

Bond University  
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**An evaluation of mental health gains in adolescents who participate in a  
structured day treatment program**

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Certification

This thesis is submitted to Bond University in partial fulfilment of the requirement for the Doctor of Health Science.

This thesis represents my own work and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

Relevant approvals from

1. A.C.T. Child and Adolescent Mental Health;
2. A.C.T. Health and Community Care Human Research Ethics Committee; and
3. The Bond University Human Resource Ethics Committee (BUHREC)

are included at Appendix A.

Signature: Original signed by J.H. Fothergill

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## Abstract

A day treatment program is an important component on the continuum of care for young people with moderate to severe mental health issues. The aim of this research was to investigate whether adolescents who participate in a structured day treatment program demonstrate greater mental health gains than adolescents receiving less intensive outpatient treatment. In addition, the research investigated whether mental health gains were related to intake diagnosis and whether parents reported higher levels of mental health gain than the client in their self-report ratings. The setting for the research was The Cottage, an adolescent day treatment program, run by the Child and Adolescent Mental Health Service (CAMHS) in the Australian Capital Territory. The program provides intense multi-faceted treatment within a therapeutic milieu environment for clients aged 12-18 years with moderate to severe mental health issues. The study involved a Day Program group of 22 clients from The Cottage and included a comparison group of 20 outpatient clients from CAMHS. Results indicated that individuals in both treatment approaches had statistically significant reductions in anxiety and depression symptomology and improvements in outcome measures, but there were no significant differences between the two treatment groups. The data indicated a statistically significant difference in return to school rates, whereby approximately 82% of individuals in the day treatment program had returned to school/employment, whilst only 30% of individuals in outpatient treatment had returned to school/employment within three months post treatment. The results did not demonstrate that the degree of mental health gain was dependent upon intake diagnosis and although not statistically significant, parents rated their children as more severe in terms of psychopathology than the client.

## CHAPTER 1

### Introduction

This chapter will provide an outline of the research by introducing the problem, a description of the context of the problem, a discussion regarding the rationale for the study, the purpose of the study and finally an introduction to the following chapters of the thesis.

#### *Mental Illness*

Mental illness has become one of the major medical issues affecting today's society and has been identified as a key world health problem of the future (Albee, Bond & Monsey, 1992). It is characterised by alterations in the individual's thinking, mood or behaviour (or some combination there of), connected with significant distress and impaired functioning over an extended period of time. Mental illness, which can affect people regardless of age, culture, education and socio-economic status, is defined through diagnosis, disability and duration and includes disorders with psychiatric symptoms such as schizophrenia, autism, major depression, panic disorder, anxiety, obsessive-compulsive disorder and varying conditions as outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR 2000).

The onset of mental illness often occurs in adolescence and young adulthood due to a complex interplay of social, environmental, biological, personality and genetic factors that have an impact on the individual during these developmental stages. Zubrick, Silburn, Garton, Dalby, Carlton, Shepherd, et al. (1995), in their study noted that each year, approximately 100,000 children and adolescents in Australia are affected by crippling emotional disorders.

Recent research shows that:

- during the 1998/99 financial year, 149 A.C.T. adolescents were admitted into psychiatric inpatient units (ACT Department of Health and Community Care, 1999).
- in 2001, of Australian people aged 13-17, 13.4% of males and 12.8% of females were diagnosed with a mental health problem (Australian Institute of Health and Welfare, 2004),
- in 2003, anti-depressants were prescribed to 5,855 patients in the A.C.T. under the age of 20 (Health Insurance Commission, quoted in the West Australian 16/05/04, p.9),
- in 2003, 300 Australian young people aged 15-24 years, completed suicide, 251 of whom were males and 49 females. Suicide accounted for 19.9% and 26.1% of deaths of Australian males between the ages of 15 to 19 and 20 to 24 respectively (ABS, 2004).

The increase in mental illness places a significant burden on the health system, families and society in general. Previous studies (Mathers, Vos & Stevenson, 1999; Murray & Lopez, 1996; Raphael, 2000) have shown that mental illness places a significant cost impact on the community both in social outcomes as well as in monetary terms. Furthermore the stigma attached to mental illnesses presents a serious obstacle not only to diagnosis and treatment but also to acceptance in the community.

Consequently, concerns about mental health and wellbeing in young children and adolescents have reached a level that requires coordinated and strategic action (McGorry, Edwards, Mihalopoulos, Harrigan & Jackson, 1996; Nurcombe, 2000; Raphael, 2000). The onset of mental illness during adolescence can cause immediate and long-term problems as well as disruptive effects on identity formation and the

establishment of adult roles. Mental health problems and disorders have a strong link with difficulties at school, difficulties with peer relationships and poor academic attainment. Early intervention in assisting the adolescent's development of their capacity to manage their mental state may prevent the young person becoming more chronically disadvantaged and disabled. As a consequence, improvement in quality of life through enhancement of social and domestic lifestyles and employment opportunities would result.

If treated effectively, the individual can either overcome or manage their mental illnesses, thus reducing the social and financial impact on the individuals, the families and the community.

#### *Context of the problem*

Because of the aforementioned concerns about mental health and well-being in young children and adolescents, combined with the increasing incidence of mental health disorders in this population, the early identification and treatment of the illness has become critical. The social and health costs associated with treatment in later life increase significantly if intervention at the early stages of illness is not undertaken. Early intervention approaches, described by Edwards and McGorry (2002), assist in the reduction of morbidity and hospitalisation as well as the promotion of the rapid recovery and prognosis of the illness. Furthermore, the preservation of psychosocial skills, family and social supports are enhanced.

Recent introduction of more intensive treatment programs such as day treatment programs, also known as "partial hospitalization" and "day hospitalization", offer effective early interventions for adolescents experiencing moderate to severe mental health disturbances (Matzner, Silvan, Silva, Weiner, Bendo & Alpert, 1998; Milin, Coupland, Walker & Fisher-Bloom, 2000; Kiser, Millsap, Hickerson, Heston, Nunn &

Pruitt, 1996). Day treatment programs as defined by Greene and De La Cruz (1981) are complex social systems that can be characterised in terms:

of input variables (eg., kinds and variety of admitted patients), task definition variables (eg., explicitness and priority of goals), social structural parameters (eg., number, kind and degree of integrations of treatment components), and culture (eg., nature of kind and typical patient-staff interactions).(p. 200)

A day treatment program is now considered an important component on the continuum of care for young people with moderate to severe mental health issues (Victoria's Mental Health Service, 1998). Young people with severe psychiatric disturbances can be maintained in the community rather than in an inpatient setting or residential care. Clients can attend a specialised program several hours a day and receive intensive psychotherapeutic services, including individual, group and family work, creative and physical interventions and benefit from intensive educational services.

A day treatment program has a distinctive advantage in that it provides an environment where young people can “regain and develop life skills and work through their issues, problems and frustrations among peers in an accepting and supportive environment.” (McEntee & Hilton, 2002, p.39)

### *Statement of the Problem*

Although day treatment programs have been recognised as a viable treatment option for children and adolescents for more than 25 years (Zimet & Farley, 1991), there has been limited research describing the advantages and efficacy of this approach and limited information on the theoretical framework of day treatment programs.

There have been a number of studies conducted into the effectiveness of day programs, both in terms of improvement in client mental health outcomes and cost benefits. Research has demonstrated that day treatment can assist disturbed young

people in functioning at a higher level within the community and reducing the likelihood of re-hospitalisation (Kettlewell, J. Jones & R. Jones, 1985; Kiser, et al., 1996; Matzner, et al., 1998). Albiston, Francey, and Harrigan (1998) concluded that day treatment, with its emphasis on the peer group, can assist the young person in sharing experiences with others, exploring options, improving personal strengths and coping skills and mastering appropriate developmental tasks.

Rayner and Woodward (2000) and Yelland, Hubbard, McLean and Hodgkiss (2002), in their reviews of respective adolescents day treatment programs, identified improvements in levels of depression, anxiety, self-esteem and locus of control scales. Whilst Piper, Rosie, Azim and Joyce (1993) provided support for day treatment for patients with serious long-term non-schizophrenic disorders, their study also suggested that intensive insight oriented day treatment was not the treatment of choice for all patients with serious long-standing psychiatric disorders and that patients with functional psychoses appeared to require a more containing and supportive environment.

Two studies on pre-adolescents (Erker, Searight, Amanat, & White, 1993; Grizenko, Papineau, & Sayegh, 1993), focussed on children with behavioural problems rather than adolescents with a psychiatric disturbance.

Moreover, four of the studies on pre-adolescents (Erker et al., 1993; Gabel, Finn, & Ahmad, 1988; Sack, Mason & Collins, 1987; Tissue & Korz, 1993) were based on the analysis of data collected by a retrospective review of client's charts. The researchers themselves noted that chart reviews often contain judgments of subjective biased observers and suffer from incomplete data. These studies had no reliability ratings on the clinical ratings of staff. The data collected retrospectively from charts may not only have been incomplete but also biased in terms of content, as

errors can occur due to inconsistencies between the assessments and data recording of care providers (inter-rater reliability) and the problems of collecting data over long periods of time.

In addition, although previous research has reported improvements in client health status due to day treatment programs, biases and discrepancies were identified in the design and methodology of the studies. As shown in the literature review in Chapter 3, efficacy of the day treatment programs could not be established as no two studies were similar in design and the studies were not described sufficiently to permit replication for further research.

Furthermore, nearly all of the studies lacked a control or comparison group thus making it difficult to attribute the positive changes to the day treatment program versus a placebo effect or perhaps an effect of maturation.

#### *Rationale for this study*

Although the published evaluations of day treatment reported positive results, there were similar weaknesses across the research designs. None of the studies included comparisons of a suitable group, which restricts the interpretability of the analyses. There was no evidence to rule out the possibility that clients would have improved without the particular interventions.

Research on day treatment has not supported the classification of day treatment as an “empirically supported therapy”. An empirical supported therapy is a specific psychological treatment, which has been shown to be efficacious in controlled research with a defined population (Chambless & Hollon, 1998). Empirically supported therapies enable the clinician to begin to answer the following questions:

- (a) Has the treatment been shown to be beneficial in controlled research? (That is, has the treatment been supported empirically and if so, in which studies?)
- (b) Is the treatment useful in applied clinical settings, if so with what patients and under what circumstances?

(c) Is the treatment efficient in the sense of being cost-effective relative to other alternative interventions? (Chambless & Hollon, 1998, p. 7)

Research into day treatment using a comparison group, randomisation of client population and standardised psychometric instruments will assist in answering these questions.

Another weakness of the previous evaluation reports is that they lack examination of how reported changes may have occurred in day treatment. None of the evaluations addressed the theoretical framework of day treatment and how changes may have occurred in the client's behaviour

#### *Purpose of Research*

This current study's goal was to improve on the scientific rigour of previous research of young people in day treatment, and thus to provide empirically based answers to the questions raised. It was designed to overcome some of the methodological weaknesses of selection bias, poorly defined programs and lack of standardised outcome measures and comparison group.

An adolescent day treatment program in Canberra, commonly called "The Cottage", was the setting for this research. The Child and Adolescent Mental Health Service (CAMHS) Day Program has recently established The Cottage to provide treatment for young people aged 12-18. The adolescent in day treatment remains living at home in his/her community environment and attends the program four days per week from 9.00am until 3.00pm. The objectives of treatment are to relieve anxiety, promote adaptive skills, improve interpersonal relationships, improve academic skills, gain self-awareness, enhance self-esteem and develop self-control in young people, thus enabling the young person to transition back to the community after a school term. If ongoing treatment is required the young person can return for further management. A comprehensive and detailed overview of the components of



the A.C.T. CAMHS day treatment program is provided in Appendix E. In addition, this thesis provides a description of the theoretical framework of the day treatment approach and includes information about the process of change for the day treatment program.

The aim of the research was to explore whether the young people attending the intensive day treatment program over a ten-week period demonstrated greater mental health gains than those attending the less intense outpatient treatment.

### *Development of Thesis*

The preliminary chapters of the thesis focus on areas that provide meaningful information about the experience of young people who have a mental illness and the factors that give rise to the mechanisms associated with different psychiatric disorders. Treatment options available in the Australian Capital Territory (A.C.T.) are discussed.

Chapter 2 reviews the prevalence and incidence of mental health disorders in children and adolescents and discusses the complexity of factors involved in developing suitable treatment for young people throughout their transitional years

Chapter 3 gives a brief historical account of day treatment and also provides a review and critique of previous literature focussing on day treatment. Due to the fact that there are limited studies of adolescents in day treatment programs, appropriate research of pre-adolescents and day treatment is also reviewed in order to evolve the research hypotheses.

Chapter 4 provides a description of the research methodology and rationale used to test the hypotheses. The treatment approaches are outlined and the sample, study design, instruments and data processing are described.

Chapter 5 reports on the results of statistical analyses used in testing the hypotheses. The descriptive statistics are detailed and each hypothesis is examined in terms of different statistical tests. Graphs and tables provide visual summaries of the analytical outcomes.

Finally, Chapter 6 presents a discussion on the outcomes of the study. The descriptive data are analysed and discussed and each hypothesis is explored in terms of the findings and its application. The limitations of the study are examined and future implications concerning the two different approaches: day treatment and outpatient treatment are explored and in conclusion, recommendations for future research or changes are provided.

## CHAPTER 2

### Adolescent mental health needs and treatment options

#### *Prevalence and Incidence of Child and Adolescent Mental Health Disorders in Australia and the Australian Capital Territory.*

Recent epidemiological studies consistently show that between 10 and 20% of children and young people in urban settings in Australia, suffer from diagnosable psychiatric disorders. These studies also highlight that 3 to 5% have distressing or disabling psychiatric difficulties, which require identification and treatment (ABS, 1998).

The 1997 Australian National Survey of Mental Health and Wellbeing (Sawyer et al., 2000) estimated the prevalence and incidence of mental health disorders nationally, in children and adolescents at 18%. This estimate was based on the number of young people who met the Diagnostical and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV-TR, 2000) criteria for a mental health diagnosis during a six-month period. The NSW Department of Health Mental Health - Clinical Care and Prevention Model estimates that 20.6% of adolescents are suffering mental disorders (New South Wales Department of Health, 2001).

Many mental health disorders have their peak period of incidence during mid to late adolescence, accounting for 55% of disease burden of young people aged between 15 and 24 years (Mathers, Vos, & Stevenson, 1999). It has been estimated that around 20% of young people in the community suffer from depressed mood (Cubis, 1994), 5% with depressive disorder and 2.5% experiencing a current major depression (National Health and Medical Research Council (NHMRC), 1997). Psychotic disorders affect about 1% of the population and usually occur after puberty (Lewine,

1988), whilst anxiety disorders are the most common disorder in adolescence (Kashani, Orvaschel, Rosenberg, & Reid, 1989). Suicidal behaviours emerge in early adolescence and increase until the mid teens when they plateau (Zubrick, Silburn, Teoh, Carlton, Shepherd & Lawrence, 1997). In 2003, suicide accounted for a total of 113 registered deaths of Australians between the ages of 15 and 19 and a further 187 registered deaths of Australians between the ages of 20 and 24 (ABS, 2004).

