate the validity of the instrument as a tool for assessing child behaviour. The ACBCL is also able to discriminate between clinical and non-clinical children (Achenbach, 1990). As well, the ACBCL has been found to be beneficial in identifying behaviour problems of children in the child welfare system (Hornick,

Phillips & Kerr, 1989).

The ACBCL was chosen for use in this study, in part because of the positive endorsement the instrument has received for its empirical approach to the measurement of childhood behaviour problems. As well, the ACBCL is able to measure a number of behaviours exhibited by a TFC population. This measure can be completed by caregivers, and serves as a balance to the PHSCM, which has a self-report format.

Demographic Variables

Data was gathered regarding a number of demographic variables as a means of providing descriptive information on the characteristics of the sample populations and to allow for comparison between these groups. These demographic variables are:

Age. Age of the child in APH and RCP, both at the date of placement in the program and at the time the clinical measures were administered as a pre-test. Age was entered in years.

Gender. Female or male.

Ethnicity. Caucasian, Native or Other.

Length of Time in Program. Less than Six Months, Six Months and Over.

Child Welfare Status. Under Apprehension, Temporary

Ward, Permanent Ward, Voluntary Placement Agreement, Other.
Presenting Problems. Separation/Attachment, Low
Self-Esteem, Sexual Abuse History, Physical Abuse History,
History of Neglect, Ritual Abuse, Developmentally/ Cognitively
Delayed, Behaviour Problems, Sex Offending, School/Academic
Problems, Multiple Placements, Personal Hygiene Problems,
Problems With Peer Relationships, Cultural Identity Problems.

Data Collection Procedures

Data Collection

Data was collected from two distinct sample populations.

SAMPLE 1:

Data collected from the first sample aimed at gathering information regarding clients' psychosocial functioning and problematic behaviours in APH and RCP. The first sample targeted for inclusion all clients placed and/or discharged in the APH and in the four RCP programs during the time period between January 1, 1992 and July 31, 1992. Two standardized measures were administered to this sample: the Achenbach CBCL and the PHSCM.

The Achenbach Child Behaviour Check List was

administered by APH treatment foster home parents and "key" RCP workers, who were providing care for these clients in the two programs. The ACBCL was administered as a pre-test measure between January 1 and January 31, 1992, and again as a posttest measure between July 1, 1992 and August 31, 1992, or at the point where a child was discharged from the program. This writer explained the purpose of the measure and gave instructions on how to complete the measure to APH and RCP caregivers during the pre-test phase. Caregivers understood their participation was voluntary and were provided with an informed consent form (see Appendix B).

The majority of APH caregivers completing the measures did so in the MYS office, with the remainder completing them in their homes. Key RCP staff completed the measures in the residential units.

In all but one case, the same caregivers completed both the pre-test and posttest measures, which may have increased the reliability of rater response.

The Piers-Harris Self-Concept Measure was administered to all clients in APH and RCP, who agreed to complete the measure between January 1, 1992 and January 31, 1992 as a pre-test measure; and again between July 1, 1992 and August 31, 1992 as a posttest measure. If one of the clients was discharged before the posttest date, the measure was administered at that

time.

APH and RCP caregivers were asked to initiate a brief discussion with the clients placed in their homes/units, indicating that MYS and this writer was requesting their participation in a research study, and that their participation was voluntary. Clients were informed that they would be asked to complete a questionnaire designed to assess how they felt about themselves. If the child was willing to cooperate, the APH caregiver accompanied the child to the MYS office where the writer administered the questionnaire. A slightly different procedure was used to administer the PHSCM to the residential group, in that this writer went to the units to administer the measure.

This writer then met with each child to describe in more detail the purpose of the study, the way the information would be used and how to complete the questionnaire. Those clients who chose to participate were provided with an Informed Consent Form (see Appendix C).

SAMPLE 2:

The second sample in this study drew, in part, from data collected by Campbell and Heinrich while completing the APH Program Evaluation (1993). Their sample targeted for inclusion all clients discharged from the APH and RCP programs from

April 1, 1990 to March 31, 1991, as did the sample used in this study. Based on placement tracking information received from the clients' Placing Agencies, Campbell and Heinrich were able to include 11 former APH and 14 former RCP clients in their evaluation sample. This study used the APH evaluation data and also included an additional 15 former APH and 8 former RCP clients who had been discharged during the targeted time period. The CRLE scale was utilized to assess the restrictiveness of living environments that these clients were discharged to. The restrictiveness ratings were then used to determine the percentage of APH children discharged to less restrictive settings.

This study had also originally intended to examine the nature and costs of living environments of 12 APH subjects and 12 RCP subjects (selected randomly from Sample 2) before they had been placed in the programs, and then again after they had been discharged from the APH and RCP. However, after conducting a file audit on this sample, it was discovered that the APH and RCP children's files did not contain adequate pre-placement information to make this comparison possible.

Confidentiality

A letter of consent was sent to the Child and Family

Services Agency worker, who was responsible for case management for the subjects included in the study (Appendix D).

As described earlier, consent forms were signed by all clients and caregivers who participated in the study. Copies of the compiled clinical measures were placed in client files. Any identifiable descriptive and discharge data that was collected is to be destroyed six months after completing the study.

Methodological Limitations

There are several factors which may have affected the validity of the findings in this study. Two types of limitations will be discussed; data collection limitations and limitations relating to the research design.

Measuring Instruments

As described earlier in this study, the measures chosen to evaluate clinical effectiveness and placement outcomes have been proven to be reliable and valid instruments. However, there are several studies reported in the literature using the PHSCM, which suggest that this measure fails to discriminate between maltreated and non-maltreated children in terms of total scores (Elmer, 1977; Kenard, 1980). While the Piers-Harris total self-concept score may not provide a means of establishing that

APH and RCP children's total scores vary significantly from a normative sample, the difference in mean pre-test and posttest scores does distinguish changes in self-concept, over time.

In this study, the clinical effectiveness measures are administered over a six month period. The Achenbach CBCL manual suggests that this is an appropriate interval for reassessment, and other studies (Meade, 1991; Maryland Department of Human Resources, 1987) have successfully used six month intervals or less to examine changes in behaviour. However, it is possible that a six month pre/posttest period is not long enough to measure changes in a sample of children that exhibit a very high level of emotional disturbance. Perhaps clients in APH and RCP require longer than six months for behaviour changes to stabilize and for positive feelings of self to become internalized. Longer periods of time may be required between administrations for the instruments to be able to measure change.

Maturation

Programs that are directed toward changing persons in childhood or adolescence have to cope with the fact that, over time, maturational processes may be producing changes in clients that mimic or mask program effects (Rossi & Freeman, 1985). Problematic behaviours have a tendency to shift with

time and age over the course of a child's development. Children's differing problem histories and maturation levels were not controlled in this study. Therefore, the findings reported in this study may have been as a result of maturational processes rather than treatment.

Testing

The pre-test procedure may have set up expectations that clients and caregivers should respond positively at the posttest period, given that they were aware that progress made would result in a positive program evaluation.

Differential Placement Period

At the time of this study, clients had been placed in the program for varying lengths of time, and in fact, none had been placed for less than six months. Differences in the lengths of placement may have affected the severity of problematic behaviour and the level of self-concept reported in the pre/posttest findings. The findings do not reflect how much change had already taken place prior to the pre-test period.

Mortality

Three of the clients from the APH and RCP samples were

discharged prior to the posttest period. Of these, two were administered the measure at the point of discharge, however one subject was unavailable for testing.

Three clients in the RCP sample population refused to participate after being informed of the study.

Sample Variations

The research design chosen for this study does not require that group equivalency be established between APH and RCP samples, however, the significance of the conclusions drawn from comparisons of these groups in the study, would be enhanced by demonstrating that the samples were similar, particularly in relation to problematic behaviour, self-concept and presenting problems at the time of pre-test. Although the findings were not able to demonstrate statistically significant similarities in all of these areas, the samples were found to be statistically similar at pre-test regarding self-concept total scores, total problem scores and presenting behaviour problems. The only area in which the two groups were not comparable at pre-test was in their total competency scores.

The sample populations differ with respect to age and gender. Small sample sizes made it difficult to interpret, with a high degree of confidence, whether age differences and sex compositions affected the findings. As a means of addressing

the limitations, the samples were compared, controlling for age and gender, to ascertain whether there general differences which are affected by the inclusion of eight to 11 year olds and female clients in the APH sample. The findings indicated that the samples were comparable in terms of self-concept scores at pre-test when controlling for age and gender. However, total problem and total competency scores differed significantly between the two groups when boys, over 12, were compared in both samples.

Specificity of Variables

The findings reported in this study arose from data gathered from two programs only, over a brief period of time. Thus, it is not possible to generalize the results of this study to all TFC programs. The small sample sizes and the lack of specifications regarding the nature of treatment in APH and RCP also limits the generalization of the findings.

While all the methodological limitations described above may be potential threats to the validity of the findings, it could be argued that the most significant of these relates to the differential placement period. Children in both samples had been placed in the programs for various lengths of time, and therefore would have been at various stages in terms of resolving their treatment issues. Had the design been able to

allow for pre-test measurement to be conducted when subjects were first placed and again six months later, this limitation would not have been a factor.

As well, limitations relating to sample variations compromised the findings pertaining to total problematic behaviour and total competency areas.

Summary

A quasi-experimental design, utilizing a non-equivalent comparison group comprised of clients placed in Residential Care, was used to examine the efficacy of TFC regarding several outcome variables: restrictiveness of discharge settings; self-concept; and problematic behaviour.

These variables were operationalized by using the Children's Restrictiveness of Living Environment Instrument, the Piers-Harris Self-Concept Measure, and the Achenbach Child Behaviour Check List to measure client change in these areas.

The next chapter describes the data analyses and presents the findings related to the analyses.

CHAPTER IV

DATA ANALYSIS AND FINDINGS

The purpose of this study was to test four research hypotheses and to answer two exploratory research questions regarding the efficacy of TFC. This chapter presents the results of these analyses.

Findings relating to the restrictiveness of discharge settings are first discussed. Hypotheses 1 and 2 are tested by examining the post-placement outcomes of the children discharged from the APH sample and then by conducting a comparison of post-placement outcomes for the APH and RCP samples.

Findings are then presented related to Hypotheses 3 and 4, which examine the relationship between TFC and the two treatment outcomes of self-concept and problematic behaviour.

Finally, the findings related to the exploratory questions are presented and discussed. These questions look at the differences between the APH and RCP samples in relation to the dependent variables of self-concept and problematic behaviour. Age and gender differences in these sample populations as they relate to general differences in the samples are explored.

Results: Hypotheses Testing Pertaining to Placement Outcomes

Hypotheses 1 and 2 were tested by examining the level of restrictiveness of the placement outcome for the clients placed in TFC and Residential Care immediately following their discharge from these programs.