These numbers show that there is clearly a strong need for effective treatment programs for young people experiencing mental distress. This early intervention treatment becomes even more important in the context of studies that show individuals who develop mental disorder at an earlier age can become more severely impaired and may develop co-morbid diagnoses and other adverse social outcomes later in life (Fergusson & Woodward, 2002).

Fergusson and Woodward (2002) conducted a longitudinal study in New Zealand that examined the extent to which young people with depression in mid adolescence (at ages 14 - 16 years) were at risk of undesirable psychosocial outcomes in later adolescence and young adulthood. Results suggested that young people who were depressed in adolescence had more than three times the risk of subsequent depression and two times the risk of experiencing anxiety than their peers without depression. There were however, limitations to the study. The sample was based on a specific New Zealand cohort and the results were based on retrospective self-report ratings of depressive symptoms. Nonetheless, other independent research has provided support to their findings.

Vander Stoep, Weiss, McKnight, Beresford and Cohen (2002) found that, compared to adolescents without mental illness, adolescents with:

- depressive, anxiety, disruptive and substance abuse disorders were 2.86 to 9.21 times more likely to not complete secondary school.
- disruptive disorders were between 1.96 and 8.32 times more likely to participate in future criminal activities.

The research by Vander Stoep et al. (2002) also identified that young people with an anxiety disorder diagnosis demonstrated a decreased risk of criminal involvement.

In addition, data collected for the 2001 ABS census, combined with information gained from the 1997 Australian National Survey of Mental Health and Wellbeing (ABS, 1998), provides the basis for an estimation (based on current population and percentage occurrence identified in the 1997 Survey) of between 5800 and 6,800 children and adolescents within the A.C.T. suffering with mental health problems that could require treatment.

As a consequence, effective treatment is crucial to lessen the risks and effects of mental health disorders. The impact of emotional and behavioural problems on the young person can be serious. The disturbed young person can behave in ways deleterious to his/her health and without treatment, the young person's functioning and quality of life could be impaired. Mental health disorders additionally impose a heavy burden on young people, families and communities, resulting in an enormous cost to society in human and economic terms (Raphael, 2000). In 1997-1998 in Australia, \$A107 million was spent on mental health services for young people. Whilst this amount is considered by many to be insufficient, it is a substantial financial burden that was equivalent to \$A23.00 per child (Commonwealth Department of Health and Aged Care, 2000). In 1998, in the USA, approximately

\$A173 was spent per child on mental health care (Ringel & Sturm, 2001). These costs did not include the indirect costs on society and families.

Although it is apparent that treatment is necessary to lessen the risks and effects of mental health disorder, there are concerns that only a quarter of those who need help, receive it. Research conducted as part of a Western Australian Child Health (WACH) survey, (Zubrick et al., 1995), indicated that only a minority of children and adolescents with mental health problems receive professional treatment at this early stage. The WACH survey showed that only 2% of 4-16 year olds, with mental health problems, had accessed mental health services in a six-month period. In other research, Sawyer et al. (2000) reported that among those children who met the criteria for mental health disorder, only 29% had attended a professional service and received treatment over the previous twelve months. Reasons cited by families were the practical issues of cost, not knowing where to get help and long waiting lists.

In addition to the low percentage of children and adolescents accessing mental health facilities, there have also been no designated adolescent treatment options available to individuals diagnosed with a moderate to severe mental illness (Victoria Mental Health Services, 1998). To date there has been a focus on the general adult mental health services, although global policy has recognised the significance of focusing initiatives on infant, child, adolescent and family health (Australian Infant, Child, Adolescent and Family Mental Health Association (AICAFMHA), 2003).

In the Australian Capital Territory (A.C.T.), there have been few inpatient beds for adolescents with a mental illness. Whilst young people have received assistance through GPs, Paediatricians, Outpatient services and non-government organizations, there have been few options for children and adolescents requiring hospitalisation. Admissions to an adult psychiatry unit or a general medical ward have been the only

available option for care. Young people in severe psychiatric distress have been admitted to adult psychiatric facilities as described in Table 1 and Table 2.

Table 1

*A.C.T. Adolescents referred and admitted to A.C.T. Hospitals with a primary diagnosis of mental disorder, by age, group and sex (1998-1999)*

Age Group	Male	Female	Total
12-14	4	16	20
15-19	48	46	94
Total	52	62	114

Source: A.C.T. Hospital Morbidity Data Collection, 1998-1999

Table 1 indicates the number of A.C.T. adolescents, with a primary diagnosis of mental disorder, admitted to an A.C.T. hospital during the 1998/1999 financial years.

Table 2

*A.C.T. Adolescents referred and admitted to interstate hospitals with a primary diagnosis of mental disorder, by age, group and sex (1998-1999)*

Age Group	Male	Female	Total
12-14	1	5	6
15-19	8	21	29
Total	9	26	35 (Note 1)

Note: 1. 33 referred to NSW, one (1) to Victoria and one (1) to South Australia

Source: A.C.T. Hospital Morbidity Data Collection, 1998-1999

Due to the lack of sufficient and/or suitable A.C.T. facilities, a number of adolescents in psychiatric distress have also been referred interstate for care. Table 2 indicates the number of adolescent inpatient admissions with a primary diagnosis of

mental health, who were referred interstate in 1998/99. In total 149 A.C.T. adolescents with severe mental health symptoms required inpatient psychiatric treatment. An alternative service, such as an adolescent day program for young people with mental illness, could assist in reducing or preventing needless admissions to adult facilities and unnecessary transfers to alternate hospitals interstate. Such a program could allow young people to remain in their home in the community with their parents and assist the young person in returning to school and integration back into society.

#### *Development and maturation during adolescence*

However, before exploring treatment options available for young people with mental illness, it is important to understand the maturational and developmental issues specific to adolescents in order to understand their mental health needs and tailor treatment programs accordingly.

Adolescence is a period of transition, during which significant social, biological, psychological, emotional and spiritual changes occur. Essentially, developmental needs of young people aged 12-18 years are about going to secondary school, the approach of puberty, individuation, peer associations, the formation of identity and sexual orientation issues (Rickwood, 2004).

Development and maturation in adolescence may be disturbed by variables related to one's life; one's self, experiences and the environment. The young person must deal with these changes as well as the conditions of modern society, which is characterized by a weakened family structure, rapid urbanization, competition for education and employment and exposure to drugs and alcohol. Some young people become emotionally disturbed during adolescence and develop maladjusted patterns of behaviour, such as suicide attempts, drug and alcohol abuse and delinquency.



Some of the more serious disorders that appear in adolescence are psychosis, schizophrenia and manic depression.

Chronologically, adolescence occurs between the ages of 10 and 19 years, and youth occurs between 15 and 24 years (World Health Organisation, 1993). Moreillon (1992) characterized adolescence as a period of transition with changes in:

- Biological development from the commencement of teenage years to full sexual and reproductive maturity of adulthood;
- Psychological development from the cognitive and emotional patterns of childhood to adulthood; and
- Changes in autonomy and dependency, from socioeconomic dependence to one of comparative independence.

The period of transition is marked by the development of physical changes in body size, growth and shape, changes in the level of hormones in both male and females as well as considerable changes in cognitive development.

In contrast to a cognitive focus, Erikson (1968) related emotional development to both cultural and social expectations. Erikson described a series of stages from infancy through adolescence to adulthood to old age and death. Each stage was described in terms of the resolution of conflict. In adolescence, the conflict was described as the conflict between the establishment of personal identity and role confusion. On the other hand, Blos (1970) described adolescence as a move towards independence from the family and a process of individuation.

Alestalo, Munnukka and Pukuri (2002) maintain that the adolescent's personality is still in the process of forming. The young person is getting to know their body, learning to live with their sexuality and by achieving satisfactory social

status amongst their peers, achieves a sense of identity. The relationship with the self, school, work and hobbies is important in shaping the individual's identity.

Whilst there are many theories of emotional development in adolescence, Steinberg (1996) considers that they all have a common thread in that adolescence denotes a period where the individual has the ability to contemplate achieving a number of goals in reality. The individual is faced with challenges and possible sources of anxiety, depression and confusion.

Longitudinal studies by Cantwell and Rutter (1994) have shown that a substantial number of adolescents go through these years relatively free of turmoil. There are individuals however who do experience difficult times.

#### *Potential consequences of mental health disorders if left untreated*

What of those who do not achieve the developmental tasks? MacLeod (1995) maintains that individuals who incompletely or negatively resolve previous developmental tasks may "take a maladaptive stance of fanaticism or rejection of cultural standards or may find safety in a passive stance resulting in bewilderment or role confusion."(p.111).

According to Schuster and Ashburn (1992), the individual fearing failure in identity formation and value resolution, may use tactics to avoid the pain of identity formation and responsibility. These tactics include:

- the use of drugs and alcohol,
- resorting to crime,
- truancy and/or school failure,
- delinquency,
- generalized depression,
- conflict with parents, and

- aggression.

### *Social and health costs*

The social and health costs associated with treatment in later life increase significantly if intervention at the early stages of illness is not undertaken. In 1996-97 the average length of stay (ALOS) for A.C.T. adult inpatients with a primary diagnosis of mental disorders was 13.8 and 13.1 days respectively for males and females. This was the second highest rate for all diagnoses and was almost twice the ALOS for the next category (ACT Department of Health and Community Care, 1999).

Young people attempting to navigate the path from childhood to adulthood are beset by many struggles. De Leo and Heller (2004), in their survey found a high incidence of self-harm. Their survey of 1800 females in Queensland found that 200 (11.11%) of them had self-harmed in the previous year. Mental health problems in 2001, including drug dependence disorders were cited as a major burden of disease for young people in Australia, with 13.4% of males and 12.8% of females aged 13-17 years having mental health problems (Australian Institute of Health and Welfare, 2004).

“Eating Disorders have the third highest mortality rate for adolescents and are the most lethal of all psychiatric illnesses.” (Highe & Thompson, 2005). What's more, adolescents with mental health problems report high rates of suicidal ideation and health risk behaviours, including drinking, drug use and smoking (Sawyer et al., 2000).

If early intervention treatment, at the adolescent stage, can be effectively employed to reduce the economic burden of mental illness, then significant public health cost savings can be realized. Treatment may prevent the devastating emotional

and social consequences of continual ill health, educational failure, reduced economic productivity and future institutionalization ('the revolving door syndrome,' whereby future frequent re-entries into mental health facilities occur), as well as the social consequences of isolation, criminal activities, and conflict and family discord.

#### *Effective treatment planning and implementation*

With all these difficulties and problems it is obvious that challenges will arise in caring for adolescents in both day and outpatient treatment programs. Severely disturbed young people, some with conduct problems and some who come from dysfunctional home environments, create challenges for the staff. Adolescents often return to dysfunctional homes overnight, thus on return to the programs, the problems and frustrations reoccur. Treatment often raises issues of boundaries, communication and management.

It is vital to take into account the developmental pathways, the issues impacting upon adolescents, the illness behaviours and the problems associated with school, peers, family and life direction, when creating and developing a treatment program for adolescents. It is important for treatment providers to have an understanding of the developmental, social and systemic factors in assessment and treatment (Birleson & Luk, 1997) to understand the stressors involved in treatment, which in turn can engender self discipline and growth in the young person and therapist.

It is important for clinicians to have an understanding of the developmental tasks of adolescence: to understand that changes in cognitive, emotional and social development occur gradually throughout the period from childhood, through adolescence and early adulthood. Neuropsychiatric disorders may present differently in young people than in adults because young people have difficulty in

communicating internal experiences, emotions, thoughts, sensations and perceptions (Taylor, 1998).

Treatment and service planning can be complicated and complex. Clinical managers are often less experienced in diagnosing and treating young people and medication and psychosocial intervention effectiveness is less researched for children and adolescents than adults (Taylor, 1998)

In creating programs specific to adolescence it is important to recognise that the adolescent may not have developed the ability to process information, regulate affect or have specific cognitive abilities, as these developmental tasks often occur after adolescence (Birlerson , Luk & Mileshkin, 2001). Also, it is useful for clinicians to know that personality development is in transition and influenced by person-environment interactions and that the family/guardians need to be involved, especially for treatment decisions and matters of consent.

Furthermore, in treating young people, the service should be the least restrictive, most normative and stable environment that is clinically appropriate-where possible, in their local community (Raphael, 2000).

#### Adolescent mental health treatment options

In the Australian Capital Territory (A.C.T.), adolescents experiencing the more acute mental health disturbance (moderate to severe) can seek assistance through public health facilities, including CAMHS, Psychiatric Inpatient Units, the Medical Adolescent Ward and the Adolescent Day Treatment Program or through private facilities, including private Psychiatrists, a private ward and General Practitioners (GPs). Those experiencing mild mental health disturbances can seek assistance through school counsellors, GPs and non-government agencies. For the purpose of

this thesis the more acute services, where young people who have moderate to severe mental receive treatment, will be discussed.

### *Private Treatment Options*

#### *General Practitioner, Paediatricians, Private Psychiatrists and Private Psychologists, Private Inpatient Unit*

Whilst the majority of young people with moderate to severe levels of mental distress, disability and dysfunction seek assistance through the public mental health system, there are some who access and retain the services of the private health system. General Practitioners (GPs), Specialists and Psychologists are part of the continuum of care for young people with mental health disorders in the community. They provide assessment, clinical interventions, ongoing management and monitoring, referral, support and medication management prior, during and post treatment. They form a vital primary service, which is crucial to the treatment, support and care of the young person with a mental health disorder and their family and/or carer. Individuals with more acute conditions can access one of the specialist service facilities, Hyson Green, which is a private adult inpatient facility and there they can receive a more contained type of treatment approach.

In contrast to care in the primary setting, the individual in the inpatient setting receives more intensive treatment from a team of different multidisciplinary professionals, is monitored closely in the ward environment and has the added benefit of having the opportunity to participate in group programs. The individual has the space to relax, reflect and work on difficulties in a safe environment and in addition the family members can have 'time-out' from their teenager. A limitation however, is that individuals remain overnight, can sometimes learn to like admissions to inpatient

units and can learn the more chronic and difficult behaviours as the young person models those adults with entrenched adverse behaviours.

A drawback in primary care is that GPs and therapists may have limited time available for their client and the added issue of cost may be a barrier for some families. Conversely, individuals accessing primary care can often have a close relationship with their GP or therapist, maintain their sense of empowerment and possibly do not have the stigma that is associated with entering a mental health facility.

However, young people with a moderate to severe mental illness often require an integration of interventions (intensive bio-psychosocial treatment, where cognitions, emotions, temperament, behaviour and social spheres are considered), close monitoring, a daily routine, and access to school, as well as the importance of understanding development, social and systematic factors in assessment and treatment. The Child and Adolescent Mental Health Service (CAMHS) in the ACT cater for some of these young people requiring community psychiatric care.