A lower level of restrictiveness at discharge indicates that a child has made sufficient progress to permit placement in a less therapeutic, less structured environment. Restrictiveness, as well as being an indirect measure of a child's behaviour, is also of importance from a social policy perspective in that Manitoba's Child and Family Services Act mandates that families and children should be served in the least intrusive a manner as possible.

To assess the extent to which children in APH were discharged to less restrictive settings than were children from the RCP sample, a number of research design components were implemented. The children in these samples were compared to one another on a number of variables including age at the time of discharge, gender, and presenting problems. As well, the percentage of children placed in less restrictive environments was calculated for both samples and a mean ROLES score, using a modified version of the Children's Restrictiveness of Living

Environment Scale (CRLE) (Thomlison & Krysik, 1992) was determined for the APH and RCP groups.

The findings regarding each of the demographic variables will now be discussed. Following this, the results of the data collected, using the CRLE, will be presented.

Demographic Variables

Sample Size

A total of 25 former APH clients and 22 former RCP clients were discharged from their programs between April, 1990 to March 31, 1991.

Age

The mean age of the APH sample was 14.92 (sd = 1.9) and the mean age of the RCP sample was 15.16 (sd = 1.5) at the time of discharge, as shown in Table 1.0. These ages were not found to be significantly different ($t = -0.95$, $df = 45$, $p < .05$).

TABLE 1.0

Mean Age of Discharged Children (in years): APH and RCP Samples

PROGRAM	MEAN AGE	s.d.	n	Significance (Two-Tailed)		
				T-Value	df	Significance
APH	14.92	1.9	25	-0.95	45	.05
RCP	15.16	1.5	22			

Gender

The APH sample consisted of 19 (76%) male clients and 6 (24%) female clients. All 22 (100%) of the RCP clients are male; therefore, the samples were not similar with respect to gender. However, it may be that gender differences between the APH and RCP samples will not affect the results regarding the restrictiveness of post placement settings. This premise is supported in a study by Thomlison (1992), which examines child characteristics associated with positive outcomes of TFC. This study suggests that gender may not have a significant impact on the restrictiveness of future placements.

Presenting Problems

Campbell and Heinrich (1993), as part of the APH Program

Evaluation, collected background histories for 11 discharged APH clients and 14 discharged RCP clients. These subjects make up a portion of the sample that was used in this research study and their findings regarding children's presenting problems at the time of referral are reported here. Campbell and Heinrich's results are displayed in Table 2.0.

TABLE 2.0
Presenting Problems: APH and RCP Samples

Presenting Problem Area	APH Children (N = 11)		RCP Children (N = 14)		TOTAL
	#	(%)	#	(%)	
Separation/Attachment	8	(73)	9	(64)	17
Low Self-Esteem	9	(82)	10	(71)	19
Sexual Abuse History	6	(55)	4	(29)	10
Physical Abuse History	8	(72)	8	(57)	16
History of Neglect	9	(82)	5	(36)	14
Developmental/ Cognitive Delayed	6	(55)	1	(7)	7
Behaviour Problem	9	(82)	10	(71)	19
Sex Offending	3	(27)	3	(21)	6
School/Academic Problems	7	(64)	8	(57)	15
Multiple Placements	5	(45)	10	(71)	15
Problems with Peer Relationships	9	(82)	10	(71)	19

* From the Alternative Parent Home Evaluation (Campbell & Heinrich, 1993)

Campbell and Heinrich's findings are similar to those reported later in this chapter, regarding the presenting problems of the samples used to measure clinical effectiveness. That is, children in APH appear to be slightly more damaged than those placed in the RCP regarding their history of abuse, demonstrated behavioural problems, developmental and cognitive delays. As indicated, the RCP sample is more likely to have experienced multiple placements.

The results pertaining to Hypotheses 1 and 2 will now be discussed.

Hypothesis 1: Seventy-five percent (75%) of the total APH sample population will be discharged to settings that are less restrictive than TFC.

Based on the literature, most TFC programs demonstrate at least a 75% success rate over time (Jones, 1989) and, therefore, this figure has been used as a standard of success in this study.

The findings indicate that 88% (n = 22) of the children placed in the APH program were discharged to less restrictive settings. The rating assigned to TFC is 3.58 in the CRLE scale. Ratings for discharged APH clients ranged from 2.18

(Home of Child's Friend) to 4.97 (Youth Drug/Alcohol Rehabilitation Center). Using this scale, the mean CRLE rating of discharge settings for the APH sample was 2.89 (sd = .65). This rating corresponds closely to the rating for supervised independent living and suggests that the majority of the children discharged from APH had improved to the extent that they were able to live in placements in the community that were less structured than TFC, and hence more normalizing. These results confirm Hypothesis 1 in that more than 75% of the children in APH were discharged to settings less restrictive than TFC.

Hypothesis 2: The post-discharge restrictiveness of living settings for APH clients will be lower than for RCP clients.

Hypothesis 2 compares the restrictiveness of the placements resources selected for clients after being discharged from APH with those selected for clients in RCP.

The average CRLE rating was calculated for the RCP sample by examining the restrictiveness of the resource that these children were discharged to immediately following their placement from Residential Care. Using the average CRLE rating for children discharged from APH, discussed above, a t-test analysis for independent samples was utilized. Due to

the directional nature of the hypothesis, a one-tailed t-test was performed using a criterion level of .05.

The average CRLE rating was calculated for the RCP sample by examining the restrictiveness of the resource that these children were discharged to immediately following their placement from Residential Care. The mean CRLE score for the RCP sample was 4.46 (sd = 1.70). The rating assigned to Level IV Residential Care is 3.67, therefore, the RCP mean CRLE score at discharge indicates that these children were discharged to settings that were more restrictive than the setting they had just left. The RCP sample was discharged to settings less restrictive than Residential Care in 55% of the cases.

Using the average CRLE rating for children discharged from APH and the average CRLE rating for children discharged from RCP, a t-test analysis for independent samples was utilized to compare the post-discharge restrictiveness of living settings between the two samples. Due to the directional nature of the hypothesis, a one-tailed t-test was performed using a criterion level of .05.

As presented in Table 3.0, this analysis indicates that the APH sample was discharged to a significantly less restrictive setting than the RCP sample ($t = -4.27$, $df = 45$, $p < .01$). The mean CRLE score for the RCP sample was 4.46 (sd = 1.70),

which is more restrictive than the mean CRLE score of 2.89 (sd = .65) for the APH sample.

TABLE 3.0

Restrictiveness of Discharge Setting: APH and RCP Samples

PROGRAM	MEAN	s.d.	% Dis- charged to less Restrictive Settings	Significance (One-Tailed)		
				T-Value	df	Signifi- cance
APH	2.89	.65	88	-4.27	45	.001
RCP	4.46	1.70	55			

On the CRLE scale, the RCP mean score falls between a Ranch-based Treatment Facility (not found in Manitoba) and a Young Offender Open Custody Home. The range of discharge resources that children in the RCP sample were discharged to varied from Home of a Relative (2.40) to a Closed Youth Correctional Facility (6.40). These findings suggest that children in RCP were more likely to leave care as a result of a delinquency than were children in APH. In fact, 36% (n = 8) of the RCP sample were discharged to the Manitoba Youth Center. None of the children in the APH sample were discharged to a correctional facility.

The findings discussed above suggest that clients in APH

make gains in placement sufficient to allow them to be discharged to less restrictive settings, while those clients in the RCP sample were, on average, discharged to more restrictive settings. This finding, however, relates to the first post-placement environment to which children are discharged. Thus, this study does not address whether children continue to reside in less restrictive placements over time. Further, trend analysis would provide an indicator of whether improvements made by clients are maintained over time.

Campbell and Heinrich (1993) were able to track the subsequent placements of 11 APH clients and 14 RCP clients, who were a part of the sample used in this study. Their findings indicate that the APH clients were residing in a significantly less restrictive setting than the RCP sample, after tracking them for a three-month period. This finding compares favourably to findings reported by Hughes (1991), who compared restrictiveness of living settings one year after children had been discharged from Residential Care and TFC. Using the CRLE scale, he reported a mean Restrictiveness of Living Environment Scale (ROLES) rating of 2.91 (sd = .50) in the TFC sample compared with a mean ROLES rating of 3.61 (sd = 1.18) for the Residential Care sample, one year after discharge.

These studies also conducted a cost analysis, using per

diem costs associated with placement resources. Both studies found that the average cost associated with discharge from TFC was considerably less than the average cost associated with children discharged from the Residential Program.

The findings regarding the restrictiveness of discharge settings for children leaving Residential Care are important for funders, program administrators, and consumers. Not unlike the field of TFC, there have not been an abundance of evaluation research studies that have examined the effectiveness of Residential Care programming. Whittaker and Maluccio (1989, p.94) summarize the findings from a number of outcome research studies in Residential treatment (Allerhand, Weber & Hang, 1966; Taylor & Alpert, 1973; Cavior, Schmidt & Karacki, 1972) which suggest that the post-discharge environment is a powerful factor in determining successful long-term adjustment, irrespective of gains made while in the residential program. Nelson, Singer and Johnson (1978) found that the children who left residential treatment with supported community ties were more likely to maintain their treatment gains than those who did not. These findings lend concern to the high percentage of clients in the RCP sample who were placed in correctional facilities after discharge.

In summary, results of the data discussed in this section, confirm Hypothesis 2 in that the post-discharge restrictiveness

of living settings for APH clients was lower than for APH clients.

Results: Hypothesis Testing Pertaining to Self-Concept and Problematic Behaviour in the TFC Population

The clinical effectiveness of the APH program was assessed in terms of changes experienced by subjects in two areas: self-concept and problematic behaviour. Basic demographics were collected regarding a number of variables pertaining to the APH and the comparison RCP clinical sample populations. These were sample size, age, gender, ethnicity, length of time in the APH program, child welfare status, and presenting problems at the time of referral. The findings regarding each of these variables will now be highlighted, and the similarities and differences between the APH and RCP groups will be discussed.

APH and RCP Demographic Variables

Sample Size

All APH clients placed in the program as of January 1, 1992 were targeted for inclusion in this phase of study. Of these 32 clients, 29 were included in the sample in which self-concept was explored; 31 were included in the study of

changes in problematic behaviour and competency. Two subjects were discharged prior to the posttest cut-off date and were unavailable to complete a posttest measure at the time of discharge. One caregiver did not complete an ACBCL measure at the posttest period. Only those cases where data was available to be collected, pre and posttest, were used in the study.

All RCP clients placed in the program as of January 1, 1992 were targeted for inclusion in the study. Of these 23 clients, 16 were included in the sample which examined self-concept; and 18 were included in the sample in which problematic behaviour and competency were explored.

Twenty-one clients initially completed a PHSCM measure at pre-test time. Four of these youth were discharged prior to the cutoff posttest date, and were unavailable to complete the measure at discharge. One youth refused to complete the measure at posttest. Due to staffing changes and administrative problems, 23 ACBCL measures were completed by Residential Youth Care staff at pre-test and 18 were completed at posttest. Only those cases where data was collected at both the pre and posttest periods were used in this study.

Age

As presented in Table 4.0, the average age of the APH

sample ($n = 31$) was 14.0 years ($sd = 2.68$) at the time the pre-test measures were administered. Children ranged in age from six to 18 years. Subjects were 12.8 years ($sd = 2.62$) at the time of placement in the APH program. This finding is similar to results obtained by Jones (1989) in a survey of 100 children in TFC. His results suggested that TFC programs serve more young adolescents (ages 13 to 15 years) than any other age group. Snodgrass and Bryant (1989), in their survey, found that 72% of the programs reported average ages in TFC from 12 to 15 years. Their overall mean was 12.8 years at the time of placement.

TABLE 4.0

Mean Age (in years) at Time of Placement: APH and RCP Samples

PROGRAM	n	MEAN	s.d.	Significance (Two-Tailed)		
				T-Value	df	Signifi- cance
APH	31	12.84	2.62	-2.51	37.82	.017
RCP	20	14.10	.79			

The average age of the total RCP sample ($n = 20$) was 15.10 ($sd = 1.0$) at the time the pre-test measures were administered. Ages in this population ranged from 12 to 17 years. Clients were 14 years of age ($sd = .79$) when they were initially placed in the program. The ages of the RCP sample differed significantly from the APH sample, both at pre-test ($t = -2.06$, $df = 41.66$, $p = .045$) and at the time of admission ($t = 2.51$, $df = 37.82$, $p = .017$). These findings are similar to those of Hughes (1992), who found that children in Residential Care were older than those living in TFC.

However, when a separate analysis was conducted examining the mean age for boys in APH, the difference in age between the two samples was not statistically significant.

Gender

There was a higher percentage of males in the APH sample (21 or 73.1%) than females (8 or 26.9%). These findings are similar to other TFC populations (Jones, 1989; Snodgrass, 1989). These results are in keeping with the general finding that behaviour disorders are more commonly diagnosed among boys (Knopf, 1979).

The RCP program targeted for inclusion in this study accepted male clients only, therefore, 100% of the RCP sample was male, compared with 73.1% of the total APH sample being

male. Male and female scores resulting the administration of the psychometric measures, were analyzed separately to explore whether gender differences could affect overall results.

Ethnicity

As shown in Table 5.0, the majority of children in APH were Native (18 or 62.1%). The remaining 37.9% (11) were Caucasian. A number of research studies have been conducted examining how ethnicity might be related to outcome. These studies have focused primarily on Black children in out of home placements (Timbers, 1990). The results are ambiguous in that some studies found that ethnicity of children predicts disruption, while others found that ethnicity of children was not related to placement outcome (Thomlison, 1992). No specific research has addressed Native children and placement outcomes.

TABLE 5.0

Ethnicity, APH and RCP Samples

Ethnicity	APH		RCP		TOTAL	
	n	%	n	%	n	%
Caucasian	11	37.9	10	50	21	42.9
Native	18	62.1	9	45	27	55.1
Black	Nil	Nil	1	5	1	2.0
TOTAL	29	100	20	100	49	100

Fifty percent (10) of the RCP samples were Caucasian, 45% (9) were Native, and one child was Black (5%). This differs from the APH sample where the majority of clients were Native (62.1%).

Length of Time in APH

The children in the APH sample had been placed in the program for 663 days (sd = 326) or approximately one year and eight months. The range for length of time in care accounts for the larger standard deviation. The range was from 265 to 1352 days in care. The length of time for APH clients was slightly greater than the 14.12 months reported by Snodgrass and Bryant (1989), in their study. All clients had been placed in APH for six months or longer at the time the pre-tests were administered.

As shown in Table 6.0, the average number of days children spent in Residential Care was 490.35 (sd = 218.75). The range, which accounts for the large SD, was from 205 to 917 days in care. The mean number of days that children spent in the RCP program was significantly less than the length of stay for children in TFC ($t = 2.26$, $df = 48.90$, $p = .028$).

Perhaps this difference is related to the fact that APH clients are generally younger than clients in the RCP and do not move on to placement options, such as Independent Living,

in as short a time period.

TABLE 6.0

Length of Time in Program (in days): APH and RCP Samples

PROGRAM	MEAN # OF DAYS	s.d.	Significance (Two-Tailed)		
			T-Value	df	Signifi- cance
APH	663.23	326.51	2.26	48.90	.028
RCP	490.35	218.75			

Child Welfare Status

Thirty-two percent (10) of children in the APH sample were Permanent Wards; 29% (9) were in care under a Voluntary Placement Agreement; 22.6% (7) were Temporary Wards; and 16.1% were Under Apprehension, as shown in Table 7.0. The high percentage of children who are Permanent Wards may account, in part, for the length of time some of the children have resided in the APH program.

The majority of clients in RCP (n = 12) were in care under a Voluntary Placement Agreement (60.0%); 7, or 35% were Temporary Wards and one client (5%) was a Permanent Ward. This finding differed from the child welfare status of the APH sample, where clients' status was fairly evenly distributed

between all four child welfare status designations.

TABLE 7.0

Child Welfare Status at the Time of Placement:

APH and RCP Samples

Child Welfare Status	APH		RCP		TOTAL	
	n	%	n	%	n	%
Under Apprehension	5	16.1	Nil	Nil	5	9.8
Voluntary Placement Agreement	9	29.0	12	60.0	21	41.1
Temporary Ward	7	22.6	7	35.0	14	27.5
Permanent Ward	10	29.0	1	5.0	11	21.6
TOTAL	31	100	20	100	51	100

Presenting Problems

Table 8.0 summarizes the data that was collected on the APH children's pre-referral problems. Data regarding presenting problems was collected from RCP and APH client files. The majority of the data collected regarding the APH sample population was compiled by Campbell and Heinrich Research Associates, during the APH Evaluation. Demographic data regarding pre-referral problems in the RCP sample was collected by this writer.

TABLE 8.0**Presenting Problems: APH and RCP Samples**

Presenting Problem Area	APH Children (N = 31)		RCP Children (N = 20)		TOTAL
	#	(%)	#	(%)	
Separation/Attachment	30	(97)	18	(90)	48
Low Self-Esteem	31	(100)	20	(100)	51
Sexual Abuse History	22	(71)	10	(50)	32
Physical Abuse History	27	(87)	12	(60)	39
History of Neglect	30	(97)	20	(100)	50
Ritual Abuse	0	(0)	1	(5)	1
Developmental/ Cognitive Delayed	10	(32)	9	(45)	19
Behaviour Problem	30	(97)	20	(100)	50
Sex Offending	12	(38)	6	(30)	18
School/Academic Problems	28	(90)	19	(95)	47
Multiple Placements	25	(81)	14	(70)	39
Personal Hygiene Problems	13	(42)	2	(10)	15
Problems with Peer Relationships	30	(97)	14	(70)	44
Cultural Identity Problems	14	(45)	3	(15)	17

The most striking observation regarding the placement histories are the severity and variety of problems that are evident amongst the children in APH. Children in the sample have experienced a high incidence of abuse and neglect and have exhibited marked behaviour problems, school problems and difficulty with peer relationships. Of note, are the high proportion of children who have experienced a number of moves

prior to placement in TFC.

These findings are similar to those in a number of other studies that have examined children's presenting problems in TFC. Timbers (1989), describing populations served by other TFC programs, reports a significant pattern of previous placements and found that approximately half of the children had been victims of physical and sexual abuse. Most programs characterize children in TFC as having emotional disorders (50% served) and/or behavioural disorders (43% of children served) (Stroul, 1989).

The data regarding presenting problems at the point of intake for the RCP sample suggests a wide range and severity of problems found in the Residential Care sample. Comparing this data with the information gathered from the APH samples, it appears that APH clients experienced more prior abuse than the RCP sample. The APH sample also experienced more prior placements and exhibited more difficulty with personal hygiene, peer relationships, cultural identity problems and the APH sample had a slightly higher occurrence of sex offending behaviour. The RCP sample had a greater incidence of children who exhibited developmental and/or cognitive delays. The samples were similar in regard to separation issues, self-esteem problems, histories of neglect, behaviour problems and school problems.

These findings are consistent with another study suggesting that children were comparable to, if not more disturbed, than children placed in group care (Jones, 1989). Whether the APH sample is more disturbed than the RCP sample cannot be determined given the small sample size and that the information regarding presenting problems was collected by different people. However, it would have been expected that the two groups would have displayed greater similarities given that children in both samples were categorized as displaying "Level IV" behaviours.

In summary, the descriptive information presented in this study indicated that the APH sample is similar to other TFC populations described in the literature. These similarities suggest that findings in this study might be generalizable to other TFC programs. As well, the similarities with respect to presenting problems lends support to the comparison group design.

Age, gender, ethnicity, length of time placed in the programs, and child welfare status differed significantly between the two groups. However, age, gender, and ethnicity differences were controlled for in the study; and these differences were carefully examined.

Self-Concept

The first hypothesis concerning the clinical effectiveness of TFC, involved an examination of the changes in self-concept exhibited by children in the APH sample over a six month period.

Hypothesis 3: The sample population in APH will display an increase in self-concept after a six month period of placement in the program.

Utilizing a pre-test / posttest design, data was collected using the Piers-Harris Self-Concept Measure (PHSCM).

The analytical procedure involved a comparison of the pre-test total self-concept scores for APH subjects with the total self-concept posttest scores collected after an average of six months had elapsed. As well, separate analyses were conducted, controlling for key variables including gender, ethnicity, and age (children under 12 and children 12 and over). These procedures involved a t-test of analysis of significance for dependent samples. The purpose of this procedure was to determine the extent to which client scores changed over time. The directional nature of the hypothesis led to a decision to use a one-tailed test using a criterion level

of .05 for the pre-test / posttest analysis.

Analysis for the Total APH Sample

The mean PHSCM score at pre-test ($n = 29$) was 53.0 ($sd = 15.73$), which indicates that the subjects were in the normal range of self-concept when compared to normative samples. Given that the demographic information for the APH sample indicated that 100% of clients exhibited a low self-concept, it would be expected that these children's scores would put them in the clinical range. However, a study of behaviourally disordered children (Bloom, Sea & Eun, 1979) found a mean score similar to that of the APH sample. As well, Culp, Little, Letts and Lawrence (1991) noted a study by Kenard (1980) who reviewed studies examining the mental health needs of school-aged, maltreated children. Two of these studies (Elmer, 1977; Kenard, 1980) used the PHSCM and neither study reported differences in the mean total score of self-concept between a group of maltreated children and their non-maltreated matched controls. Two more recent studies, however, provide evidence that the PHSCM clearly distinguishes between abused and nonabused children (Oats, Forrest & Peacock, 1985; Tang, Oats & McDowell, 1987).