#### *Public health sector treatment options*

##### *Child and Adolescent Mental Health Service*

The Child and Adolescent Mental Health Service (CAMHS), a division within Mental Health A.C.T., is an Outpatient Service. CAMHS is a community based adolescent mental health service, which provides specialised assessment, clinical/case management, crisis intervention, preventative services and direct bio-psychosocial treatment for children and young people up to the age of 18 years. Young people meet with their Clinical/Case Manager once or twice a week, weekly or fortnightly depending on their need. The model of care used in Clinical/Case management involves managing the client's entry into the service, managing treatment and

coordinating the person's movement through the service and assisting with discharge. For a more comprehensive description of CAMHS see Appendix C.

Similar to primary treatment service, an advantage of outpatient treatment is that the young person can form a close collaborative relationship with their Clinical/Case Manager who can also respond to the individual in crisis, provide support when needed, assist the families and advocate for their client. The young person can feel more empowered whilst still having a sense of autonomy. An added advantage of the outpatient service is that the clinicians have specialist skills and have a greater understanding of the developmental pathways that the adolescent takes. On the other hand the issue of possible stigmatization, heavy caseloads, insufficient time, numerous meetings that staff need to attend and the inability to see the adolescent interacting with their peers may reduce the therapeutic work that could be achieved (Dowling, Fossey, Meadows & Purtell, 2001).

#### *Mental Health Inpatient Units*

As already discussed, there are limited acute treatment options for children and adolescents requiring hospitalisation in the A.C.T., so from time to time, adolescents are admitted to adult wards.

In the same way as issues arise in the private inpatient unit so do they in the public Psychiatric Services Unit (PSU) in the ACT. However in this ward there is even a greater risk of young people modelling entrenched behaviours and finding themselves at risk from the advances of other un-well clients. This unit provides care for adults, who access the service both voluntarily and involuntarily, are aged between 18 and 65 years, with often chronic and acute moderate to severe psychological, emotional and behavioural disturbances and often have behaviour that places themselves or others at risk. To assist in maintaining the adolescent's safety, PSU



staff are often required to provide one to one care and monitoring of an adolescent inpatient. In a system where there are shortfalls in staff availability, this requirement places additional burden on limited staff resources. Another, less acute, mental health inpatient unit is at the Calvary Hospital in the northern region of Canberra. It also serves adults with moderate to severe mental illness; however, as it does not have a high dependency ward, all patients accessing this ward are voluntary. This unit provides some group work sessions, which can be beneficial to the young person in care.

Young people who are quite unwell can feel safe in inpatient facilities as they are monitored closely and receive constant care. The setting provides the opportunity for the psychiatrist and clinicians to observe the young person's behaviour. The young person receives ongoing psychological assessment and therapy and constant medication compliance oversight and review. Parents often feel relieved that their child is being 'looked after' and they too can have respite.

#### *Medical Adolescent Ward*

If hospitalisation is required a brief admission to the adolescent ward or paediatric ward can be arranged for some young children and adolescents experiencing psychiatric and emotional disturbances, however it is not really suitable. The adolescent ward is a small 12-bed unit that serves young people requiring surgical intervention or medical treatment. It is a fast paced ward, staffed by General Nurses whose tasks are to care for severely medically and surgically compromised individuals, monitor client observations and technical equipment, and administer medications. The ward is not designed to cater for the young with mental disorders nor is the staff trained to care for these patients.

### *Australia Wide Services*

In other states of Australia there are more specialist type services that cater to young people. The following is a brief description of small selection of child and adolescent services in some parts of Australia. In South Australia, the Adolescent Services Enfield Campus (ASEC) provides intensive services for young people aged 12-18 years with mental health difficulties. The service includes liaison with relevant agencies, individual and family work and an intensive group program. ASEC works with young people all over South Australia and has two distinct clinical components of care. The Hospital to Home Transition Team (HHTT) works with young people, who have experienced severe mental health problems and have had a hospital admission. The Day Program works with young people, who have significant mental health issues such as anxiety disorders, mood disorders, eating disorders and obsessive-compulsive disorder or acute stress reactions and can still function in their community.

In the State of Victoria in Australia, young people up to 18 years who require treatment can access specialist child and adolescent mental health services. There is an intensive mobile youth outreach service (IMYOS), which provides intensive outreach and support to adolescents who exhibit significant and prolonged psychological disturbance. Young people can access continuing care. These teams provide a range of services including crisis assessment, case management, multi-modal treatments, individual, family and group therapy and carer support.

Other services include early intervention and prevention programs focussed on conduct disorder as well as day programs, which offer integrated therapeutic and educational program for young people experiencing severe depression and/or anxiety, behavioural difficulties, emerging personality difficulties or psychotic disturbances.

Orygen Youth Health runs a youth specific service for people in the Eastern and North Western metropolitan areas of Melbourne in Victoria. Services include assessment, treatment for depression, eating disorders and psychosis and education and training.

Acute inpatient services offer short-term assessment and/or inpatient treatment for children and adolescents who have severe emotional disturbance. The Bouverie Centre provides specialist family sensitive and family therapy services to Victoria's Public Mental Health Services.

In New South Wales (NSW) the Rivendell Child and Adolescent Unit provides mental health services for young people residing in Central Sydney and rural NSW. Rivendell is a 20-bed facility that consists of a Child and Adolescent Mental Health Service and the Department of Education School. The inpatient service includes comprehensive assessments, shared care and outpatient therapy and Rivendell provides community outreach programs during the school holidays.

Situated in Sydney's Western Area is Redbank House, a tertiary psychiatric service for infants, children adolescent and their families. Admissions to Redbank House often occur when outpatient treatment has been unsuccessful. Redbank House offers a range of different programmes, including an early childhood unit, a child and family unit, an adolescent and family unit, an acute adolescent unit, an alternate care clinic, a cognitive remediation program, a selective mutism program and also offers supervision and training.

### *Overview*

The treatment options in the ACT, including the adult inpatient units and the medical ward, do not provide the level of intensity or diversity required to treat all adolescents with moderate to severe mental illness. A more intensive and diverse

treatment may be the only option that can assist the client in either overcoming or learning to manage their mental illness. Structured, comprehensive day treatment programs provide an option that overcomes a number of the shortfalls inherent with other treatment options. A day treatment program can be comparable to a small microcosm of society, where the young person's actions are 'normalised' and 'moulded.' Young people meet in a safe, homely environment where they learn social skills, living skills, creative work and group work and they can also access a school environment. The young person remains in the community under the care of parents, hence there is less stigmatization. In addition family work is emphasised, specialist staff are utilised and peer relationships are paramount.

Topp (1991) stated that "the strength of this approach is (a) the ability to provide intensive treatment and immediate behaviour management without the restrictiveness of inpatient treatment, (b) and eliminating the need to generalise treatment gains to the natural environment" (p.112). According to McEntee and Hilton (2002), intervention programs that work holistically within all the developmental domains, such as day programs and hospital to home transitions, can help to prevent early mental health problems from becoming entrenched.

The increasing prevalence of young people experiencing moderate to severe mental health disorders combined with the limited treatment options available has led to the establishment of an adolescent day treatment program in the Australian Capital Territory. This program is designed to provide a unique viable treatment option for the specific needs of those adolescents who have mental health problems during the transitional years. To better understand this treatment modality for young people, an historical overview of day treatment and review of previous research into day treatment programs is presented in the following chapter.

## CHAPTER 3

### History and review of day treatment programs

The young person experiencing mental illness is in need of psychiatric care and treatment. Effective treatment is crucial to lessen the risks and effects of mental health disorders. This chapter provides a brief historical review of day treatment and provides the reader with a review of literature available on previous research into day treatment. For the purposes of this thesis, the review will focus on research that involved principally day treatment programs for children and adolescents from the 1990s onwards. Prior research into day treatment is presented in tabular format in Appendix F.

#### *History of Day Treatment*

Day treatment, also known as “day hospitalization” or “partial hospitalization,” has been a known psychiatric treatment intervention for adults since the mid 1940’s. Day treatment for adults had its beginnings in the first modern psychiatric day hospital, which was founded almost 60 years ago in Canada. Dr. Ewan Cameron brought about the psychosocial invention, conducted at the Allan Memorial Institute from April 1946. Initially twenty patients attended the Day Hospital, where they undertook group therapy. Cameron considered the group formation to be one of the primary dynamics upon which treatment rested (Cameron, 1956). The first 20 years saw little growth in the number of centres operating around North America, although day treatment was recognised as being a significant innovation in clinical care (Joint Commission on Mental Illness and Health, 1961).

During the period 1958 - 1965, the Day Hospital concept diversified to provide a type of “cafeteria service” where planned combinations and frequency of services

were prescribed to suit the needs of individual patients. During this period the Day Hospital expanded to accommodate between 80 and 100 patients. The concept of “therapeutic community: the development of multiple relationships within a strong democratic group structure” was emphasized (Boag, 1960). This concept was further consolidated from 1966 to 1972 where a single schedule of full time group activities was instituted. The patients were expected to assist in maintaining a therapeutic community, open communication and patient governance.

In a further expansion of the Day Hospital from 1973 to 1983, two treatment streams of clients, in which admission criteria were more closely matched to symptomology, were instigated. The program provided an alternative to 24-hour hospitalization, crisis intervention and a transitional setting for inpatients returning to full ambulatory care. This early adult work went on to be replicated in many hospitals in the world.

#### *Day Treatment for children and adolescents*

The history of day treatment services for children and adolescents, however, is relatively recent. The Community Mental Health Center Act of 1963 mandated comprehensive services for children and adolescents in the United States. This was mostly brought about because of the need to address the acting out behaviours presented by troubled children and youth (Topp, 1991). The impetus to establish the first clinic for emotionally disturbed children was the deviant behaviour of juveniles (Silver, 1981). Enlightened reformers saw the need for detaining young offenders separately from adults and for providing rehabilitation. This was the beginning of the first community-based system of care for child and adolescents with mental health issues in the United States. Treatment modalities evolved, including individual

psychodynamic, psychotherapy, family therapy, crisis interventions and day treatment programs (Pumariega, Winters & Huffine, 2003).

Although child and adolescent day treatment programs appeared across the United States of America in the 1970's, few publications illustrating the inception and early development of day treatment in the United States have been chronicled. It was likely that it took a similar path as for adults. It was largely an offshoot of inpatient or residential settings. Adolescents were initially placed in treatment settings with adults, however as adolescence began to be recognized as a separate developmental stage, a gradual shift occurred. Younger adolescents were placed with children and older adolescents with adults in treatment settings.

In the 1970s the Federation of Partial Hospitalization Study Groups (now the American Association for Partial Hospitalization (AAPH)) was established and a conference was held. In 1987 a special interest group focusing on children and adolescents emerged from this organization and as a result the AAPH broadened its goals and objectives. In 1991 the AAPH published its standards for child and adolescent facilities (Block et al., 1991). As a result, mental health service delivery moved from long term hospitalization, residential care to care in the community and home.

#### *The Development of Community Based Systems for Children and Adolescents*

In the early 1990's, the Robert Wood Johnson Foundation established eight pilot demonstration community systems of care programs (CASSP) in varying parts of North America. The key principles of the CASSP included access to a comprehensive array of services, individualised treatment in the least restrictive environment possible, full participation of families/carers, interagency coordination, use of case

management, early identification and treatment, smooth transition into adult services, advocacy efforts and culturally sensitive services (Pumariega et al., 2003).

*Evidence-Based Intervention Modalities within Systems of Care*

Following the founding of the community services and day treatment programs for young people, attention was redirected to the quality of the clinical treatments within the service systems and especially to the types, dosages and intensity of treatments delivered (Weisz, Donenberg, Hans & Weisz, 1995; Hoagwood, 1997 and Henggeler et al., 1997). A new research phase for connecting research to practice was proposed (Weisz & Weersing, 1999).

The US Surgeon General's Report on mental health (1999) in the United States highlighted the extensive research evidence supporting the effectiveness of a number of community-based interventions for treating children and youth with mental health disorders. Such interventions include intensive case management, therapeutic foster care, school based interventions, mentoring programs, crisis mobile outreach teams, family support services, wilderness programs and partial hospitalisation (Burns & Hoagwood, 2002; Rogers, 2003 and Grizenko, 1997).

Psychosocial interventions found to have had the most empirical support included cognitive behaviour therapies (CBT), parent management training, family therapy approaches and interpersonal therapy. CBT (see appendix E) has been shown to be efficacious in treating a number of diverse disorders, including depression (Clarke et al., 2001), obsessive compulsive disorder (March, Franklin, Nelson & Foa, 2001), anxiety (Manassis et al., 2002), trauma related disorders (Kazdin & Wassell, 2000) and conduct/oppositional disorders (Kazdin & Wassell, 2000). Family based interventions in the form of parent management training were found to be highly efficacious for treatment of children with conduct disorders (Mabe, Turner &



Josephson, 2001) and with culturally diverse populations (Barrera et al., 2002).

Interpersonal therapy (as described in appendix E) for depressed adolescents was also effective (Mufson, Weissman, Moreau & Garfinkel, 1999).

Pharmacologic interventions (use of medications) have demonstrated efficacy in the treatment of a number of childhood disorders, including treatment for depressive disorders, obsessive-compulsive disorder, social anxiety, generalised anxiety disorder, posttraumatic stress disorder, bulimia and attention deficit disorder (Pumariega & Fallon, 2003). They have shown promise and near efficacy in the treatment of disorders, such as bipolar disorder, psychosis, autism spectrum disorder aggressive disorders and self-injurious disorders (Pumariega & Fallon, 2003).

In treating young people in child and adolescents services and day treatment programs many clinicians integrate the approaches as well as use a combined treatment modality. Many clinicians use approaches that synthesise strategies and interventions from the fields of biology, psychology and sociology. Clinicians in formulating treatment are often guided by cognitive behavioural theories, social learning theories and other methodologies. These psychosocial approaches coupled with an understanding of the biological foundation of human behaviour are the essential components of a biopsychological treatment plan (Appendix C). The tailoring of psychosocial interventions combined with pharmacologic interventions in managing symptomology is one such strategy used in child and adolescent services (Cellini, 2002).

#### *The Evolution of Day Treatment Programs*

As child and adolescent community systems evolved and change over time so have the nature of day programs. Information collected in a survey (Kiser, Pruitt, McColgan, & Ackerman, 1987) of 82-day programs in the United States of America

(USA) showed the typical program as being one that ran for five days per week for 6 - 7 hours per day, with a maximum of 30 children grouped by age. Most of the programs (64%) were not affiliated with inpatient units. Whilst 25% of the day programs allowed young people to attend part of the week, 62.5% of day programs allowed patients to attend on a daily part-time basis. All of the programs in the survey served children between 1 and 25 years of age. The most frequent diagnostic category was conduct disorders followed by attention deficit with or without hyperactivity. The day treatment programs reported success with conduct disorders, adjustment disorders and affective disorders.

The multidisciplinary team was usually composed of psychiatrist, psychologist, social worker teacher, psychiatric aide and mental health counsellor. The mean staff to patient ratio was 1 staff member to 2.86 patients. Clinical approaches used were individual therapy, group therapy, family therapy, activities therapy, as well as parent education, couples therapy and vocational counselling. Almost all (96%) of the programs utilised a structured milieu therapy.