While these studies are somewhat contradictory, the findings regarding the APH total scores, placing these children

in the normal range, may be more a reflection of the measure than the sample. Another factor that may impact on the total score is the fact that APH clients had been receiving treatment for an average of 1.8 months at the time their self-concept was measured.

The mean APH posttest score was 59.28. This score indicates that the subjects were at the top of the average range of self-concept at posttest. The positive increase in self-concept experienced by those children was found to be statistically significant ($t = 3.45$, $df = 28$, $p < .001$). Table 9.0 displays these findings.

TABLE 9.0

Piers-Harris Self-Concept Measure Pre and Posttest Results:

APH Sample (n = 29)

	MEAN	s.d.	Significance (One-Tailed)		
			T-Value	df	Signifi- cance
PRE-TEST	53.00	15.75	3.45	28	.002
POSTTEST	59.28	15.06			

Based on the results, Hypothesis 3, predicting that the clients in APH will display an increase in self-concept over a

six month period is accepted.

Analysis of Demographic Variables

Gender Analysis. As represented in Table 10.0, a separate analysis was conducted for the male and female total self-concept scores. The separate analysis for 21 boys' scores was consistent with earlier findings and demonstrated a significant improvement in self-concept over a six month period. The pre-test mean was 54.19 (sd = 14.4) and the posttest mean was 63.19 (sd = 9.4). These findings were statistically significant ($t = -4.29$, $df = 20$, $p < .001$). Pre-test scores fell in the average range and posttest scores placed children in the above average range.

TABLE 10.0

Piers-Harris Self-Concept Measure Pre and Posttest Results
by Gender: APH Sample

	MALE (n = 21)						FEMALE (n = 8)					
	Mean	s.d.	Diff	Significance (One-Tailed)			Mean	s.d.	Diff	Significance (One-Tailed)		
				T-Value	df	Sig.				T-Value	df	Sig.
Pre-Test	54.19	14.4	9.00	4.29	20	.00	49.88	19.5	.875	.40	7	.704
Post-Test	63.19	9.4					49.00	22.0				

A separate analysis of 8 girls' scores indicated that there was no change in self-concept in this group over a six month period. The girls scored in the low average range compared to normative samples. Pre-test and posttest means were 49.88 (sd = 19.5) and 49.0 (sd = 22.0) respectively. Similar results were obtained by Larson and Allison (1977) in their analysis of treatment outcomes for children placed in the Alberta Parent Counsellors Program. Using a pre and posttest design, they measured psychosocial changes over time. They found that significant changes were sustained for males, but not for female children in their TFC program. Perhaps, maturation and socialization factors have an impact on how adolescent girls view themselves. In any case, the small sample size (n = 8) used to conduct the analysis in this study suggests that these findings should be viewed cautiously.

Ethnicity. A separate analysis was conducted for Caucasian clients (n = 11) and for Native clients (n = 18). Table 11.0 displays these findings. Findings from the analysis regarding Caucasian children demonstrated little change from pre to posttest. While self-concept scores did improve (difference = 2.82), this gain was not statistically significant.

TABLE 11.0**Piers-Harris Self-Concept Measure Pre and Posttest Results****by Ethnic Origin: APH Sample**

	CAUCASIAN (n = 11)						NATIVE (n = 18)					
	Mean	s.d.	Diff	Significance (One-Tailed)			Mean	s.d.	Diff	Significance (One-Tailed)		
				T-Value	df	Sig.				T-Value	df	Sig.
Pre-Test	59.64	16.65	2.82	1.58	10	.146	48.94	14.10	-8.39	3.19	17	.005
Post-Test	62.45	12.35					57.33	16.54				

Findings for Native children are similar to those for the total APH sample population. Improvements in self-concept were statistically significant ($t = 3.19$), $df = 17$, $p = <.001$). Mean pre-test scores were 48.94 ($sd = 14.1$) and posttest scores were 57.33 ($sd = 16.5$).

Scores (pre-test and posttest) for both Caucasian and Native children were in the average range. While Native childrens' self-concept scores were in the average range at pre-test, their scores were lower than those scores for Caucasian clients. This difference in pre-test scores may account in part for the statistically significant improvement in Native childrens' scores, and not in those for Caucasian

children. With the exception of one aboriginal APH foster family, all other APH homes are made up of Caucasian parents. It is interesting to note that Native children exhibited significant improvements in self-concept, despite the fact that they were not placed in a culturally appropriate environment.

Age. Separate analysis were conducted for children under 12 years and those 12 years and over. Table 12.0 displays these findings. Separate analysis for these groupings was conducted in an attempt to determine if maturational factors influenced treatment outcomes. As well, given that the RCP program does not admit children under twelve, an analysis controlling for age was performed to determine whether age differences might influence variations found in the total sample.

TABLE 12.0

Piers-Harris Self-Concept Measure Pre and Posttest Results
by Age: APH Sample

	Children Under 12 Years (n = 8)						Children 12 Years and Over (n = 23)					
	Mean	s.d.	Diff	Significance (One-Tailed)			Mean	s.d.	Diff	Significance (One-Tailed)		
				T-Value	df	Sig.				T-Value	df	Sig.
Pre-Test	41.75	16.33	10.13	1.75	7	.124	55.74	13.90	6.52	3.99	22	.001
Post-Test	51.88	19.23					62.26	12.00				

Analysis of the data collected from a sample of 8 children under 12 did not indicate that this group had made positive gains in self-concept. Although the difference in pre and posttest means (10.13) indicated that improvement had been made, this was not statistically significant as a level of .05. However, this finding did approach significance at a .10 level ($t = 1.75$, $df = 7$, $p = .124$).

An analysis of 23 children 12 years and over demonstrated a significant change in self-concept and this was similar to the findings in the total APH sample. Pre-test and posttest means were 55.74 ($sd = 13.9$) and 62.26 ($sd = 12.0$) respectively. These results were statistically significant ($t = 3.99$, $df = 22$, $p < .001$).

In summary, an analysis of the data collected from the PHSCM indicated that self-concept in the total APH sample improved significantly over a six month period. A separate analysis of the effect of gender, ethnicity and age on self-concept demonstrated less conclusive results. While male children, those who were 12 years and over, and Native children did show improvement in self-concept, children who were younger than 12 and those clients who were female did not demonstrate significant changes in self-concept.

Problematic Behaviour

The testing of Hypothesis 4 which addresses the clinical effectiveness of TFC, examines the changes in problematic behaviour and competency displayed by the APH sample population over a six month period. Previous research efforts support the following hypothesis:

Hypothesis 4: Problematic behaviour will decrease in the APH sample population and competency will increase after a six month period of placement in the program.

The form of analysis that was used to examine the data collected from the administration of the Achenbach Child Behavior Checklist (ACBCL) compared pre-test problem and competency scores with posttest problem and competency scores after an average of six months had elapsed. As well, a separate analysis was conducted for male and female scores, Native and Caucasian children's scores and on clients' scores who were less than 12 years old and those 12 years and over. These procedures were conducted to determine if these variables had an effect on differences noted in the total sample population. Statistical analyses utilized a t-test for dependent samples. The purpose of this procedure was to determine the

extent to which client scores changed over a six month period of placement in TFC. A one-tailed test using a criterion level of .05 was used for the pre-test / posttest analysis.

Information obtained from the ACBCL includes pre-test and posttest scores of total competence, pre-test and posttest scores for the Activities, Social and School scales. A separate analysis was conducted for each scale. As well, pre-test and posttest data for the Problem scales, pre and posttest scores for Internalizing, and Externalizing scores were collected and analyzed separately. For the most part, results are reported on total competency and total problem scores, with the exception of statistically significant findings pertaining to the separate scales.

Analysis of Total APH Sample

Table 13.0 illustrates the findings from the data regarding the behaviour problem scales. The problem scales are clustered into two broad groups: the internalizing factors which refer to fearful, inhibitive, and over-controlled behaviour; and the externalizing factors which refer to aggressive, anti-social, and under-controlled behaviour. The total behaviour problem score is comprised of all the 188 behaviour problem items.

The total problem pre-test mean ($n = 31$) was 69.77 ($sd = 9.0$) for the APH sample. With scores exceeding a total of 60,

considered in the clinical range, subjects in the sample exhibited problematic behaviours considered to be clinically significant. Analysis of posttest scores indicates there was little change in problem areas over a six month period. The posttest mean score of 68.65 (sd = 12.9), while demonstrating a slight improvement, is not statistically significant ($t = .52$, $df = 30$, $p = .61$) and continues to put the APH sample in the clinical range.

TABLE 13.0

Achenbach CBCL Pre and Posttest Results: APH Sample

Total Problem, Externalizing and Internalizing T-Scores

(n = 31)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance (One-Tailed)	
						T-Value	Significance
Total Problem	69.77	9.0	68.65	12.9	1.13	.52	.61
Externalizing	66.58	10.3	68.10	9.8	-1.52	-.98	.33
Internalizing	67.45	9.2	67.55	11.8	-.10	-.06	.95

Separate analysis were also conducted for Externalizing and Internalizing groupings. Pre and posttest comparisons indicate there were no significant changes made in these areas over time, with posttest scores remaining in the clinical range.

These findings conflict with those reported in the Mountain Plains Evaluation (1991), where a significant improvement was demonstrated in their target population in problem (behaviour) scores after a three month interval. A program evaluation of Maryland's TFC program, using the ACBCL to examine clinical outcomes, also found significant positive changes in problematic behaviour in their populations six months post-placement. Their population, as did Mountain Plains' population, moved from the clinical to the normal range of functioning over time on this measure. The difference in the results obtained from these evaluations, and the findings from the study, may be related to methodological limitations. The Maryland and Mountain Plains programs were able to administer the ACBCL when clients were first placed in the program. This study was not able to administer the measures until children had been placed in the program for over one year. Perhaps, more significant gains in behaviour occur in the first few months of placement. In this study, it was not possible to examine this possibility.

The findings regarding competency scores are displayed in Table 14.0 and represent three additional scales which address the construct of total competence. The scores on the Activities, Social, and School scales yield a total competency score. The mean pre-test score of total competency for the APH sample was 35.10 (sd = 7.85). T-scores below 37 are

considered to be in the clinical range, placing the APH sample population in this area of concern. The posttest score, after a six month period was 35.04 (sd = 7.11) indicating that the subjects remained in the clinical range of functioning. The changes noted between the pre-test and the posttest scores for total competency were not statistically significant ($t = .04$, $df = 27$, $p = .965$).

The Activity, Social and School scales also indicate little change in these areas over the six month pre-test / posttest period. These changes were not statistically significant. The t-scores for the scales are as follows: Activities, $t = .37$, $df = 30$, $p = .71$; Social, $t = -.40$, $df = 30$, $p = .69$; School, $t = .57$, $df = 27$, $p = .58$. Although it appears that the mean activity scores are higher than the other competency scores, this is also true for the clinical and non-clinical normative samples. However, the Activities scale pre and posttest scores do fall between the normative scores for clinical and non-clinical samples, while the scores from the Social and School scales place the APH sample in the clinical range.

TABLE 14.0

Achenbach CBCL Pre and Posttest Results: APH Sample
Activities, Social, School and Total Competency T-Scores

(n = 31)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Differ- ence	Significance (One-Tailed)	
						T-Value	Signifi- cance
Activities	46.03	8.4	46.65	.79	-.613	-.37	.714
Social	35.10	9.6	35.94	9.10	-.839	-.40	.692
School	33.43	7.8	32.86	7.90	.571	.57	.576
Total Competency	35.10	7.9	35.04	7.10	.071	.04	.965

Campbell and Heinrich (1993), whose sample was similar to that used in this study, obtained a similar result in that they found little change in competency in their APH sample over six months. The Mountain Plains program evaluations again registered an improvement for their clients in all the competency scales.

To summarize the findings related to problematic behaviour and competency in the APH sample population, it appears that these children did not experience positive significant changes in these areas over a six month period of placement in the program. Based on these findings, Hypothesis 4, predicting that problematic behaviour would decrease and competency levels would increase in the APH sample over six months, is not supported.

Analysis of Demographic Variables

Gender Analysis. A separate analysis was conducted of the male and female scores on the total problem, externalizing and internalizing scales. The normative data for boys and girls aged 12 to 18 years was used to interpret the information. The scores of the four female clients and two male clients who were under 12 years of age when the pre-test measure was administered were aggregated as part of the total sample for male and female children, in order to use the information obtained from these clients.

1. Male:

As was the case in the combined analysis, the separate gender analysis indicates that there were no statistically significant changes in problem or competency scores for boys in the APH sample. These findings are represented in Table 15.0. The boys pre and posttest total problem t-scores of 68.74 (sd = 9.2) and 65.65 (sd = 13.2) indicated a positive shift, however, this change was not found to be statistically significant. Their scores place the boys in the clinical range. Pre and posttest total competency scores were 35.15 (sd = 9.1) and 35.45 (sd = 7.4) respectively. These changes were also not statistically significant and placed the boys in the clinical range.

TABLE 15.0**Achenbach CBCL Pre and Posttest Results for Males in APH:****Total Problem, Externalizing and Internalizing T-Scores**

(n = 23)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Differ- ence	Significance (One-Tailed)	
						T-Value	Signifi- cance
Total Problem	68.74	9.2	65.65	13.2	3.09	1.13	.271
Externalizing	66.09	10.0	66.74	9.8	-.65	-.33	.746
Internalizing	65.74	10.0	64.13	11.3	1.60	.87	.392

2. Female:

Independent analysis of 8 girls' scores, represented in Table 16.0, indicated that there was significant deterioration in their externalizing pre and posttest means ($t = 2.51$, $df = 7$, $p < .05$). It should be noted that total problem and internalizing pre/posttest scores showed deterioration at a .10 level of significance. The scores for all behaviour scales placed the girls in the clinical range of functioning.

TABLE 16.0

Achenbach CBCL Pre and Posttest Results for Females in APH:
Total Problem, Externalizing and Internalizing T-Scores (n = 8)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance (One-Tailed)	
						T-Value	Significance
Total Problem	72.75	8.3	77.25	7.2	-4.5	-2.03	.081
Externalizing	68.00	11.6	72.00	9.2	-4.0	-2.51	.040
Internalizing	72.38	2.3	77.38	6.5	-5.0	-2.09	.075

The girls' total Competency, Activity, Social and School scores did not change significantly from pre to posttest. The ACBCL manual indicates that the total competence scores are not as susceptible to change as are problem scores, because they are determined partly by historical data (Achenbach, 1991). All scores related to competency placed the girls in the clinical range. These findings are represented more clearly in Tables 17 and 18.

TABLE 17.0**Achenbach CBCL Pre and Posttest Results for Males in APH:****Activities, Social and Total Competency T-Scores** (n = 23)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance	
						T-Value	Significance
Activities	46.09	9.3	47.87	7.6	-1.78	-.89	.383
Social	35.78	10.4	36.00	9.6	-2.17	-.08	.937
School	32.95	8.4	32.40	7.9	.55	.48	.640
Total Competency	35.15	9.1	35.45	7.4	-.30	-.14	.886

TABLE 18.0**Achenbach CBCL Pre and Posttest Results for Females in APH:****Activities, Social and Total Competency T-Scores** (n = 8)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance	
						T-Value	Significance
Activities	45.88	5.5	43.13	8.9	2.75	1.02	.343
Social	33.13	6.8	35.75	8.2	-2.63	-1.10	.308
School	34.63	6.1	34.00	8.4	.625	.29	.780
Total Competency	35.00	3.5	34.00	6.8	1.00	.41	.693

The results of this study are similar to those of Campbell and Heinrich regarding a sample of girls in APH. They found the girls' competency and problem scores did not change significantly, with the exception of the girls' social scale scores, where in this area, they made significant gains. There do not appear to be other studies reported in the literature, utilizing the ACBCL, which describe separate analysis of gender, with a similar population. However, a program evaluation study by Osmond (1992), utilizing an "Achenbach-like" child functioning measure found that while composite scores of the total TFC sample populations used in the study showed no statistical difference in problematic behaviour when this composite data was broken down, the boys in the program made improvements in the statistically significant range, while the girls were more likely to stay the same or even deteriorate.

Ethnicity Analysis. An analysis was conducted for the problem and competency scores of Caucasian children (n = 12) and for Native children (n = 19) in the APH sample.

1. Caucasian Subjects:

As represented in Table 19.0, the total problem scores pre and posttest for Caucasian clients (n = 12) were 67.17 (sd = 10.1) and 71.91 (sd = 9.5) indicating that there was a

significant increase in problematic behaviour over six months ($t = -1.82$, $df = 11$, $p = .095$). The data related to the Externalizing grouping, including Delinquent and Aggressive Behaviour, also showed a deterioration for Caucasian subjects. The pretest mean was 66.08 ($sd = 11.2$) and the posttest mean was 71.83 ($sd = 9.2$), a statistically significant change ($t = -2.59$, $df = 11$, $p = .025$). Both scores are in the clinical range.

TABLE 19.0

Achenbach CBCL Pre and Posttest Results for Caucasian Clients in APH: Total Problem, Externalizing, Internalizing and Total Competency T-Scores (n = 12)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance	
						T-Value	Significance
Total Problem	67.17	10.1	71.20	9.5	-4.75	-1.82	.095
Externalizing	66.08	11.2	71.83	9.2	-5.75	-2.59	.025
Internalizing	64.75	9.8	68.08	10.1	-3.33	-1.25	.236
Total Competency	35.91	10.1	35.27	6.4	.636	.23	.823

The Internalizing grouping includes syndrome scales designated as Withdrawn, Somatic Complaints, and Anxious/Depressed. The Caucasian children's scores in this

grouping showed negligible change in the Internalizing category over time. All scores in the Problem and Competency Scale categories were in the clinical range.

These findings are similar to those for the total APH sample in that the analysis for Caucasian children did not show significant changes in total competence, activities, social or school scores.

2. Native Subjects:

As reported in Table 20.0, the pre-test/posttest analysis of 19 client scores for problem and competency scales did not show any significant changes over a six month period for Native clients in the APH sample. All scores in these groups indicated that the children were in the clinical range of functioning at pre-test, and remained in this range. Of interest, however, are the pre/posttest total problem scores. While the change is not significant, at a .05 level, significant progress is observed in this area at .10 if a one-tailed test of significance ($t = 1.68$, $df = 18$, $p < .10$) is used.

TABLE 20.0

Achenbach CBCL Pre and Posttest Results for Native Clients in APH: Total Problem, Externalizing, Internalizing and Total Competency T-Scores (n = 19)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance	
						T-Value	Significance
Total Problem	71.42	8.1	66.58	14.5	4.84	1.68	.109
Externalizing	66.89	9.1	65.74	9.6	1.16	.62	.545
Internalizing	69.16	8.6	67.21	12.1	1.95	1.06	.304
Total Competency	34.89	5.3	34.88	7.7	-.29	-.14	.887

Age Analysis. Two separate analyses were conducted with respect to age in the APH sample. Data regarding children 11 years and younger was analyzed separately, as was data pertaining to children 12 years and older, to determine if maturation had an effect on treatment outcomes.

1. Children Under Twelve Years:

Data analysis conducted on total problem, internalizing, total competency, activity, social and school scores indicated that there was little change in these areas. However, the pre/posttest externalizing scores indicated that there had been a significant improvement in this area for children younger than

12 years. The pre-test mean was 73.78 (sd = 10.2) and the posttest mean was 68.78 (sd = 11.3). This finding was found to be statistically significant ($t = 2.54$, $df = 8$, $p < .05$). However, both Pre and posttest means remain in the clinical range. Table 21.0 represents these findings.

TABLE 21.0

Achenbach CBCL Pre and Posttest Results for Children Under 12 in APH: Total Problem, Externalizing and Total Competency T-Scores (n = 9)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance (One-Tailed)	
						T-Value	Significance
Total Problem	75.11	7.2	70.89	10.6	4.22	1.79	.111
Externalizing	73.78	10.2	68.78	11.3	5.00	2.54	.034
Internalizing	68.78	5.4	67.33	10.4	1.44	.61	.558
Total Competency	31.33	4.2	34.33	5.1	-3.00	-1.11	.300

There have been several program evaluation studies that have attempted to identify factors which might be associated with positive outcomes in the TFC literature. Evaluations of Florida's TFC programs and of People Places in Virginia, found that younger children were more successful at achieving goals. These findings are supported by these results for children

under twelve.

2. Children Twelve Years and Older:

As shown in Table 22.0, there were no significant changes found for children twelve years and older, related to the problem or competency groupings.

TABLE 22.0

Achenbach CBCL Pre and Posttest Results for Children Over 12 in APH: Total Problem, Externalizing Internalizing and Total Competency T-Scores (n = 24)

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Difference	Significance (One-Tailed)	
						T-Value	Significance
Total Problem	67.75	8.5	67.42	13.3	.33	.12	.902
Externalizing	64.25	8.5	67.29	9.1	-3.04	-1.71	.100
Internalizing	66.54	10.0	67.29	11.1	-.75	-.40	.690
Total Competency	36.29	8.3	35.48	7.6	.81	.43	.670

In summary, separate analysis conducted on key demographic variables including gender, ethnicity, and age suggest that the girls' scores and Caucasian clients' scores suggest significant deterioration in total problem areas and in internalizing and externalizing groupings. However, pre and posttest scores for children under 12 years suggest that this

sample made significant positive change in externalizing problem behaviours.