A recent study of 16 adolescent day programs in Australia (Kennair & Mellor, 2004) found that there were two types of programs: a 'fixed' program where adolescents attend each day and a more 'flexible' program where adolescents have an individualised program. The 'fixed' programs operate for a school term whilst the 'flexible' programs operate for durations of between 4 months and 2 years and cater for up to twenty-three adolescents. As with programs in the USA, the average operating hours per day is six and a range of different therapeutic treatment approaches are used. However in contrast to the earlier day programs, four of the Australian programs exclude adolescents with conduct disorder or attention deficit, unless there was a co morbid mental health diagnosis. Other exclusionary factors

include individuals who have unstable accommodation, involuntary clients and clients who are at risk of suicide.

#### *The A.C.T. Mental Health Day Treatment Program*

The Adolescent Day Treatment Program was established in June 2001 to address the increasing needs of A.C.T. youth with mental health issues. It was initially established on a six-month trial basis and has since been accepted as a permanent facility within the A.C.T. Child and Adolescent Mental Health Services. The adolescent treatment program operates in a small Cottage in the North-western Suburbs of Canberra in the ACT.

#### *Model of The Cottage Day Treatment Program*

The modality of treatment delivery at The Cottage is through the use of the therapeutic milieu or therapeutic environment. The milieu is the total structure, interventions, relations and activities used in the treatment process (see Appendix E). The therapeutic alliance and the many eclectic approaches used by clinicians, including bio-psychosocial treatment, cognitive behavioural therapy, interpersonal therapy, family therapy to name a few, are interventions accomplished within the milieu. The young person also has learning opportunities in the milieu through these relations. The categories of learning opportunities as described in The Cottage Program Theory (Appendix D) are constructive feedback, observational learning, and reinforcement and behaviour rehearsal.

The milieu or therapeutic environment within the Cottage (Figure 1) has its basis in Bronfenbrenner's ecological perspective of human development, whereby the model of environment is depicted as a series of nested structures (Shaffer, 1994). The micro-system refers to the immediate contexts that the young person experiences. For example the people within their immediate environment, the Cottage workers and

their peers influence the adolescents. In turn, the adolescents influence the workers. The next layer or meso-system refers to the interconnections among the micro-systems. For example, a young person who has formed secure emotional ties with a worker or peer may be prepared to approach or cooperate with others outside of the Cottage.

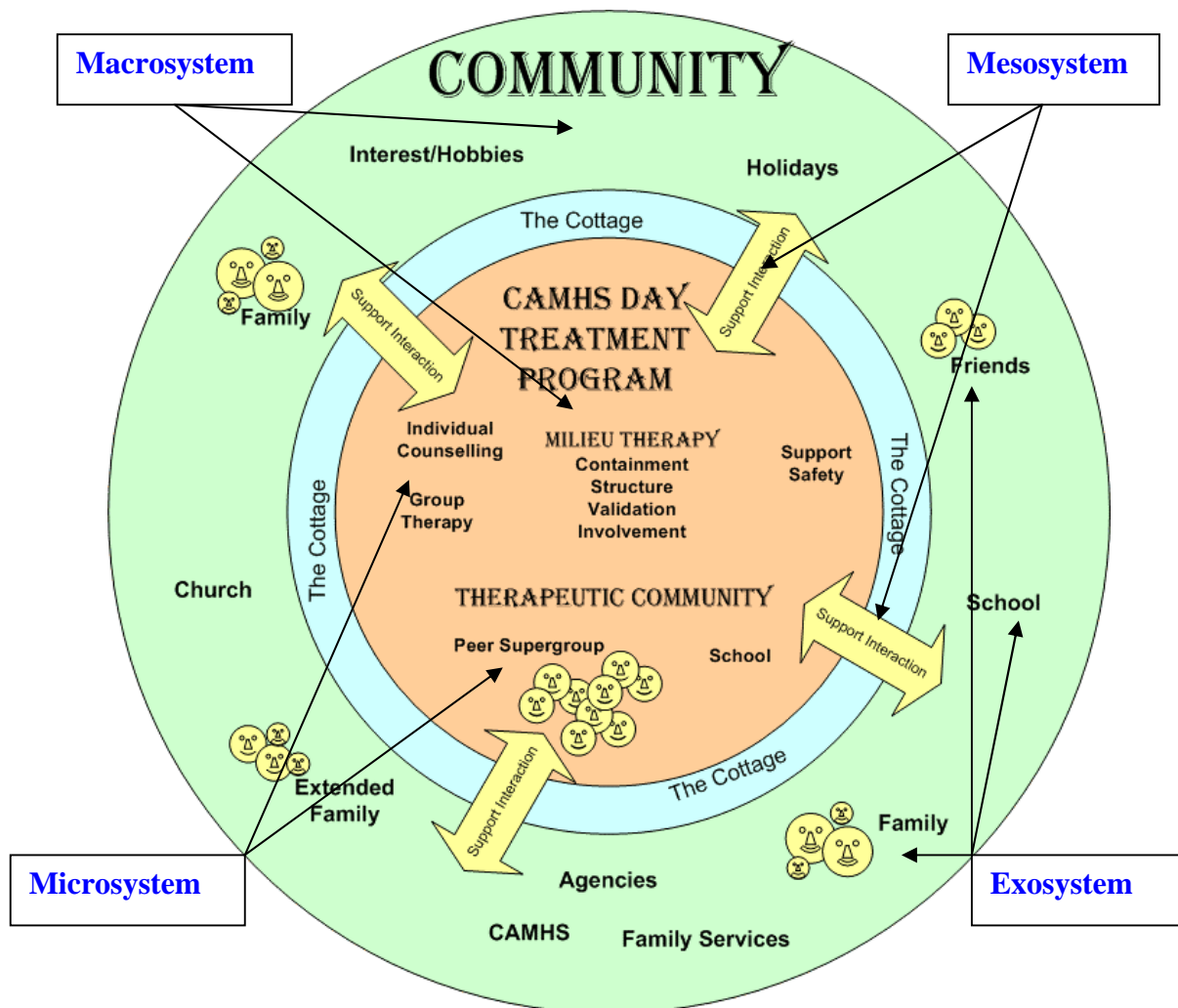


Figure 1. Model of Day Treatment

The next layer refers to the exo-system: social settings that affect the young person but do not contain him or her. If for example parent relationships at home are unhappy the young person may be affected and see everything in negative terms. The macro-system is the overarching ideology of the culture in which the micro-system, the meso-system and exo-system are embedded. The macro-system for example,

dictates how young people are treated, what they should be taught and which goals they should strive for. The principles and philosophy of the day treatment program as described in Appendix E, as well as the rules and values of the community are part of the macro-system.

#### *The Cottage Day Treatment Program*

The program at The Cottage, which has been modelled on a number of programs in the USA and Australia (Albiston, Francey & Harrigan, 1998; Milin et al., 2000 and McEntee & Hilton, 2002), has adopted the following criteria and characteristics:

- Both fixed full-time and flexible part-time programs are offered.
- The full-time program operates between 09:00 am to 3:00 pm 4 days per week. Part-time programs are conducted as required during the 4 operating days, after school or during school holidays.
- The targeted group of young people, aged 12 - 18 years, are those individuals with a severe emotional or behavioural disturbance and/or a diagnosable psychiatric disorder where the condition is considered moderately to seriously detrimental to psychosocial development and/or where it leads to serious difficulties in the person's social or family environment. Additionally, young people transitioning from an acute ward are catered for.
- Full-time programs are limited to 8 - 10 clients per program.
- Unless there is a co morbid mental health condition, adolescents with conduct disorder or ADHD are excluded.
- The full-time program has a primary focus on the milieu.
- Differing treatment approaches are used depending on the child and school forms a large part of the young person's day.
- The program is not affiliated with an inpatient unit at present.

The treatment program is comprised of a semi-structured day, which includes school, group therapies, individual therapy and rehabilitative activities including creative expression, drama, craft, gardening, living skills and recreation. The multi-disciplinary staffing team consists of a mix of mental health nurses, psychologists, social workers, a technical officer, a teacher and a visiting psychiatric registrar. The aims of the day program are to engender a sense of belonging and achievement and to create a learning environment for the young people. The formation of trust relationships and the recognition of the importance of maintaining relationships with adults and agencies are significant.

Referrals come through the Child and Adolescent Mental Health Service (CAMHS) or through health related agencies. The program is designed to provide an alternative for individuals who might otherwise require hospitalisation, for patients transitioning after an inpatient stay and for those individuals who have been truant from school for some time (mostly greater than a month's absence). Psychiatric diagnosis of clients has been varied and has included at different times: depression, anxiety, obsessive compulsive disorder (OCD), psychosis, post traumatic stress disorder (PTSD), attention deficit hyperactivity disorder (ADHD) with conduct disorder and Asperger's disorder. Admission criteria relevant to day treatment are as follows:

- The adolescent is aged 12 to 18 years and has a treatable psychiatric disorder, severe in intensity.
- The disorder is sufficiently severe to prevent the adolescent from adjusting to classroom learning and/or peer relationships in the school setting.
- The disorder is not treatable at a less intensive level of care, or requiring a transition between inpatient and outpatient care. (Nurcombe, 2002).

Day treatment offers a unique treatment option, specific to the needs of the adolescents and family, provides a preventative intervention for young people at risk

of developing psychiatric disorders in early adulthood, impaired social functioning and low academic achievements. Day treatment provides a less restrictive environment for the young person during this period of developmental challenges.

Whilst the historical perspective indicates that day treatment programs offer a unique treatment option, the following review provides an insight into previous research to measure the effectiveness of this mode of treatment.

### Review of previous research on day treatment programs

#### *Review of research of day treatment involving young children*

Grizenko, Papineau and Sayegh (1993) evaluated the effectiveness of a multimodal day program on young children (aged between 5 and 12 years) with disruptive disorder, as compared with a waiting list control group. The outcomes measured were changes relating to the expression of acting out behaviours, self-concept and social and academic functioning. There were significant reductions in the children's expression of maladaptive externalising and internalising behaviour as compared to the waiting list control. The children reported higher self-esteem, lower depressive affect and an improved outlook, however demonstrated no group differences in areas of peer relations, family functioning and academics. The study presented continued treatment efficacy at a six-month follow-up.

There were however limitations to this study. The children in this study were referred for disruptive disorders such as attention deficit hyperactivity disorder, conduct disorder and oppositional defiant disorder rather than moderate to severe emotional disorder. The focus of day treatment as described in this thesis is that of day treatment designed for young people with psychiatric disturbance rather than behavioural difficulties.

Even though a comparison group in the form of waiting list clientele was included in this research, groups were sequential rather than randomly assigned. The children referred to the program later in the year may have been perceived differently by parents and teachers than those referred earlier in the year. According to the researchers, no new psychiatric or psychological treatments were initiated in the six-month waiting period, however other factors such as a new teacher, relatives, friends etc may have had an impact on their behaviour. It was also inequitable in terms of sample selection. There were 30 boys and 3 girls in the sample. Thus, the results cannot be generalised to the population of girls with disruptive disorder.

In a follow-up study Grizenko (1997) explored the long-term outcome of the previously presented day treatment for these children at five years after discharge. The study examined prospectively changes in global functioning, behaviour, self-perception, peer relations and academic performance. This study demonstrated that improvement was maintained on all measures, even though there was a decline in scores from discharge to follow-up in behaviour, self-esteem and level of depression. Mean scores for self esteem were the only scores in the problem range. Furthermore, 73% of the children were attending a regular school and 85% of the children were still living at home with their parents.

This research demonstrated that young people in day treatment had major changes in their functioning and to have developed a measure of hope in the future and the capacity to maintain friendships. Results indicated that 21% of the sample continued to require a specialised school setting, whilst 30% needed special education in a mainstream school environment at the five-year follow-up. Parental cooperation was also an important factor in predicting positive outcome.



Unlike the initial study however, this follow-up research lacked a control or comparison group, which made it difficult to attribute changes to the day program, alone. Positive changes in the young people may be attributed to maturation, the passage of time or a placebo effect. There were however, strengths in the careful selection of a diagnostically homogenous group (attention deficit hyperactivity disorder, oppositional defiant disorder and conduct disorder), the use of psychometrically sound measures and a well-documented treatment approach. In addition the researchers were able to follow-up 80% of the children who had taken part in the initial study.

Similarly, Erker, Searight, Amanat and White (1993) also completed a long-term follow-up study of children who had received either residential or day treatment in a private psychiatric facility approximately 10 years before, when aged between four and eleven years. These children, in contrast to those in the Grizenko et al. (1993) study, were emotionally disturbed and presented with a mix of diagnosis (adjustment disorders, 'neurotic disorder,' personality disorder, conduct disorder and psychosis). They had remained in treatment for over 16 months. Results showed that there was no significant difference between the treatment modalities of individuals who had received residential treatment versus day treatment. Two thirds of clients in both groups demonstrated improved measures in personal and social adjustment and received healthier versus maladjusted ratings.

The study demonstrated that the more disturbed (psychotic disordered) children had poorer outcomes at follow-up. Young people with less severe diagnosis were better adjusted at outcome. There were some young people who remained maladjusted and did not respond to either form of treatment.

Again, as with Grizenko's (1997) research, there was an absence of a control group, which made it difficult to substantiate efficacy of the program. The control group that had been originally selected did not subsequently fit the inclusion criteria. Likewise, the group sizes were not found to be homogenous, with the residential setting having 8 girls and 8 boys and the day treatment with 6 girls and 39 boys. The absence of gender effects may have been attributable to the high incidence of males in the study. Also, only one instrument tool: the Social and Adjustment Rating Scale was utilised. A range of psychometric standardised instruments at pre and post intervention would have provided more comprehensive information.

Nevertheless, the study supported the notion that day treatment may be a more useful form of treatment than residential care, simply because it was more cost effective, based on the comparison of the operating costs associated with the two forms of treatment.

In contrast, Tissue and Korz (1993) examined the overall adjustment of a group of young adults (between the ages of 18 and 27.5 years) who, when they were between the ages of 5 and 14 years attended a psycho-educational centre for emotionally troubled children. The clients had received 3.3 mean years of treatment. Results indicated that approximately 60% of the young people had made successful transitions from adolescent to adult life. The results indicated that learning difficulties, organic involvement and environmental factors continued to influence the behaviour of the remaining participants. The data indicated a need for emphasis on vocational training and schoolwork programs to encourage adolescents to remain in school, as well as a need to provide parents and their children ongoing support, including family counselling, psychotherapy and job training.

Kiser et al. (1996) presented results from a study of young patients aged 5-18 years completing treatment in two child and adolescent partial hospital programs.

Outcome measures included:

- changes in patient 's clinical status;
- level of daily functioning;
- impact on utilisation of behavioural health services after discharge; and satisfaction with treatment was measured.

Overall the data showed improvements in all four areas with 75% of the parents happy to place their child, if need be, in the program again. The researchers identified the need to consider the bi-directional nature of positive outcomes, with negative results of outcome deemed just as valuable as positive.

The descriptive results suggested that partial hospitalisation may not be effective for some children and adolescents with severe behaviour disorder or where they have experienced previous multiple inpatient, residential or out of home placements. Kiser, Millsap, Hickerson, Heston, Nunn and Pruitt (1996) suggested that modification of the program could prove beneficial for these children.

While the results were on the most part promising in terms of symptom reduction, improved behavioural control and levels of functioning, there were limitations in the study. The research lacked a control group, had a heterogenous sample, lacked randomisation in patient assignment to treatment conditions and used highly complex treatment interventions. Without the above measures of scientific rigor it is difficult to estimate the extent to which positive outcomes could be attributed to treatment effects.

Nonetheless the research into day treatment with preadolescents was on the whole positive. Kiser et al. (1996) maintained, "the evaluation of clinical outcome

measurement must gauge the benefits for demonstrating value of the program to others, for quality improvement, and for improving the specificity of patient selection criteria for a given modality.”(p.90). The majority of the research into day treatment for preadolescents demonstrated value to others, provided information that would assist in improvement of the program and provided information in specificity of patient selection and advanced knowledge on day treatment.

Erker et al. (1993) demonstrated positive effects for both residential treatment and day treatment whilst Tissue and Korz (1993) emphasised the need for vocational training and schoolwork programs to encourage adolescents to stay in school during those years when they are particularly vulnerable and to provide adolescents with skills for future employment. Grizenko (1997) identified that day treatment could be a useful form of treatment, not only in terms of improvement in the child’s behaviour and self- perception, but also because of its cost effectiveness. Lastly, Kiser et al. (1996) found that children, adolescents and families that were in day treatment utilised “less expensive and intensive mental health services during the year after treatment than they reported using before treatment” (p.88).

The above studies focussed on pre-adolescents with mental health issues, and on the whole confirmed day treatment as an effective treatment for these young people during their pubescent years. The following section of this review focuses on day programs for an older group of individuals: adolescents, aged 12 years and over.

#### *Review of research of day treatment involving adolescents*

Research on day programs for adolescents, ranging in age from 12 to 18 years, who were emotionally disturbed is summarised in table form in Appendix F.

Two of the recent preliminary, unpublished studies by Rayner and Woodward (2000) and Yelland, Hubbard, McLean and Hodgkiss (2002) demonstrated significant

improvements in symptomology; behaviour, socialization and self-esteem, however both had significant methodological limitations. There were no comparison groups and both samples were small in size. Rayner et al. (2000) presented preliminary findings of a pilot study of 11 young people. This paper however, was merely presented as a paper at a conference in 1999 and was a descriptive presentation of the initial period of treatment undertaken by the 11 young people.

Similarly, Yelland et al. (2002) presented a paper describing a preliminary evaluation of a day program in Enfield, South Australia. The study is unpublished and presents a brief outline only and does not describe the design and methodology in detail. Further work would need to be done in presenting and describing this study.

Bouhlas and Bond (2000) also collected data prospectively in a preliminary study of a private psychiatric facility in Perth, Australia. They collected outcome data from depression, anxiety, self-esteem and locus of control scales and also a patient satisfaction survey and found significant improvements in the ratings. This paper however, simply described the first six months of the day program's operation, the development and establishment of the program and presented the collated data on preliminary evaluations of the program.

In contrast, Piper, Rosie, Azim and Joyce (1993) researched 120 patients in the United States of America, who had completed day treatment and control conditions (delayed treatment). The researchers, in the study design, attempted to avoid methodological weaknesses of sample size, selection bias, lack of randomisation, poorly defined programs and lack of standardised outcome measures. Patients in this study were randomly assigned to treatment conditions and delayed treatment conditions and examined on 17 variables covering 5 areas: interpersonal functioning, symptomology, self esteem, life satisfaction and defensive functioning. Treated

patients, demonstrated significantly higher outcomes than those in delayed treatment on social dysfunction, family dysfunction, interpersonal behaviour, mood level, life satisfaction, self-esteem and severity of disturbance.

The composition of the study sample however excluded schizophrenic patients and contained few patients with DSM-III-R cluster A: (“the eccentric disorders”) personality disorders. Most patients had a diagnosis of affective and cluster B (“dramatic”) or cluster C (“anxious”) disorders. The research did provide support for the efficacy of a specialised day program for patients with serious long-term non-schizophrenic disorders, however there were limitations, including a 28.5% dropout rate. Not only this, the age range for this sample was quite broad, with a mean age of 32.7 years which shows that, although the age range was from 14 years, a large proportion of the sample were adults, rather than adolescents.

However, as a result of this study, the researchers were able to suggest that intensive insight oriented day treatment was not the treatment of choice for all patients with serious long-standing psychiatric disorders.

In this same way, in terms of including a comparison group, Matzner, Silvan, Silva, Weiner, Bendo and Alpert (1998) compared the pre/post outcome data of the same 31 young people who had attended a tailored program to their outcome data and truancy rates, whilst they attended at a traditional outpatient service prior to day treatment. Greater reductions of truancy were found in day treatment along with significant reductions in symptomology and increased global functioning. Standard outpatient treatment had little impact on truancy whereas day treatment had a significant and sustained effect on truancy. The outcome data supported the hypothesis that the peer group effect improves attendance in day treatment.

This research however, had a heterogenous sample consisting of more girls (n = 21) than boys (n = 10) and the raters of the measures, used scales that were coded by therapists, who knew what treatments were given to each experimental group, which may have allowed for some bias in collecting data. Additionally, it is possible that the control group, a single group comparison may not have been able to control for confounding variables such as a underlying effect of outpatient treatment and a simple regression to the mean.

Silvan, Matzner and Silva (1999) in contrast, provided a comprehensive description of day treatment as an effective type milieu intervention. The research, which, however excluded a control group, offered experimental support for the efficacy of day treatment for severely disturbed adolescents and provided concrete advice on how ideas could be practically implemented. The theoretical framework put forth for day treatment was the interconnection between the additive and cultural models.

Structure, support and involvement were emphasised, resulting in a type of supergroup where the peer group and self-responsibility influenced members. Length of stay, academic transitioning, psychiatric integration and family work were also considered to be important factors. The outcomes of the research indicated a persistent reduction in truancy rate and improvements in symptom severity and overall functioning. The researchers also indicated a need to understand the specific needs and deficits of the adolescent population and to employ other outcome variables that measured pertinent change.

Two other prospective studies, (Milin, Coupland, Walker, & Fisher-Bloom, 2000; Waugh & Kjos, 1992) demonstrated significant results. Waugh and Kjos (1992) in their study compared behavioural outcomes of adolescent patients with high

parental involvement against outcomes of patients with low parental involvement. Milin et al. (2000) evaluated outcomes over a 3-year period of adolescents who attended a day treatment unit. Waugh and Kjos (1992) found that high parental involvement was related to improvements in the patient's self-rating scales, reduced hospitalisation, and reduced pathology and severity ratings. The level of family pathology however confounded results and because of this it was considered by the researchers that emotionally troubled parents may lack the psychological resources to commit to participation in the treatment program. Waugh and Kjos recommended further research of specific treatment modalities for this population, taking into account the influence of family pathology.

Milin et al. (2000) identified that pre-admission and admission variables influenced treatment outcomes. They also conducted a follow-up evaluation of the adjustment of individuals one year after discharge. This study did not support the Kiser et al. (1996) research where outcome was predicted by psychiatric diagnosis, including disruptive disorders, out of home placement and patient's previous treatment disorders. The Milin research however, did support the Waugh and Kjos (1992) study where parental psychopathology was identified as a risk factor. Negative outcome was also associated with preadmission psychopathology and previous mental health treatment. The study proposed that a longer length of stay was preferable for successful outcome and that the addition of a classroom based school model provided for ongoing psychiatric treatment without risking loss of academic performance. As with some of the previous studies, the study lacked a control group and had high attrition rates, which may have been a potential source of bias.

Other researchers examined data retrospectively, which in itself has methodological limitations. Collecting data from charts has room for error as the data



may be incomplete, collected by multiple observers and contain judgments that could be subjectively biased. Huestis and Ryland (1990) and Orchard and MacLeod (1990) reviewed charts to obtain outcome data. Huestis and Ryland (1990) explored the outcome data of multiple interventions of 50 probands in a partial hospital program. Again age at admission was clinically significant as well as family history of substance abuse. Clinical process correlates that were significant were diagnosis, diagnostic severity, learning disabilities, improved relationship with peers and family and completion of treatment. The researchers found that 16 year olds performed better than other age groups, a family history of alcohol abuse was associated with poorer outcome and psychotic diagnosis was associated with poorer outcome.

Verbal learning disabilities were apparent. Good relationships with peers were associated with a more positive outcome and interestingly length of stay was not associated with outcome. The researchers proposed the need for less verbally oriented programs in favour of programs with an activity oriented focus and also identified the need for a more detailed assessment of interpersonal relationships prior to treatment. In keeping with these results, Orchard and MacLeod (1990) in their study suggested the need for research of the characteristics of the adolescent population that day treatment serves.

Both studies had limitations. The study by Orchard and Macleod (1990) was exploratory in nature, the main outcome measure was descriptive in character and there was no statistical comparison for school or work attendance after treatment compared to prior to treatment. Likewise, Huestis and Ryland 's (1990) study had limitations. There was no control group, the follow-up rate was 65% and both parents and adolescent's ratings were available for only 44% of patients.

Equally, Jainchill, Hawke, De Leon, and Yagelka (2000) and Stewart (1994) researched the post treatment status of young people with dual diagnosis (substance use and mental health issues) who had been in residential therapeutic communities. Stewart researched a residential treatment program that provided 12 - 18 months of intense treatment for adolescents with dual diagnosis. As with Milin et al. (2000), a major finding of the study was that the length of time spent in treatment was a significant factor contributing to post treatment success. Successful outcomes appeared to develop at approximately nine months of treatment and thereafter. Additionally, specific tailored treatment plans developed early in the individual's stay improved success rates. Though positive in outcome there was a lack of a control group and there was a 21% attrition rate.

Jainchill et al. (2000) indicated that there was a significant reduction in the prevalence and frequency of drug use and criminal activity at the one-year follow up post treatment. Again length of stay was significant. Individuals who stayed in treatment for longer periods demonstrated reductions in drug use but minimal changes in criminal activity at post treatment. The study however had limitations as retrieval rate of adolescents was not optimal at 64% and self-report measures may not have been accurate.

*Review and rationale for current study.*

Overall, the research on pre-adolescents and adolescents in day treatment demonstrated significant positive outcomes in many different areas and advanced the level of knowledge in day treatment. Overall seventeen recent studies (post 1990s) demonstrated the effectiveness of day treatment programs. There was however a lack of studies comparing day treatment with other types of treatment in the management of adolescents with mental illness. In total only four of the studies utilised a

comparison group and two of those, Erker et al. (1993) and Grizenko (1993), focussed on younger children whilst the latter two Matzner et al. (1998) and Piper et al. (1993) and had limitations in the research.

Grizenko et al. (1993) evaluated the effectiveness of a multimodal day program on young children with disruptive disorder, as compared with a waiting list control group. Erker et al. (1993) researched long-term follow-up study of children who had received either residential or day treatment in a private psychiatric facility approximately 10 years before. Piper et al. (1993) researched 120 patients who had completed day treatment and control conditions (delayed treatment) whilst Matzner et al. (1998) compared the pre/post outcome data of young people who had attended a traditional outpatient service and then attended a day treatment program.

In addition, although many of the studies on day treatment appeared to have positive outcomes for participants, gaps in knowledge were identified and further questions, issues and hypotheses for future research were suggested. For example the study of behaviourally disturbed young children Grizenko (1997) questioned whether the improvement was caused through the intervention or due to some other effect such as age, developmental growth or perhaps components of the program. It was postulated that the inclusion of a randomised control/comparison group would assist the scientific rigour of future research.

Erker et al. (1993) questioned whether an appropriately matched control group of children with similar diagnosis matched to distinct diagnosis would produce a different outcome? Tissue and Korz (1993) identified the need for a study of young people and families, who were supported academically and psychologically, post discharge. Kiser et al. (1996) identified the need for further research of a modified program for children with conduct disorder, including a modified schedule of

activities, enhancement of the behavioural system and tightening of the program structure.

Waugh and Kjos (1991) recommended further research of a day treatment modality, which is flexible and individualised, including the inclusion of school and hospital liaison whilst Stewart (1994) recommended the evaluation of a personally supportive program, particularly in the induction phase where goals, length of stay were explained at admission and re-entry staff and clients acted as role models for patients.

Many factors were identified through the previous research and much was identified for further research. However, as can be seen there were few adequately controlled studies evaluating the effectiveness of day programs for adolescents with moderate to severe mental illness. According to Sayegh and Grizenko (1991), when evaluating day programs it is important to:

1. Use prospective rather than retrospective analyses of data
2. Use control or comparison groups
3. Use objective measures and standardised assessment instruments
4. Carefully select the samples and diagnostic groups to be compared
5. Record all demographic data at intake
6. Determine at the start the outcome criteria and time intervals at which these will be assessed and
7. Determine beforehand what statistical analyses are necessary (p. 51).

Thus, the aim of this research was to strengthen the scientific rigour of the evaluation of an adolescent day program called The Cottage, which is under the umbrella of the Child and Adolescent Mental Health Service (CAMHS) and is situated in the Australian Capital Territory. This research will rigorously and scientifically test the effectiveness of the Day Treatment Program at the Cottage

compared with that of the 'less intense treatment' approach of Outpatient clients in CAMHS.

To better understand day treatment and its effect on young people, the aim and purpose of this research is to investigate the mental health gains of a group of young people attending an intensive, structured combined school/day treatment modality compared with an outpatient sample. It is hypothesised that:

1. Adolescents with varying diagnosis of moderate to severe mental illness, who participate in a structured day treatment program, will report greater mental health gains than adolescents treated as outpatients receiving less intensive treatment.
2. The degree of mental health gains will be related to intake diagnosis.
3. The parents/guardians will report higher levels of mental health gain in the client than would the client in their self-report ratings.

As described, the review of literature of both pre-adolescents and adolescents in day treatment programs from the 1990's onwards demonstrated numerous positive outcomes for the young people undertaking day treatment. There were, however, limited studies that included a comparison group. Thus, in an attempt to overcome some of the shortfalls of previous research and to meet Sayegh and Grizenko's (1991) seven criteria, this research uses an appropriately matched comparison group of adolescents (with similar diagnosis matched to distinct diagnosis), objective measures and ratings of standardised assessment inventories. The design and methodology used to test the above hypotheses is described in the following chapter.

## CHAPTER 4

## Research Methodology

This study evaluated and compared the mental health gain outcomes of adolescents attending the day treatment program in the Australian Capital Territory (A.C.T.), against the mental health gain outcomes of clients who attended the less intensive outpatient service of the A.C.T. Child and Adolescent Mental Health Service (CAMHS). In the context of this study, mental health gains were defined as a reduction in symptom severity as measured by reduced scores in psychometric test outcome measures.

*Participants*

Overall 42 adolescents participated in the research. There were 14 males and 28 females with a mean age of 14.64 years ( $SD = 1.428$ ). The participant's age and gender demographic characteristics for each group are summarized in Table 3.