Results: Exploratory Questions Concerning Comparisons Between TFC and Residential Care Sample Populations

The results of the two exploratory questions posed earlier in this study will be presented in this section. These questions were developed as a means of examining the differences between TFC and Residential Care sample populations with respect to self-concept, problematic behaviour and competency. As well, the questions were designed to explore how age and gender differences affect general differences in the two sample populations.

As described in Chapter 3, a quasi-experimental design, utilizing a non-equivalent comparison group was adopted to explore these questions.

As discussed earlier in this chapter, the children placed in the APH and RCP programs were, firstly, compared to one another in terms of a number of critical variables, including age at the time of placement, age at the time of the pre-test measure, gender, ethnicity and presenting problems. The pre-test scores derived from the PHSCM and ACBCL for the APH and RCP groups were compared using a t-test analysis of

significance for independent samples to determine whether the samples were similar. Once group comparability had been established, posttest scores for both groups were then compared, utilizing the same statistical procedure to examine if there were differences in the changes made in self-concept and problematic behaviour between the two samples. Separate analyses, also using a t-test analysis of significance for independent samples, compared the changes exhibited by the two samples controlling for age, gender and ethnicity. Due to the non-directional nature of these analyses, a two-tailed test at a .10 level of significance was used to determine statistical significance of the findings.

The results arising from the exploratory questions will be now be presented.

For clarity and organizational purposes, findings pertaining to the following two exploratory questions will be discussed together.

Question 1: Are there differences between the changes observed in the APH and RCP sample populations on outcome variables for self-concept, problematic behaviour and competency over a six month period?

Question 2: Do age and gender differences in the APH sample populations affect the general differences noted between the APH and RCP sample populations?

Several data analysis procedures were used to test the exploratory questions. Outcomes related to self-concept will be discussed first, followed by a discussion regarding outcomes pertaining to problematic behaviour and competency.

Comparison of Residential Care and Treatment Foster Care Samples Pertaining to Self-Concept

Pre and posttest self-concept total scores were compared in the RCP sample using a t-test analysis for dependent samples. This procedure was used to determine the extent to which client self-concept scores changed over the six month study period. This procedure allowed for a comparative analysis between the differences in self-concept in the APH sample and the RCP observed over time. The pre-test scores for the APH and RCP samples were compared to establish comparability. The posttest scores for the two groups were then compared to determine if there was a significant difference in self-concept between the two samples.

As presented in Table 23.0, the findings indicate that self-concept for children in the RCP sample did not improve

significantly over six months. The mean pre-test score for this sample was 50.75 (sd = 14.4) and the mean posttest score was 53.38 (sd = 14.5). Although there was a slight gain in the posttest score, this finding was not statistically significant ($t = 1.65$, $df = 15$, $p = .120$). As in the APH sample, the mean total pre-test scores place the RCP sample in the average range of self-concept.

TABLE 23.0

Piers-Harris Self-Concept Measure Pre and Posttest Results:

RCP Sample

PROGRAM.	MEAN	s.d.	Significance (One-Tailed)		
			T-Value	df	Signifi- cance
Pre-test	50.75	14.43	1.65	15	.12
Posttest	53.38	14.48			

A t-test analysis of pre-test scores for APH and RCP samples was used to examine the extent to which the two groups might have differed in regard to self-concept at the pre-test phase. This analysis demonstrated that there was no significant difference between self-concept scores in the two groups, suggesting group comparability between the two groups with respect to this variable. This provides support for a

comparison of differences between groups on posttest scores to examine the effect of the treatment modalities.

A third analysis was conducted to compare the average differences experienced by the APH and RCP groups at posttest. Posttest scores for APH and RCP did not differ significantly ($t = 1.27$, $df = 43$, $p = .209$), although the APH group did make significant gains in self-concept over six months. Table 24.0 displays these findings.

TABLE 24.0

Comparison of Piers-Harris Self-Concept Measure Pre and Posttest Results: APH and RCP Samples

	n	PRE-TEST					POSTTEST				
		Mean	s.d.	T-Test Diff. Between APH & RCP Means			Mean	s.d.	T-Test Diff. Between APH & RCP Means		
				T-Value	df	Sig.*			T-Value	df	Sig.*
APH	29	53.45	15.41	.58	45	.564	59.28	15.06	1.27	43	.209
RCP	16	50.75	14.43				53.38	14.48			

* Two-Tailed Test for Significance

A separate gender analysis was conducted comparing RCP boys' pre/posttest scores to those of the boys' scores in APH. As described earlier in this study, the boys in the APH sample displayed significant improvement in self-concept over a six month period, whereas the boys in the RCP sample did not.

The difference in posttest scores between these two groups was found to be statistically significant ($t = 2.49$, $df = 35$, $p = .018$). These findings suggest that gender differences existing between the APH and RCP samples did not affect differences noted in self-concept between the two groups. Table 25.0 displays these findings.

TABLE 25.0

Comparison of Piers-Harris Self-Concept Measure Pre and Posttest Results for Males: APH and RCP Samples

	n	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Test Diff. Between APH & RCP Means		Mean	s.d.	T-Test Diff. Between APH & RCP Means	
				T-Value	Sig.*			T-Value	Sig.*
APH	23	54.70	14.0	.85	.398	63.19	9.5	2.49	.018
RCP	16	50.75	14.4			53.38	14.5		

* Two-Tailed Test for Significance

An analysis comparing children who were 12 and over in the APH sample with children in the RCP sample yielded similar findings to those described above. While the two samples were not significantly different at the time of pre-test, t-test differences between the two groups was significant at posttest ($t = 2.09$, $df = 37$, $p = .044$), with the client scores in APH

indicating a higher positive level of self-concept. (See Table 26.0).

TABLE 26.0

Comparison of Piers-Harris Self-Concept Measure

Pre and Posttest Results for Children 12 and Over:

APH and RCP Samples

	n	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Test Diff. Between APH & RCP Means		Mean	s.d.	T-Test Diff. Between APH & RCP Means	
				T-Value	Sig.*			T-Value	Sig.*
APH	23	56.21	13.8	1.20	.236	62.26	12.0	2.09	.044
RCP	16	50.75	14.4			53.38	14.5		

* Two-Tailed Test for Significance

Additionally, a separate analysis for ethnicity was performed. A comparison of 11 Caucasian clients in APH and 8 Caucasian clients in RCP indicates that neither group made gains in self-concept over the test period. Both samples' scores were in the average range at pre-test (APH means = 59.64, sd = 16.6; and RCP mean = 50.25, sd = 14.8). Although the APH posttest sample mean increased to the extent that these children were in the above average clinical range, the difference in pre and posttest scores was not statistically significant. However, when posttest scores between the two

groups were compared using a two-tailed t-test of significance at a probability level of .10, a statistically significant difference was found ($t = 1.75$, $df = 15.40$, $p = .10$), with the client scores in APH indicating a higher positive level of self-concept. This difference can be explained by the increase in the total score between the pre and posttest APH sample. Table 27.0 displays these findings.

TABLE 27.0

Comparison of Piers-Harris Self-Concept Measure Pre and Posttest Results for Caucasian Clients: APH and RCP Samples

	n.	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Value	Sig.*	Mean	s.d.	T-Value	Sig.*
Pre-Test	11	60.25	16.0	1.41	.176	62.45	12.3	1.75	.09
Post-Test	8	50.25	14.8			52.50	12.1		

* Two-Tailed Test for Significance

Native children placed in APH ($n = 18$) were compared with Native children in RCP ($n = 7$). Both groups' pre-test scores placed them in the average range of functioning. Pre-test scores were not significantly different between the two samples. As described earlier, the Native children in APH showed

significant gains in positive self-concept, however, the RCP native population did not show significant change in self-concept over the same period of time (see Table 28.0).

TABLE 28.0

Comparison of Piers-Harris Self-Concept Measure Pre and Posttest Results for Native Clients: APH and RCP Samples

	n	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Value	Sig.*	Mean	s.d.	T-Value	Sig.*
Pre-Test	18	49.16	13.7	.07	.948	57.33	16.5	.55	.586
Post-Test	7	49.57	15.4			53.14	18.4		

* Two-Tailed Test for Significance

In summary, analysis comparing the APH and RCP samples total self-concept scores at pre-test suggested these groups were comparable regarding this variable. After a six month period in TFC, clients in APH showed significant positive gains in their self-concept whereas the clients in RCP did not. These differences in treatment outcomes do not appear to be affected by differences in age and gender found in the APH sample population. However, a separate gender analysis

indicated that Caucasian children in both APH and RCP samples did not display gains in self-concept. Native children in APH did display a statistically significant increase in positive self-concept, while the Native children in RCP did not.

With group comparability having been established related to pre-test self-concept scores, an analysis comparing the average differences experienced by the APH group, with the average differences experienced by the RCP group, over six months, was conducted. These findings indicated that posttest self-concept scores for the samples were significantly different, with the APH sample experiencing a positive increase in self-concept.

Comparison of Residential Care and Treatment Foster Care Samples Pertaining to Problematic Behaviour and Competency

The ACBCL was used to gather data regarding problematic behaviour and competency from the RCP sample using a pre/posttest design. Several forms of analysis were employed to examine this data. The first analysis, compared the RCP samples' pre-test and posttest scores. The purpose of this procedure was to determine the extent to which problem and competency scores changed over a six month period. Using a t-test analysis for dependent samples, no significant change in problematic behaviour was found. However, an analysis of

pre/posttest competency scores suggest that the RCP sample deteriorated with respect to their level of competency ($t = 3.56$, $df = 13$, $p = .003$). Table 29.0 displays these findings.

TABLE 29.0

Comparison of Achenbach CBCL Pre and Posttest Results in APH and RCP Samples: Total Problem T-Scores

	n	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Test Diff. Between APH & RCP Means		Mean	s.d.	T-Test Diff. Between APH & RCP Means	
				T-Value	Sig.*			T-Value	Sig.*
APH	23	69.78	9.0	-1.67	.102	68.65	12.9	-1.75	.087
RCP	18	74.39	9.9			74.58	9.2		

* Two-Tailed Test for Significance

A second analysis compared APH and RCP sample pre-test means for total problem and competency scales utilizing a t-test for independent groups. This analysis revealed that in the area of problematic behaviour, the two samples were similar at pre-test. The finding is consistent with data collected regarding pre-referral histories. A comparison between presenting behavioural problems in the APH and RCP samples found these two groups to be comparable regarding this variable, as well.

When the pre-test means for total competency scores were compared, the samples were not found to be comparable. The APH pre-test mean competency score was 35.38 (sd = 7.9) and the RCP sample mean was 30.93 (sd = 4.2). The RCP sample was functioning at a statistically lower level of competency than was the APH sample ($t = 2.47$, $df = 42.99$, $p = .018$). Both means, however, did fall within the clinical range. Further, the findings indicated that the two groups were comparable with respect to internalizing and school pre-test scores, while the externalizing, activity and social pre-test scores for both groups differed significantly from each other.