Table 3

*Subject age and gender demographics by group*

	Total Number in Group	Gender	Mean Age in Years (SD)
Day Treatment Program Group	22	Male = 5 Female = 17	15.20 (1.095) 14.82 (1.237)
Outpatient Group (Comparison)	20	Male = 9 Female = 11	14.44 (1.590) 14.27 (1.737)
Total Participants	42	Male = 14 Female = 28	14.71 (1.437) 14.61 (1.449)

*Outpatient (Comparison Group)*

The outpatient clients that formed the comparison group for this research were selected from a sample of CAMHS outpatient clients, who were either considered appropriate, by the respective CAMHS clinical managers, for referral to The Cottage or

who were clients already on the waiting list for entry to The Cottage Day Treatment Program. To improve comparison validity, the pool from which the comparison (outpatient subjects) group was drawn was restricted to subjects who had similar diagnosis and levels of mental health illness severity to those clients attending the day program. 20 participants were randomly selected from the outpatient's data base profile of the Child and Adolescent Service in the ACT to constitute the comparison group. There were 9 males and 11 females.

The comparison group consisted of CAMHS outpatients (n = 20), who had experienced moderate to severe emotional, behavioural and mental health issues, were aged between 12 and 18 years and were not severely intellectually delayed. Many were not functioning at an optimum level and intermittently required crisis intervention. Some clients were not attending school or employment on a regular basis. They were not receiving the intensity of treatment as carried out in the day program. Intensity of treatment incorporated more time and attendance in treatment, as well as attention from peers and clinicians. Most young people attending the outpatient clinic received weekly, fortnightly or monthly individual sessions with their clinical manager.

Apart from the intensity of treatment, another difference between the clinical management of clients in day treatment and those receiving outpatient treatment is the "environment". An outpatient client remains in their normal environment (i.e. attends school/work) whilst receiving intermittent treatment, as required. In contrast, the day treatment client attends a part-time schooling program at The Cottage and attends the program on a daily full-time basis with a view to assisting them in managing their return to the normal social environment. For further information on the outpatient service and treatment see Appendix C.

### *The Cottage Day Treatment Program Participants*

The Day Treatment Group consisted of 22 participants who had accessed The Cottage full-time program during the period July 2001 to May 2004 and completed the 10-week treatment program. There were 5 males and 17 females. Some of the clients, depending on the severity of their illness had returned for one or more further periods at the Cottage, however this study was concerned with the initial presentation period. The clients were initially referred to the Day Program by the CAMHS clinical manager or CAMHS Intake Team and were assessed by The Cottage staff for suitability and group compatibility prior to entry and intake allocation.

The clients, aged between 12-18 years, were experiencing moderate to severe prolonged emotional, behavioural or other mental health issues. The majority of the clients were not attending school nor had employment.

### *Procedure*

#### *The Setting*

Adolescents in day treatment at The Cottage attend an intensive, group-oriented program as described in Appendix E. The predominant theoretical orientation is cognitive behavioural/interpersonal treatment with influences from the feminist framework, milieu theory, social learning and biological psychiatry. The treatment program consists of a mixture of group treatments including:

- psycho-educational, including coping strategies,
- communication skills,
- mental health concepts,
- insight orientation (group therapy, psychodrama),
- social skills training



- varying activities (field trips, cooking, living skills etc), and
- creative expression including art, music and drama.

Each group has a clearly defined objective or goal. Group rules are clearly defined in the first week after entry and enforced throughout the delivery of the program. Violent behaviour, drugs, drug paraphernalia or being inebriated is not tolerated at the day unit. At admission, client/therapist confidentiality is clearly explained to each client in order that they understand, in simple terms, the legal requirements and restrictions placed on the staff with respect to release of information. This is done to provide assurance to the client that they may freely and openly discuss issues and areas of concern without fear of the information being released or used against them. The free and open dialogue is an essential part of client treatment.

The academic element was planned to meet the needs of the individual. The qualified teacher on The Cottage staff liaises with each child's school and obtains relevant work for the client around which an individualized academic program is developed for the child. If the child needs a more skills targeted program with creative elements or a vocational focus, a program is also specially designed. The aims of schooling at The Cottage are to assist the child to refocus, gain concentration skills and to feel more secure in the educational environment. Positive reinforcement is given as the adolescents meet their individualized academic goals. The objective is for the child's self esteem to improve thus impacting on the child's confidence. Following completion of the Day Program, with its associated schooling, the goal is for the client to transition back into mainstream schooling or entry into a vocation.

Four courses, of approximately ten weeks duration, are conducted at The Cottage each calendar year, based on the ACT school term periods. Each course consists of four

days per week, with each day being of seven hours duration. In addition to the approximately 8 full time clients who attend each program, part time clients are also occasionally accommodated. The part time clients attend the program for up to 2 days per week primarily for group sessions to develop interpersonal skills and to build self-confidence. For the purposes of this research only full time clients were included in the day program sample. Clients attend a community meeting on a weekly basis, participate in psychotherapeutic group work three days per week and attend school for approximately four hours per day. The remaining time is spent in therapy, artwork, and recreational and creative activities. Families are contacted on a frequent basis and at least three parent evenings are held over the period. The parent evenings are conducted to assist the parents in better understanding the program, their child's mental health condition and to provide them with strategies in coping with and assisting in their child's treatment and mental health improvement.

#### *Consent and Ethical clearance*

Prior to commencement of the research, approval and ethical clearance was obtained from the Department of Health and Community Care, ACT and the Bond University, Queensland (see Appendix A). The researcher noted all of the requirements of the principles of ethical conduct and, because the research project involved children and young people with a mental impairment the following ethical implications, whilst not overlooking or downgrading any other principles, were considered of note for specific mention:

- Voluntary and informed Consent was sought from both the client and the parent/guardian.

- Note was made that withholding of consent would not affect ongoing involvement in treatment.
- Withdrawal of consent was to be respected and could be made at any time. This would not affect ongoing involvement in treatment.
- The research respected the inherent dignity of the participants.
- Client data and test results used in the research were coded to ensure that the client's identity could not be discovered.
- Client data was stored in accordance with current A.C.T. Health requirements and procedures.

### *Participant Selection*

The research participant selection process differed slightly for each group in order to provide a more valid comparison. As previously discussed the outpatient participants were randomly selected from a list of clients that had either been waitlisted for the day treatment program or were deemed appropriate for the day program by their clinical managers. This process ensured that the outpatient participants had similar severity of mental illness diagnosis to those within the day treatment group and where possible only included clients who had been within the CAMHS system for approximately the same period as those within the day treatment program.

The potential participants for the day treatment group were selected from a convenience sample of clients (every third name selected from a list of clients, who had completed the day program). Where they had completed a follow-on course, only the data collected during the initial course was used in the research. After selection of potential participants, the respective clinical manager or researcher made the aims and purpose of

the study known to the parent and the child. A statement of information about the study and a letter outlining the steps of informed consent (Appendix G) was provided to the families and they were given the opportunity to meet with the researcher to further discuss the research if they so desired. On receipt of the signed informed consent form, the investigator commenced collecting the specific data that was documented in the young person's medical records.

#### *Data collection time span*

The pre-treatment, post-treatment and follow-up data was collected in accordance with the following:

- Pre-treatment data -
  - *Day treatment program group* - collected just prior to the commencement of their initial course.
  - *Outpatient comparison group* - collected at the commencement of their treatment with CAMHS.
- Post-treatment data -
  - *Day treatment program group* - collected on completion of their initial course (average duration 10 weeks).
  - *Outpatient comparison group* - collected 10 weeks after commencing their treatment with CAMHS.
- Follow-up data -
  - *Day treatment program group and Outpatient comparison group* - collected 13 weeks (3 months) after the post-treatment data collection date.

#### *Instruments*

The research used a pre-treatment post-treatment design using the results from various standardised psychometric tests to assess mental illness symptom severity. The Psychometric tests used were:

- Beck Depression Inventory (BDI-II),
- Multidimensional Anxiety Scale for Children (Masc),
- Strength and Difficulties Questionnaire (SDQ) (reported by Parent/Teacher),
- Strength and Difficulties Questionnaire (SDQ) (self report),
- Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA), and
- Devereux Scales of Mental Disorders (DSMD).

This array of instruments was chosen to provide an objective standardised measure of changes in depression, anxiety, strengths and difficulties and psychopathology as rated by child, parent and clinician. Both parent and child rate the strengths and difficulties questionnaires and a clinician rates the HoNOSCA. The A.C.T. Mental Health has a mandatory requirement for staff to complete these outcome measures every three months.

Table 4 provides a details of the Cronbach's alpha internal reliability coefficient for the instruments used, which have a multidimensional structure.

Table 4

*Instrument internal reliability (Cronbach's alpha)*

Instrument	Reliability (Cronbach's alpha)
Health of the Nation Outcome Scale for Children and Adolescents	0.838
Strength and Difficulties Questionnaire (P & S)	0.730
Multidimensional Anxiety Scale for Children	0.930
Devereux Scales of Mental Disorders	0.970

### *Beck Depression Inventory*

The Beck Depression Inventory-Second Edition (BDI-II) is a twenty one (21) item self-report instrument for measuring the severity of depression symptoms in individuals aged 13 years and older (Beck et al., 1996). The inventory was developed for the assessment of symptoms, which correspond to the criteria for diagnosing depression as outlined in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV, 1994)*. This particular instrument was chosen because not only is it a good indicator of the presence of depressive symptoms, but it also presents minimal difficulties with test administration and is user friendly. It usually takes between 5 and 10 minutes to complete.

The BDI-II comprises 21 statements whereby the respondents are asked to endorse the statement that best describes the way that he/she has been feeling over the last two weeks. Summing the ratings of the 21 items by a qualified professional mental health practitioner scores the BDI-II. Each item is rated on a 4-point scale ranging from 0 - 3. Total scores of 0 - 13 are indicative of minimal depression, total scores of 14 - 19 are indicative of mild depression, scores between 20 - 28 are indicative of moderate depression symptomology and scores between 29 - 63 are indicative of severe depression symptomology.

In examining the internal consistency of the BDI-II, Beck et al. (1996) found the item correlations for the BDI-II items for an outpatient group of people (n = 500) and a college student sample (n = 120) was significant at the .05 level. Factorial validity was provided by inter-correlations among the BDI-II items.

Evidence of the convergent and discriminate validity of the BDI-II was furthermore shown in a study of 127 Philadelphia Outpatients (Beck, Steer & Garbin, 1988) and the

data collected from the outpatient group versus the college student sample group suggested that patients with mood disorders obtain higher BDI-II scores than patients with anxiety adjustment or other disorders. Clients with serious depressive disorders appeared to have higher BDI-II scores than clients with less severe depressive disorders.

*Multidimensional Anxiety Scale for Children (MASC)*

The Multidimensional Anxiety Scale for Children (MASC) is a 39 item self-report instrument for measuring a variety of anxiety dimensions in children and adolescents (March, 1997). This instrument was selected because it is a practical and efficient screening instrument for the detection of anxiety problems and is also simple to administer and score. It is extremely useful for using with young people who have limited concentration. The entire assessment can be completed in ten minutes and can be scored and profiled in less than 10 minutes.

The scale is a four-factor model with 39 items each loading uniquely on one of the factors: physical symptoms (12 items), separation anxiety (9 items): social anxiety (9 items) and harm avoidance (9 items). On the basis of factor analysis six-factor derived subscales are included on the MASC. They are a tense subscale, somatic subscale, perfectionism subscale, anxious coping subscale, humiliation fears subscale and performance fears subscale. Scales measuring total anxiety and indices (anxiety disorder index and inconsistency) are included on the MASC to assess children and adolescents who may be diagnosed with an anxiety disorder.

The MASC questionnaire consists of a number of statements that ask the client how they have been thinking, feeling or acting in the last few weeks. Clients are requested to circle the number from 0-3 that shows how often the statement is true for them.

Responses range from never true about me (0), rarely true about me (1), sometimes true about me (2) to often true about me (3).

The normative sample for the MASC consisted of 2,698 children and adolescents (Parker & March, 1997). In developing the MASC a number of statistical exercises were undertaken to determine the reliability of the MASC. The internal reliability, the mean inter-item correlation, the test retest reliability and standard error of prediction and measurement were found to be quite accurate in measuring the constructs that they were developed to measure. Parker and March (1997) examined the four-factor structure of the MASC using two groups of subjects: 2,698 children and adolescents who attended a non-clinical school and 390 children and adolescents who attended a clinical program. It was reported that the four-factor model had excellent fit to the data in both the clinical and non-clinical sample.

Discriminate function analysis suggested that that the MASC could be used to identify children and adolescents who could benefit from a more detailed assessment, whilst discriminate function analysis of the Anxiety Disorders Index suggested that anxiety disorders could be classified into correct diagnosis. Additionally moderate to high correlations were found with the physical symptoms scale and social anxiety scale of the Revised Children's Manifest Anxiety Scale (RCMAS) (Reynolds & Richmond, 1978).

#### *Health of the Nation Outcome Scale for Children and Adolescents*

The Health of the Nation Outcome Scales (HoNOSCA) for Children and Adolescents was developed in the UK as a brief numerical record of a routine clinical assessment (Gowers et al., 1997). The HoNOSCA was developed as one of the second generation of the adult instruments from the HoNOS, which was developed as part of the Health of the Nation Strategy for improving mental health.



It was selected for this research because it has demonstrated satisfactory sensitivity to change in mental health status and is brief, simple and clinically acceptable for use in routine clinical practice (Gowers et al., 1997). Moreover, the Child and Adolescent Mental Health Service use the HoNOSCA as a routine assessment tool.

The HoNOSCA comprises 15 scales of which the first thirteen 13 are used to compute the final score. The 13 scales in *Section A* measure a problem commonly presented by children and adolescents in mental health services. The 13 scales are disruptive/aggressive behaviours, over-activity/concentration, self-injury, substance misuse, scholastic/language skills, physical illness/disability, hallucinations/disability, non-organic somatic symptoms, emotional, peer relationships, self-care, family relationship and school attendance. The scales are completed by a qualified mental health professional. Scores in each scale rate from: 0 (no problem), 1 (minor problem requiring no action), 2 (mild problem, but definitely present), 3 (moderately severe problem): to 4 (severe to very severe problem). *Section B* measures the level of knowledge that the client and family have relating to the child's difficulties and their access to mental health services and management. The most severe occurrence for each scale in the preceding 2 weeks is scored on a 0 - 4 point rating. When the HoNOSCA is measured at two or more occasions the difference in score is a measure of change.

After extensive field trials of the HoNOSCA (Gowers et al., 1995), based on 1276 patients, it was concluded that the HoNOSCA had scientific merit. It showed satisfactory coverage, internal structure and total score related to case severity. It had good item and total score reliability, as well as inter-rater reliability. The HoNOSCA demonstrated satisfactory sensitivity to change in accordance with retrospective clinical judgment and performed satisfactorily in tests of validity. Yates et al. (1999) found the HoNOSCA as a

useful indicator of profiles of children referred to child and adolescent services whilst Brann et al. (2000) found the HoNOSCA to be of value in routine outcomes measurement.

Three hundred and five ratings obtained at assessment were analysed by age, gender and diagnosis and 145-paired ratings over a three-month interval were examined for sensitivity to change. Inter-rater reliability of the total score indicated moderate reliability. The scales discriminated between age and gender and the HoNOSCA correlated with the Clinician's view of change whilst the total score correlated with severity of symptoms.

#### *Strength and Difficulties Questionnaire*

The Strengths and Difficulties questionnaire (SDQ) is a brief behavioural screening questionnaire that can be completed by both young people aged 11 - 16 years and parents and teachers in five minutes. This instrument is also used by CAMHS as a routine clinical measure by different health professionals.

All versions of the SDQ ask about 25 attributes that examine the presence of specific difficulties and strengths that the young person has experienced over the period of the previous month. There are four scales: emotional symptoms, conduct symptoms, hyperactivity and peer problems. The scale scores are summed to generate a total difficulties score. A pro-social scale is also measured.

The total difficulties score can range from 0 - 40. Self completed questionnaires with total difficulties scores of 0 - 15 are rated as normal, 16 - 19 is rated as borderline and 20 - 40 is rated as abnormal. Teacher or parent rated questionnaires with scores ranging from 0 - 13 are rated as in the normal range, scores from 14 - 16 are considered borderline and scores ranging from 17 - 40 are considered abnormal.

Psychometric properties of the scale have been studied and SDQ has been described as a reliable and valid measure of the adjustment and psychopathology of children and

youth. A nationwide epidemiological sample of 10,438 British 5 - 15 year olds obtained SDQs from 96% of parents, 70% teachers and 91% 11 - 15 year olds. All subjects were assigned DSM-IV diagnosis. Results confirmed the predicted five-factor structure (emotional, conduct, hyperactivity-inattention, peer and pro-social). Internalising and externalizing scales were relatively 'uncontaminated' by one another and reliability was generally satisfactory.

Scores derived from the SDQ and Rutter questionnaire were highly correlated (Goodman, 1997). The SDQ functioned as well as the Rutter questionnaire and had additional advantages such as a focus on strengths as well as difficulties, better coverage of inattention, peer relationships and pro-social behaviour. Similarly the SDQ correlated highly with the Child Behavior Checklist in a study of 132 children drawn from psychiatric and mental cases. The SDQ was more effective at detecting inattention and hyperactivity and was as effective in detecting internalizing and externalizing problems. SDQ discriminated effectively between 83 young people in the community and 116 young people attending a mental health clinic (Goodman, Meltzer & Bailey, 1998) and correlations between self-report SDQs and teacher/parent rated SDQ scores compared favourably.

#### *Devereux Scales of Mental Disorders*

The Devereux Scales of Mental Disorders (DSMD) were developed to identify children and adolescents who support behaviours associated with psychopathology. They are behaviour-rating scales that provide information from several perspectives (parents, teachers and other professionals). This particular instrument was chosen because it provides an efficient way of consistently and objectively evaluating a variety of behaviours associated with mental disorders, which can then assist the clinician in

identifying the type and extent of psychopathology. Furthermore the instrument has properties of structure, objectivity and specificity, which allows for good reliability and validity (Naglieri, Le Buffe, & Pfeiffer, 1994).

The Devereux yields an overall score and specific scores for factorially derived scales that reflect categories of psychopathological symptomology. The DSMD yields scores for specific components: conduct, attention/delinquent behaviour, anxiety, depression, autism, acute problems and three broad components including externalizing and internalizing behaviour and critical pathology. The DSMD is useful for identifying psychological or emotional difficulties, for specifying type of psychopathology and in formulating a treatment plan.

In determining the reliability and validity of the DSMD, data was collected from sites in 17 states of the USA. The standardization sample comprised 3,153 children and adolescents. The internal reliability of the DSMD was found to be high, the standard errors of measurement were consistent across all scores for the different categories and the test retest scores were reliable across different raters. The DSMD demonstrated excellent content validity and reflected the behaviours described in the DSM-IV and confirmatory factor analyses provided strong support for the organization of the six subscales into three composites: externalizing, internalizing and critical pathology.

Six diagnostic groups were selected for comparison in the diagnostic groups criterion validity study. They were individuals with conduct disorder, attention deficit/hyperactivity disorder, anxiety disorders, depressive disorders, autistic disorders and psychotic disorders. The resultant data provided clear, consistent and interpretable profiles for five of the six diagnostic criteria. Interpretation of the anxiety group was more complex due to the presence of diverse diagnosis. The investigation of intervention setting

validity demonstrated accurate identification of children and adolescents with psychopathology across six settings.

### *Study Design*

The research used a pre treatment/post-treatment design between two treatment groups, where psychometric test data was collected for analysis. This study evaluated the improvement of clients over the initial period of treatment of 10 weeks (a school term), which was the basis for duration of the treatment program at The Cottage. Data, including demographic data and the resulting scores of standardised psychometric tests, currently conducted in accordance with CAMHS protocols, was collected from the files of individuals attending the day program and from individuals on the outpatient/waitlist control group.

### *Data Processing*

During their period of treatment with CAMHS, the clients, their families and the clinical managers complete a number of standardised psychometric tests that are used to assist in the diagnosis process, the development of the individual treatment plans and to monitor their progress. The results of these tests are recorded in their medical records and it is these test data that were used in this research.

As part of the scoring process the results were initially transferred, by the clinical manager, to the CAMHS client database and/or a template held on the client's file as a proforma that contained all test data kept in the notes as a summary sheet. As the tests were also held on file, random checks were made that the results had been transferred correctly to the sheets. A copy of the sheets without the client name was made and labelled with a code number by the clinical manager and provided to the investigator. The investigator then transferred the data to a MS Access® Database which contained no data

that could be extracted or used to identify any of the participants. An independent monitor was used to randomly verify correct transfer of the data. The Access database automatically provided the correct output of the data to an MS Excel® spreadsheet for automatic transfer to SPSS and analysis.

In summary, the design and methodology for this study involved two groups of young people selected from CAMHS clients receiving outpatient and day treatment. Prior to the commencement of this research, the planned methodology was established and approval was gained from A.C.T. CAMHS and the respective ethical committees. Prior to data collection, client/guardian informed consent was obtained. Data was collected from the clients, their parents/guardians and from the results of psychometric tests contained in the CAMHS database. Data was collected just prior to commencement of treatment (pre-treatment), after an initial 10-week treatment period (post-treatment) and after a further 13-week period (follow-up). The data was entered into SPSS for statistical analysis. The data was consequently evaluated and reported on as described in the following chapter.

## CHAPTER 5

### Results

The data collected over the period was entered into SPSS for statistical analysis. The statistical outcomes were evaluated and reported on and these outcomes were used to test the hypotheses and ensure that the overall research met the aims.

After an examination of reliability of instruments, an assessment of means and establishment of group demographic and clinical characteristics, the pre and post treatment test results were analysed for variance. Treatment test results were analysed against the client's diagnosis to ascertain if there was a significant difference between the group outcomes overall and also to ascertain if there was significance in changes between differing diagnoses or between parent and client ratings. Appendix H contains additional tables and figures relating to the research data.

#### *Data Screening and Checking of Assumptions*

Prior to analysing the data, a procedure for data screening and checking the procedural analytic assumptions for all dependent variables was attended. The data sets, including pre and post SDQ (Parent and Self), pre and post BDI, pre and post MASC scores, pre and post HoNOSCA and Devereux data were initially examined for missing values, acquiescence/inconsistency, outliers, linearity and normality. Data with missing values was not included in the study. There was one MASC data set with a high inconsistency index that was omitted. The remaining data sets were complete and scores were consistent across the data set.

The HoNOSCA data set was examined for univariate outliers, of which there were no outliers of note. Normality was assessed using normal probability plots and

homoscedasticity and linearity was assessed through scatter plots. Normality was not seriously violated for the HoNOSCA and a reasonable linear relationship between the variables was apparent. There were no outliers of significance in the SDQ data sets and normality was assessed as being within reasonable range. Normality was not seriously violated overall and, as an Anova is robust to minor violation, it was not considered to be of concern. There were no univariate outliers in the BDI data set as the students residual statistic figures did not exceed  $t = \pm 2.086$  for day patients and  $t = \pm 2.093$  for outpatients. Additionally there were no multivariate outliers as the leverage value is below 1.5 for outpatients and 5.86 for day patients. The MASC data set appeared to have a normal distribution with only one outlier and variables appeared to be linearly related. As transformation of data was not required the data was considered suitable for analysis.

#### *Instrument Reliability*

Prior to data analysis and testing the hypotheses, the itemised instruments used in the study were analysed for their reliability. Table 5 indicates the Cronbach's alpha reliability coefficient for the instruments, which have a multidimensional structure. A covariance matrix was used to establish the reliability coefficients for the 5 items in the MASC scale: physical symptoms, harm avoidance, social anxiety, separation/panic and anxiety disorder index. The pre and post treatment MASC scales both showed good internal reliability. The reliability coefficients for the 13 items on the pre and post HoNOSCA in Table 5 indicate that the HoNOSCA totals are most likely to be representative of the scale as a whole. The reliability of the SDQ (Parent) scales also indicated good internal reliability. Although the SDQ (Self) Cronbach Alpha coefficients were not as high as the other instruments, the analysis indicated that the exclusion of internal items would not improve



the overall alpha coefficient. The Devereux reliability coefficient also showed good reliability.

Table 5

*Instrument Reliability Coefficients*

Test	Cronbach's alpha	
	Pre Treatment	Post Treatment
HoNOSCA	0.748	0.814
MASC	0.838	0.859
SDQ-Parent	0.677	0.639
SDQ-Self	0.549	0.500
Devereux	0.935	

*Inter-rater Reliability*

The BDI, MASC and SDQ-Self were completed by the individual, whilst the SDQ-Parent and Devereux were completed by the parents/guardians with respect to their individual child/adolescent. The HoNOSCA however, is an instrument completed by the CAMHS clinician. As some HoNOSCA were completed on multiple clients by one or more clinicians, a small inter-rater reliability series ( $n = 20$ ), using three different clinicians for each of the clients, was conducted. The results indicated good intra correlations ranging from 0.63 to 0.98 over the 13 scales.

*Demographic and Clinical Characteristics*

Table 3 and Table H1 in Appendix H show the demographic and clinical characteristics of the participating adolescents by treatment group; outpatients ( $n = 20$ ) and day treatment clients ( $n = 22$ ). Participants were between the ages of 12 and 18 years ( $M =$

14.64 years  $SD = 1.43$ ). There was three times the number of females to males in day treatment. The gender mix in the outpatient group was more evenly distributed. The two treatment groups were not evenly matched in terms of their provisional diagnosis. Fifty percent of the outpatient group had a diagnosis of anxiety disorder ( $n = 10$ ) in contrast to 27.3% ( $n = 6$ ) in the day treatment group. Whilst 54.5% of the day treatment group had a diagnosis of mood disorder ( $n = 12$ ) only 40% of the outpatients had a diagnosis of mood disorder ( $n = 8$ ). There were a larger number of individuals diagnosed with a psychotic disorder in the day treatment group ( $n = 4$ ). Both groups had family members who had been diagnosed with a mental health condition.

#### *Devereux Scores*

Figure 2 provides a comparison of Devereux sub-scale scores between day treatment clients and outpatients. Although the scores for day treatment clients are generally slightly higher than for outpatients, the graph indicates overall similarity in the parents' assessment of the subjects in either group.

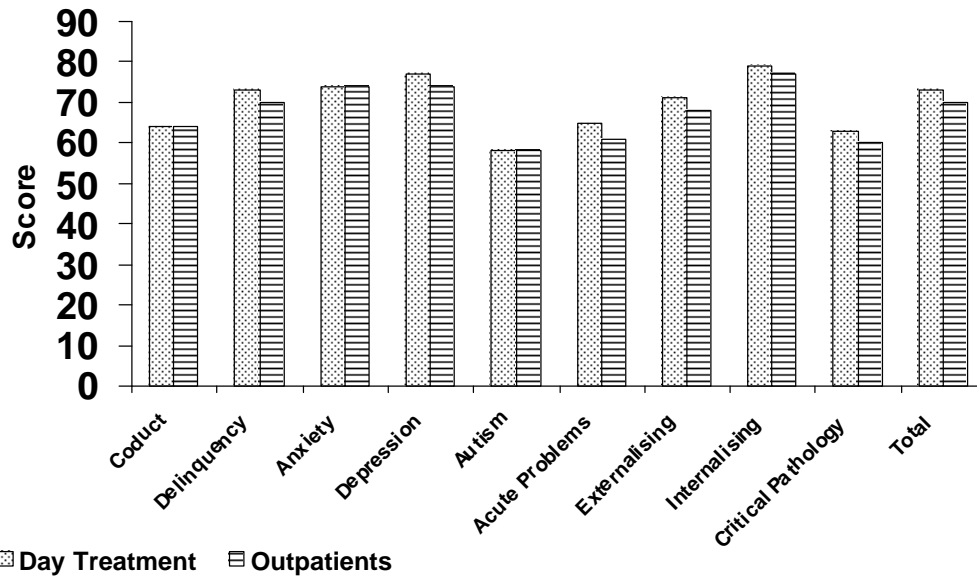


Figure 2. Devereux Psychopathology Scales comparison between day treatment clients and outpatients

*Co-morbid conditions.*

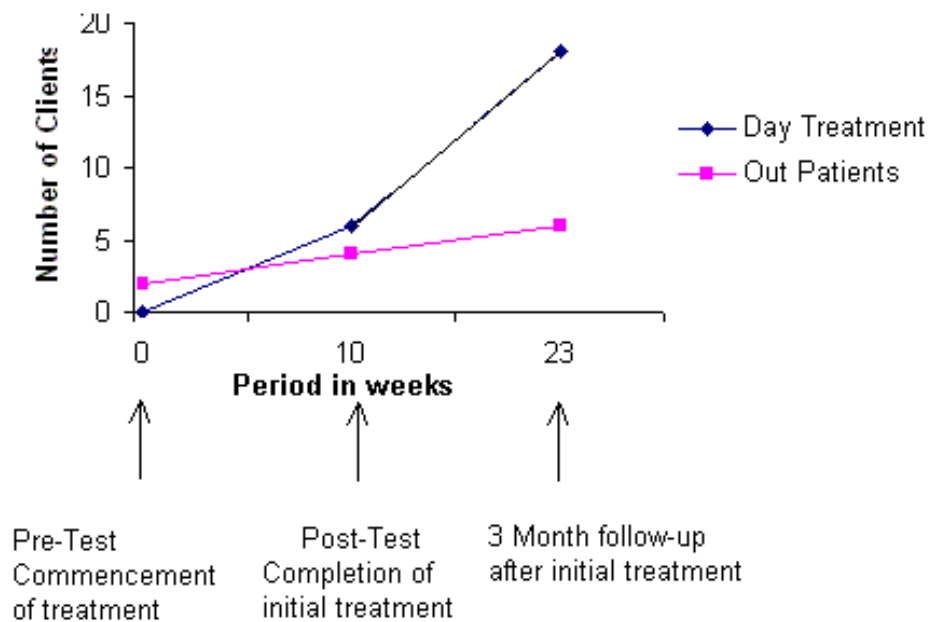
Table H2 in Appendix H indicates the co-morbid diagnoses for each group. A greater proportion (68.2%) of individuals in the day treatment program had a co-morbid condition than did individuals in the outpatient service (45%). There was a predominance of anxiety/mood disorders.