With group comparability having been established related to pre-test total problem, internalizing and school scores, an analysis was conducted comparing the average differences experienced by the APH group with the average differences experienced by the RCP group, over six months.

Tables 30.0 and 31.0 illustrate these findings, which showed that posttest total problem scores for the samples were significantly different. This finding resulted from a deterioration in RCP post problem scores, not as a result of an improvement in APH sample scores. The internalizing and school scores posttest for both groups did not differ significantly from each other.

TABLE 30.0

**Comparison of Achenbach CBCL Pre and Posttest Results in
APH and RCP Samples: Total Competency T-Scores**

	n	PRE-TEST				POSTTEST			
		Mean	s.d.	T-Test Diff. Between APH & RCP Means		Mean	s.d.	T-Test Diff. Between APH & RCP Means	
				T-Value	Sig.*			T-Value	Sig.*
APH	29	35.38	7.9	2.47	.018	35.04	7.1	4.06	.000
RCP	16	30.49	4.2			26.67	4.9		

* Two-Tailed Test for Significance

TABLE 31.0

**Comparison of Achenbach CBCL Pre and Posttest Results in
RCP Sample: Total Problem and Total Competency T-Scores**

Scale	Pre-Test Mean T-Score	s.d.	Posttest Mean T-Score	s.d.	Differ- ence	Significance (One-Tailed)		
						T- Value	df	Signifi- cance
Total Problem	74.39	9.9	75.11	9.2	-7.22	-.49	17	.630
Total Competency	31.36	4.1	27.14	4.7	4.21	3.56	13	.003

Separate data analyses were conducted to examine the affect gender, age and ethnicity had on changes in problematic behaviour and competency.

Male client scores and scores for children 12 years and over with respect to the problem and competency items were compared in the APH and RCP samples. These samples differed significantly from each other in both competency and behaviour ratings at pre-test, indicating that the samples were not comparable when controlling for age and gender. Scores for both these samples placed their level of functioning in the clinical range, however, the RCP sample scores indicated a greater degree of behaviour problems and lower functioning related to competency.

Consistent with these findings, when children 12 and over in APH were compared with the RCP sample (all of whom are over 12), significant pre-test differences were found between the two groups in relation to total problem and competency scores, indicating that the samples were not comparable in these areas.

Data analyses were conducted to examine differences in problematic behaviour and competency when Caucasian and Native children in APH were compared with the same racial groupings in the RCP sample.

The RCP behaviour scores for Caucasian children did not

change over a six month period, however, these clients showed significant deterioration in competency over time. The mean pre-test score was 29.50 (sd = 42) and the mean posttest score was 24.17 (sd = 3.3). This finding was statistically significant ($t = 2.34$, $df = 5$, $p = -.066$), however, these results should be interpreted cautiously due to the small sample size ($n = 6$). Pre and posttest scores placed the RCP subjects in the clinical range of functioning.

A comparison of children in RCP with those in APH reveal no difference between the two samples in total behaviour scores, suggesting comparability between the two groups. There were no significant changes in total behaviour scores over six months in either group. The two samples' total competency scores were not comparable at pre or posttest.

Native clients' pre and posttest behaviour scores in RCP indicated that no change had been made. Of note however, is that this sample showed significant deterioration in terms of social and total competencies. When these findings were compared with those for Native clients in APH, the findings suggest comparability for total behaviour and competency scores. Significant differences were found between Native clients in the two samples with respect to posttest social and total competency scores. These differences were a result of the deterioration in these areas over time in the RCP sample.

In summary, the results regarding changes in problematic behaviour and total competency between RCP and APH samples were somewhat ambiguous. The RCP sample made no significant gains in behaviour, and in fact deteriorated in the area of competency, over time. The APH clients, too, did not demonstrate improvements in either behaviour or competency.

When separate analyses were conducted, controlling for age and gender, it was found that the samples were not statistically comparable on pre-test scores regarding problem behaviour (although they had been when comparing total sample scores) and competency. While some samples were functioning in the clinical range, the findings suggest that the RCP sample displayed less proficiency in competency and exhibited more severe problematic behaviours. Although group comparability need not be established given the research design chosen for this study, conclusions regarding differences observed in the sample could have been made with more confidence if the two groups exhibited similar characteristics at pre-test.

A separate analysis examining the effect of ethnicity on scores for the RCP sample, indicates that competency for both Native and Caucasian children deteriorated during the test period. Children in APH exhibited no changes in these areas over the same time period.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter reviews the purpose of the study, the research questions and hypotheses and the methodology used in the research. The findings are discussed in terms of implications for TFC programming and implications for future research in the field of TFC.

In the last decade, TFC has increasingly become a viable placement option for children with serious emotional and behavioural problems. TFC programming strives to provide an intensive but less restrictive form of treatment to children who, in past year, would have been placed in residential and institutional care settings.

Proponents of TFC claim that it is a more clinically effective and cost-efficient treatment environment than is Residential Care. However, very little evaluation research regarding the efficacy of TFC has been reported in the literature to support this notion and of these studies, even fewer have conducted studies comparing TFC programs to other interventions.

The purpose of this research study was to begin to address this gap by comparing the effectiveness of TFC with Residential Care. Effectiveness was defined in terms of restrictiveness of discharge placements and positive outcomes associated with self-concept and problematic behaviour.

The objectives of the study were to increase the knowledge regarding the efficacy of TFC, which could then be used to assist in fine-tuning TFC programming; to educate child welfare professionals about TFC; and to determine whether TFC is a viable alternative to Residential Care.

Four research hypotheses and two exploratory research questions were formulated, based on a review of the TFC literature.

Two of the hypotheses were designed to examine whether the APH sample was discharged to less restrictive settings than TFC and whether the post-discharge restrictiveness of living settings for APH clients was lower than for clients in Residential Care. It was hypothesized that clients in the APH sample would exhibit an increase in self-concept and social competency, and a decrease in problematic behaviour. The exploratory questions posed in this research study aimed at examining the differences between the changes observed in the APH sample compared with the differences observed in the RCP pertaining to self-concept, problematic behaviour, and social competency. Lastly, this exploratory research examined whether age and gender differences in the APH sample population affected the general differences noted between the APH and RCP samples.

A quasi-experimental research design, utilizing a

non-equivalent comparison group of children in Residential Care was employed to examine the hypotheses and research questions.

The findings arising from this study must be viewed within the context of the methodological limitations. The small sample sizes, limit generalizations as does the absence of random selection. The varying lengths of time that subjects had been receiving treatment, also limits generalizability. However, the TFC and Residential Care samples were found to be comparable with respect to a number of key variables, and this strengthens confidence in a number of findings.

While limitations regarding instrumentation exist in the study, the measures chosen for this research are standardized instruments which use a variety of data collection procedures and are able to track direct and indirect changes in the client populations. Therefore, despite acknowledged limitations, the variety of data gathered, using valid and reliable instruments, combined with similarities between the samples, increased the confidence with which conclusions can be drawn from the findings regarding the efficacy of TFC.

Overall, the findings suggest that TFC programming is effective in improving children's self-concept. Children in the APH program experienced a statistically significant increase in self-concept ($t = 3.45$, $df = 28$, $p = .002$) over a six month

period. When the settings to which APH children were discharged were examined, it was found that 88% of these children had been discharged to settings less restrictive than TFC. Moreover, when children placed in TFC were compared with those in Residential Care, the findings suggest that children in TFC made significant gains in self-concept, whereas children placed in Residential Care did not. Another significant and positive finding is one indicating that TFC is effective in discharging children to significantly less restrictive settings. Eighty-eight percent (88%) of all APH clients were discharged to less restrictive settings, a finding that exceeds the 75% benchmark generally used in TFC as a standard of success. When these findings were compared with those determined from a group of children discharged from Residential Care, TFC emerged as the program that produced the most effective post-placement outcome. Residential Care clients were discharged to less restrictive settings slightly more than half of the time (55%). The mean APH restrictiveness rating was significantly lower than that of the RCP sample at the time of discharge, despite the fact that the clients from the RCP and the APH samples were similar in terms of presenting problems and age at the time of discharge. These findings suggest that TFC is a viable alternative to Residential Care, and, in fact, may be more effective for some children in improving

psychosocial functioning and post-placement functioning.

The findings related to changes in problematic behaviour and competency were less conclusive. Children placed in the APH program did not experience any significant changes in problematic behaviour or competence scores over a six month period. These findings contradict the findings reported by Meade (1991) and the Maryland Department of Human Resources (1987) where problematic behaviour improved in their TFC populations. One factor that might account for the difference in findings may relate to the time at which the Achenbach CBCL was administered. In both programs reporting a positive change in problematic behaviour, the measure was administered at the time of placement. Clients in the TFC sample had been placed in the APH program an average of one year and eight months prior to administration of the ACBCL. Perhaps children's behaviour improves significantly during the first part of their stay in TFC and then levels off as the length of time in the program increases.

When data collected on the Residential Care sample was examined, it was found that clients in Residential Care did not exhibit any changes in problem behaviours, however, the findings suggest that this sample experienced a significant deterioration in competency scores. The TFC and Residential Care groups were comparable with respect to pre-test problem

scores, however, it should be noted that pre-test competency scores between the samples were significantly different. While both samples' scores were in the clinical range, the Residential Care clients were more significantly compromised in the area of competency. Whether deterioration for RCP clients in the area of competency is a function of Residential programming or due to other variables is unknown.

The conclusions discussed above are based on data analysis conducted on the total APH and RCP samples. Separate analysis were conducted on key variables such as age, gender and ethnicity. These analyses yielded several significant findings which broaden our understanding of the findings reported for the total samples.

Separate analyses conducted on male clients, Native clients and children twelve and over in the TFC sample, compare favourably with earlier findings for the total TFC sample and suggest that these clients made significant gains in self-concept. With respect to problem behaviours and competency, male clients and those over 12 did not exhibit any significant changes. Native clients in APH did exhibit significant gains in total problem behaviours at a .10 level of significance.

An analysis of the female childrens' progress in APH found that their self-concept did not change over six months and

that these girls displayed significant deterioration in total problem, internalizing and externalizing scores. These findings should be interpreted cautiously, given the small sample size. However, there are two other studies which suggest that girls in TFC experienced a deterioration in behaviour (Osmond, 1992; Larson & Allison, 1977), which lend support to the findings reported in this study. Similar results were found for Caucasian clients in APH, who did not show significant change in self-concept and deteriorated significantly in total problem and externalizing scores. Three girls were included in the Caucasian client sample (n = 11).

Also of interest, are findings suggesting that children under 12 in APH (Male = 4; Female = 4) did not make significant gains in self-concept, but did exhibit significant improvements in externalizing behaviours over six months.

Further research examining the differences noted in these groups, particularly female children, would be relevant and would add to our understanding of the kinds of children that are best served in TFC.

When age and gender differences were analyzed to explore whether the variables would affect the general differences observed between the TFC and Residential Care samples, the results supported earlier findings. That is, age and gender differences do not affect differences found in the total sample

populations.

The findings reported in the study suggest that TFC is a viable alternative to Residential Care, and, for the most part is effectively treating disturbed children. These preliminary findings have a number of implications for program delivery and for future research endeavors in the field of TFC.

Future research studies comparing TFC and Residential Care should ideally include children who have resided in these programs for the same length of time. As well, a longitudinal study which follows clients for a longer period of time than the six months used here, would provide useful information about children's progress in TFC over time. Do clients in fact, make gains in behaviour early on in placement only to have this "level off" over time? Methodology that allows for measures to be administered at the time of placement and then at scheduled intervals throughout placement would address this question, as well as provide a mechanism for TFC staff to tailor individual treatment plans based on the child's progress over time. Outcome measures should be administered at the time of discharge, as well, on a routine basis. This allows for an assessment of the client's status and needs at the completion of his/her stay in TFC, and provides a base for comparison with data collected at the time of placement. A longitudinal study would ideally track clients' post-placement living environments

to determine whether children had been able to maintain the gains made in TFC after discharge. Although such data are valuable from an evaluation research standpoint, TFC programs often do not have the staff resources to make follow-up data collection possible. Increased administrative assistance would make ongoing program evaluations of this nature more feasible.

Arising out of this research are questions regarding whether the standardized measures chosen for this study effectively document changes made in the treatment population. The PHSCM appears to be sensitive to changes made by disturbed children regarding self-concept, however, this instrument did not distinguish the TFC and Residential Care population samples from normative samples when using the total score. That is, children in these programs scored in the average to above age range of self-concept when compared to a sample of children in a normal population. As a result, the measure has utility for evaluation studies, but more limited advantages for TFC staff who will look to results from clinical measures to: 1) document the severity of presenting problems to obtain funding; 2) assess psychosocial functioning in order to determine the degree of risk a child may be at, and 3) formulate and fine tune treatment plans.

Based on the findings in this study, the Achenbach CBCL does appear to identify where children are having difficulties

with respect to problematic behaviour and competency. As well, this measure was able to distinguish the TFC and Residential samples from the "normal" population. It has also been used successfully by other TFC programs to demonstrate change in behaviours over time. This measure would be most effective, both from an evaluation and case management perspective, if administered at intake and then at regular intervals during a child's stay in TFC.

It is argued that standardized measures demonstrated to have high reliability and validity should be used whenever possible to evaluate the efficacy of TFC (Gabor & Charles, in press). Regular data collection using the ACBCL and other instruments where standards, norms, and clinical cutting scores have been determined would allow for comparisons between TFC programs and would provide a monitoring tool that could be used internally by TFC administrators and clinicians.

This study, as well as others outlined in the literature review, have documented positive research findings related to the effectiveness of TFC. However, information is lacking as to what TFC programs actually do that is successful, and with what kinds of clients. Hudson, Nutter and Galaway (1991) suggest that research needs to be done that documents program processes. This would allow for the examination and comparison of the various approaches to TFC and would permit moving to

comparative research (p. 25). The articulation of program variables would also assist with replication of the program components that contribute to successful outcomes. As well, further outcome studies which explore variables relating to client characteristics, such as gender, age and presenting problems would provide information regarding which clients are best served in TFC. Research examining how aboriginal children progress in TFC is another gap that should be addressed further. As well, treatment outcomes for female children should be examined further. A study comparing treatment outcomes of female children in Residential Care with female children in TFC would add to our understanding of the effectiveness of these treatment modalities in relation to gender.

Further comparison studies between TFC and Residential Care programming are necessary and timely, given the limited financial resource base in child welfare and given funders increasing demands to know whether treatment programs are effectively serving their target population. Placement decisions are frequently directed by bed space and funding availability rather than on the needs of children (Thomlison, 1992). Comparative research that examines clinical outcomes as well as cost-effectiveness would provide funders and consumers with valuable information regarding funding and placement decisions.

The lack of evaluations comparing TFC with residential

alternatives has been well documented. However, there are few, if any studies that compare TFC to less restrictive, non-residential services (Freidman, 1989). As described earlier, child welfare legislation, both across North America and in Manitoba, emphasizes family focused intervention and treatment in the least restrictive settings. It follows that future TFC research should examine whether the changes clients are able to make in TFC, could have occurred in a less costly, less restrictive environment such as special rate foster care and with extended family, if provided with similar supports to that provided in TFC.

Based on the dearth of evaluation research studies conducted to date, the argument can be made that the current popularity and interest in TFC is largely for reasons other than actual effectiveness. Strong programmatic, fiscal, legal, and ideological demands for new models of treatment programming for children have encouraged the development of TFC (Davidson, Mayer, Gottschark, Schmitt, Blakely, Emshoff, Roitman, 1989). The development and tailoring of future TFC programs should be based on their effectiveness, not on programs that have proven their ability to survive and the assumption of professionals as to what is needed (Gabor & Charles, in press).

TFC administrators, consumers and funders should demand

ongoing research and program evaluation that both examines effectiveness and is able to conceptualize and measure key treatment variables in order that they can be replicated consistently across TFC programs. Evaluation research studies, and ongoing program evaluation are the mechanisms by which the premises upon which TFC is based and the effectiveness of these programs can be tested.

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Appendix A

Appendix A

MACDONALD YOUTH SERVICES
Revision to ROLES Rating and Costs of Care

Placement	Rating	Cost Per Day ¹
Self maintained residence	1.51	.00
Private boarding home	2.10	18.39
Home of child's friend	2.18	.00
Home of family friend	2.33	.00
Home of relative	2.40	.00
Home of biological parent	2.45	.00
Homeless	2.60	.00
Adoptive home	2.66	.00
Supervised independent living	2.75	30.51
Independent living preparation group home	3.09	N/A ²
Regular rate foster care	3.13	32.72
Family emergency shelter	3.38	40.72
Receiving foster care	3.48	40.72
Four bed receiving unit	3.52	80.00
Special rate foster home	3.57	50.23
Treatment foster family care	3.58	93.41
Receiving group home	3.62	55.84
Long term group home/res. care Level III	3.67	135.77
Long term group home/res. care Level IV	3.67	211.99
Long term group home/res. care Level V	3.76	233.75
Youth emergency shelter	3.85	N/A ²

1 Costs include staff support and supervision, maintenance, operating costs and administration. Respite costs are excluded from all calculations.

2 None in Manitoba.

Placement	Rating	Cost Per Day ¹
Medical hospital	4.00	813.00
Private residential school	4.14	71.50
Wilderness camp	4.18	N/A ²
Ranch based treatment facility	4.45	N/A ²
YOA open custody home	4.52	69.71
Open youth correctional facility	4.60	131.32
Adult drug/alcohol rehab. centre	4.62	Missing
Cottage based treatment centre	4.63	N/A ²
Psychiatric group home	4.85	N/A ²
Youth drug/alcohol rehab. centre	4.97	128.96
Armed services base	5.13	N/A ³
Young offender group home	5.40	N/A ²
Secure youth emergency shelter	5.45	240.00
Psychiatric ward of a hospital	5.50	800.00
Psychiatric institution (youth)	6.10	475.00
Closed youth correctional facility	6.40	131.32
Adult correctional facility	6.56	92.19
Secure treatment facility	6.58	201.85

¹ Costs include staff support and supervision, maintenance, operating costs and administration. Respite costs are excluded from all calculations.

² None in Manitoba.

³ Not included

Appendix B

Appendix B

**MACDONALD YOUTH SERVICES
INFORMED CONSENT FORM FOR
APH Caregivers and Residential Supervisors /
Child Care Workers**

1. I, _____, hereby consent to participate in the research project concerning the Alternative Parent Home Program and the Residential Care Program, administered by Macdonald Youth Services. I have been informed that the purpose of the research is to examine the effectiveness of treatment foster care; to provide information that will improve treatment foster care programming; to meet the accountability requirements of funders, consumers and providers; and to promote treatment foster care programming.
2. I have been informed that the research project is a study being conducted by Kim Thomas to fulfill, in part, the requirements of her Masters of Social Work degree. I understand that I will be asked to complete a questionnaire designed to record the behavioural problems and competencies of the children who are either placed in my foster home or who I work with in a residential treatment setting.
3. I understand that as a participant, my right to privacy will be maintained, that responses will be shared with the child's treatment team only, and that the results will be reported in aggregate form only.
4. I have been informed that general results from this research will be compiled in a Thesis report that will be available to all interested parties.
5. I have been informed that I can contact Kim Thomas about any questions regarding this research.
6. I have been informed that my participation is voluntary, and further, that I may withdraw my consent and discontinue participation at any time.
7. I have received a copy of this consent form.

Date

Signature

Date

Signature

Appendix C

Appendix C

**MACDONALD YOUTH SERVICES
INFORMED CONSENT FORM FOR
Clients in APH and Clients in Residential Care**

1. I, _____, give my permission to participate in the study concerning the Alternative Parent Home Program and the Residential Care Program at Macdonald Youth Services.

The reason this study is being done is to see if treatment foster care is helping the children who are placed in the program and to find ways to make the program better. The study will also be a way of letting people who use the program, know if it is doing what it should for children.

2. I know that this research project is a study being done by Kim Thomas to meet the requirements of her Masters of Social Work degree. I understand that I will be asked to fill out a questionnaire that will show how I feel about myself.
3. I know that if I fill out the questionnaire, this information will only be shared with my social workers, foster parents or the child care workers who work with me. The results will be reported together with all the other children's results in the program, without using my name.
4. I know that the results from this study will be put into a report that will be available to any person who is interested.
5. I know that I can contact Kim Thomas regarding any questions I have about this study.
6. I know that I only have to participate if I want to and that I can decide not to participate at any time.
7. I have received a copy of this consent form.

Date

Signature

Date

Signature

Appendix D

Appendix D

**MACDONALD YOUTH SERVICES
ALTERNATIVE PARENT HOME PROGRAM
Release of Information and Consent Form**

I hereby authorize Macdonald Youth Services to obtain assessment information from _____ . I acknowledge that this assessment information may be obtained using standardized and non-standardized tests.

I hereby authorize Macdonald Youth Services to utilize assessment and other client-related information for evaluation and research purposes.

I hereby authorize Macdonald Youth Services and/or consultants hired by Macdonald Youth Services to interview _____ for evaluation and research purposes. I understand that this child will be informed that his/her participation is voluntary.

I understand that information collected from all sources will be held in strictest confidence.

Date

Guardian (Placing Agency)

Witness

Parent