*School/Employment Attendance*

Table H3 in Appendix H describes the individual's attendance at school /employment pre/post and at 3 months follow up after day treatment and outpatient care. A large proportion (90.9%) of the day treatment group had been out of school or employment for over 8 months prior to treatment ( $n = 20$ ). Sixty percent of individuals in outpatients had been out of full-time school or employment for over 8 months ( $n = 12$ ). Following treatment a further 10% ( $n = 2$ ) of the outpatient group returned to full-time

school/employment, whilst 27.27% ( $n = 6$ ) of the day treatment clients returned to full-time school /employment post initial treatment.

At a follow-up 3 months post initial treatment a further 10% ( $n = 2$ ) of the outpatients returned to full-time school/employment and 30% ( $n = 6$ ) of the initial outpatient group were attending day treatment. At the same time, an additional 54.5% ( $n = 12$ ) of day treatment clients had returned to full-time school/employment. Hence, at the time of the follow-up (i.e. 3 months after completing initial treatment), 20% ( $n = 4$ ) of the outpatients who were not attending fulltime school/employment at commencement of initial treatment had returned to full-time school/employment compared with 81.8% ( $n = 18$ ) of the day treatment clients. An analysis of variance indicated that there was a statistically significant difference between the attendance rates of the two groups at post-treatment ( $F(3,38) = 11.171, p = 0.000$ ) and at the time of follow-up ( $F(3,38) = 6.290, p = 0.001$ ). Figure 3 provides a summary of clients attending full-time school/employment at the commencement of treatment (0 weeks), at completion of initial treatment (10 weeks) and at the follow-up time (23 weeks).



*Figure 3.* Clients attending full-time School/Employment

#### *Gender*

Although this research did not initially set out to examine differences in mental health gains with respect to gender, it was identified that there was a noticeable difference in the symptom severity change percentages. Figure H2 provides a graphical comparison of the changes. Analysis of the data indicated that there was a significant difference  $F(1,20) = 8.224, p = 0.010$  between the level of mental health change for the males and females in day treatment whilst the comparison of other gender/treatment option indicated that those differences were not statistically significant.

#### *Comparison of Symptom Severity*

Each subject's score for the pre-treatments were converted to a symptom severity level in accordance with the criteria for the respective test. Figure H1 provides graphical

comparison of the symptom severity levels between Day Treatment clients and Outpatients based on the respective psychometric test outcomes.

Overall the clinicians rated the day treatment clients as more severe in terms of the overall HoNOSCA ratings than clients attending the outpatient service. Whilst clients in day treatment rated themselves as more severely depressed (BDI) and more above average in anxiety (MASC) than clients in the outpatient service, both outpatients and their parents rated more abnormal strengths and difficulties outcomes than those in day treatment.

### *Summary*

Whilst the two treatment groups were evenly matched with respect to age distribution and the low rate of full-time school/employment attendance, they were not evenly matched with respect to gender mix. Whilst both groups had a similar total number of participants with mood or anxiety disorders, the distribution was different between the two groups. This combined with the higher incidence of clients with psychosis in the day treatment group, indicated that the groups were not evenly matched with respect to provisional diagnosis. The day treatment clients had a higher rate of co-morbid conditions. However, the Devereux scores indicated similarity in the parents' assessment of the subjects in either group. Analysis of the other demographic data indicates similarity between the two groups with the exception that the outpatient group had a higher incidence of mental health problems in other family members.

### *Descriptive Statistics*

As discussed previously in this thesis, mental health gains are positive changes in the individual's mental health symptomology. For the purposes of this research, the clients' mental health gains were measured by the respective psychometric instrument outcome score differences. Lower client scores in the psychometric instrument outcomes represent

decrease in symptoms. The descriptive statistics of dependent variables (instrument total scores) were calculated as shown in Table 6.

Table 6

*Comparison of Pre and Post Test Scores for Day treatment clients and outpatients*

Instrument	Day Treatment Clients				Outpatients			
	Pre-treatment		Post-treatment		Pre-treatment		Post-treatment	
	M	SD	M	SD	M	SD	M	SD
HoNOSCA	25.64	6.19	19.95	5.80	22.40	10.27	17.80	9.70
MASC	61.77	16.10	58.68	18.17	56.25	19.67	50.75	21.44
BDI	27.90	12.99	22.95	12.19	25.61	14.85	20.17	13.98
SDQ (Parent)	20.27	8.07	18.36	7.38	19.85	7.34	18.75	7.20
SDQ - Self	20.18	6.91	18.64	4.98	19.00	6.00	17.50	5.64

Note: Lower scores represent decrease in symptoms.

In examining the means of the variables, it can be seen that individuals in day treatment have consistently higher scores (indicating higher levels of symptom severity) than those in outpatient treatment with the exception of the post SDQ (Parent) rating. The differences in the respective pre and post-treatment scores were further analysed to assist in hypotheses testing.

*Analyses*

The assumptions of normality, linearity, multicollinearity and homogeneity of variance-covariance were examined for the variables. As stated the variables were normally distributed and reasonably linear relationships were evident. The assumption of multivariate homogeneity of variance was met using Box's M test as this test was not significant at the 0.0001 level. There was no evidence of multicollinearity and the

assumption for equality of error variance (the Levene Test) for each of the dependent measures was not violated. The MANOVA tests of significance (Wilk's Lambda) revealed a significant difference between totalled pre and post scores overall for all participants  $F(1,40) = 14.446, p = 0.000$ . There was also a significant interaction between pre and post scores for all participants across respective tests. There was however no significant difference between pre and post scores for day treatment clients or outpatients  $F(1,40) = 3.328, p = 0.200$ .

Inconsistent with hypothesis one, the test of between subjects (i.e. day treatment clients and outpatients) effects found that there was no significant difference between subject's scores  $F(1,40) = 1.646, p = 0.207$ . Scores for the day treatment group and outpatient group were significantly lower post treatment, however, the effect of treatment on outcome was the same for both day treatment and outpatient clients. Pre treatment total scores for outpatient was  $M = 28.620, SE = 1.586$  and for individuals in day treatment  $M = 31.152, SE = 1.512$ . Post treatment scores for outpatients was  $M = 24.994, SE = 1.648$  and for day treatment,  $M = 27.716, SE = 1.572$ .

In addition to the instrument mean scores, each patient's score for the tests were converted to a symptom severity level in accordance with the criteria for the respective test. Eighty two percent (82%) of clients in the day treatment group were assessed with moderate to severe levels of symptomology whilst sixty percent (60%) of the outpatient group were assessed with similar levels of severity. Despite the 22% difference in the number of clients with moderate to severe levels of symptoms in the two groups, the test of between subjects (i.e. day treatment clients and outpatients) effects found that there was no significant difference between patient's severity levels at pre treatment  $F(1,40) = 0.837, p = 0.366$  or at post treatment  $F(1,40) = 1.103, p = 0.300$ . The levels of severity for day



treatment clients decreased more than that of the outpatients however, the test of between groups found that there was no significant difference  $F(1,40) = 0.019, p = 0.912$ .

Multivariate analysis of variance demonstrated that although there was a significant improvement in scores post treatment for both groups, there was not a significant difference in the levels of mental health gain, based on psychometric instrument outcomes, between the two groups (outpatients and day treatment clients).

In order to test the second hypothesis, which proposed that the degree of mental health gain is dependent upon intake diagnosis, an analysis of variance was employed. The assumptions of normality, linearity and homoscedasticity of residuals were assessed through examination of the scatter plots. These assumptions were met and there was no evidence of multicollinearity.

The differences between the pre and post-treatment outcomes against intake diagnosis (depression, anxiety and psychosis) were analysed. The test of between subjects for day treatment clients with different diagnosis found that there was no significant difference between client's pre and post-treatment outcomes  $F(2, 19) = 0.16, p = 0.85$ . The test for between subjects with different diagnosis within the outpatient group also indicated no significant difference  $F(2, 17) = 0.47, p = 0.64$ . Similarly the test of between total research subjects with different diagnosis also indicated no significant difference in pre and post-treatment outcomes  $F(2, 39) = 0.37, p = 0.69$ .

In summary, the results do not support the hypothesis that the degree of mental health gain is dependent upon intake diagnosis.

Prior to testing the third hypothesis that parents/guardians would report higher levels of mental health gains in the client than would the client in their self report ratings, a comparison of the pre-treatment outcomes of the parent rated Strengths and Difficulties

Questionnaire (SDQ) against the self rated SDQ was conducted. The SDQs were used in this comparison due to their commonality of questions/items and scales. The results showed no significant difference pre-treatment as the mean for the SDQ (Parent) ( $M = 20.07$ , 95%  $CI = 17.69 \sim 22.45$ ) fits within the confidence interval of the SDQ (Self) ( $M = 19.62$ , 95%  $CI = 17.61 \sim 21.63$ ).

In testing the hypothesis, the SDQ (Parent) and SDQ (Self) outcome improvement, as calculated by pre-treatment SDQ scores minus the post-treatment SDQ scores, the results showed that there was no significant difference between parents ( $M = 1.52$ ,  $SD = 3.97$ , 95%  $CI = 0.29 \sim 2.76$ ) and the client ratings ( $M = 1.52$ ,  $SD = 5.68$ , 95%  $CI = 0.25 \sim 3.29$ ).

The results do not support the hypothesis that parents/guardians will report higher levels of mental health gains in the client than would the client in their self-report ratings.

In summary, the analysis of the data indicated that whilst there was a significant difference in the overall pre-treatment and post-treatment psychometric instrument outcomes, there was not a significant difference between the two treatment groups. Similarly, there was not a significant difference between the parent ratings of their child's illness and the young person's self-perception. The results also indicated that the degree of mental health gain was not dependent upon intake diagnosis. The results did indicate a significant difference between the return to school/employment rates of the two groups post treatment. Overall the results raise a number of questions and implications for further discussion and research as discussed in the following chapter.

## CHAPTER 6

### Discussion

The main aim of this study was to evaluate the mental health gains made by a group of young people attending a day treatment program and a group of people attending a child and adolescent outpatient service. The focus was to explore improvement in mental health gains in relation to diagnosis and to see if parents/guardians report higher levels of mental health gains in the client than would the client in their self-report ratings. This study improved upon previous evaluations of day treatment programs by recruiting a comparison group, using prospective psychometrically sound outcome measures, and by providing the reader and potential future researchers with a detailed description of the components of the program, the model of the day program and the program's theory of change.

The outcome data indicated that both the adolescent day program and outpatient treatment are beneficial treatment modalities for adolescents diagnosed with a moderate to severe mental illness. While the research demonstrated that both treatment approaches were beneficial, there was no statistically significant difference in psychometric test outcomes between the two groups. The research, however, did demonstrate that there was a significant difference between the return to full-time schooling/employment rates of the two groups.

A Multivariate Analysis of Variance (MANOVA) of data obtained from individuals in the day treatment program indicated significant improvement in outcome variables across the five psychometric assessments that were completed pre and post a ten-week period. Young people attending the program completed psychometric instruments that rated their depression (BDI), anxiety (MASC) and strengths and difficulties (SDQ-S).

Parents completed a strengths and difficulties (SDQ-P) at pre and post and a measure of client psychopathology (Devereux) at the intake interview (pre-treatment) whilst the clinicians completed an assessment of psychological functioning and behaviour (HoNOSCA) pre and post the treatment period.

The outcomes were comparable with the Matzner, Silvan, Silva, Weiner, Bendo and Alpert (1998) research where truancy rates, psychological level of functioning and global severity of illness of a patient were measured prior to day treatment at three months duration and again after a further 3 months. Although there was a control group for Matzner's study, only truancy rates were measured for this group, hence no comparisons were made for changes in severity of illness and psychological functioning

The comparison group, comprising young people attending the CAMHS outpatient service, completed the same measures as the day treatment clients. The analysis of the group outcomes also showed a significant improvement in the outcome variables across the same instruments as scored by the day treatment group. While there were no significant differences in outcomes between the two groups, noticeable improvement in clients' levels of depression, anxiety, strengths and difficulties and the clinician ratings scores of psychological functioning and behaviour were noted.

These results were consistent with other studies of day treatment in which improvement was observed. Milin, Coupland, Walker and Fisher-Bloom (2000) researched the outcome and follow-up of an adolescent day treatment school program and found marked improvements in behaviour and global functioning from admission to discharge. The Matzner et al. (1998) study used a single group comparison as a control sample and found improvements in truancy rates, severity of illness and psychological

functioning, although these later improvements were not statistically compared between the two groups.

Kiser et al. (1996), found significant improvements in behaviour and internalising disorders, whilst Piper, Rosie, Azim and Joyce (1993) found improvements in social dysfunction, family dysfunction, interpersonal behaviour, mood level, life satisfaction, self-esteem and severity of disturbance. Yelland, Hubbard, McLean and Hodgkiss (2002) and Rayner and Woodward (2000) in their preliminary studies found improvements in symptomology; behaviour, socialization and self-esteem.

Differences in the young person's out of school placement and return to school rate between the two treatment conditions were also compared. The demographic attendance data confirmed that 27.3% of day treatment clients were attending full-time school/employment following the initial treatment period with 54.5% attending The Cottage for further treatment. Of the clients in the day treatment group, 81.8% of them had returned to full-time school/employment within three months of completing the initial treatment. In comparison, only 10% of the outpatient group, who were not attending full-time at the time of pre treatment testing, returned to full-time activities after the initial period with a further 10% returning within three months of completing the initial treatment period. Analysis of variance indicated significant difference between the return to school/employment rates for the two groups at both the post test and follow-up review periods. These results support the notion that day treatment is an effective intervention for enabling a group of clientele who have been school avoidant for some time to return to school, however an approximate period of two terms in day treatment is more beneficial.

The consequences of school refusal include deficits in personal, social, academic and vocational development (Heyne, King, Tonge & Cooper, 2002). According to Heyne et al.

(2002), academic performance and educational development decline leading to possible problems in educational adjustment in later life. Relationships with school peers become disrupted resulting in anxiety, which can then spread to other areas of the young person's life. Young people with school refusal are more prone to emotional disturbances or anxiety disorders such as agoraphobia. Additionally, the presence of child psychiatric disorders has a significant effect on the parent's perceived levels of burden. Angold, Messer, Stangl and Farmer (1998) found significant predictors of perceived burden were levels of child symptomology and impairment. It is therefore imperative that young people do not stay out of school for long periods of time.

McShane, Walter and Rey (2001) found that school refusal is a symptom of a variety of disorders; mostly anxiety and depressive disorders and that treatment should be tailored to the individual patient. The Adolescent Day Program at the Cottage has not only developed individual education packages for each child throughout the course of the program, but also has individual transition plans for each child reintegrating back to school. The plans are based upon graded exposure to the school (Heyne et al. 2002). Returning to school is an integrated approach involving parent training, school consultation and child treatment.

The incorporation of the model, as presented by Heyne et al. (2002), including cognitive behavioural treatment, parental support and training, school liaison and consultation, pharmacological treatment and the implementation of transition plans may assist young people in returning to school. The use of transition plans in the outpatient service as routine management for those young people at risk of developing school refusal may stem further spiralling.

The second hypothesis tested if there was a relationship between diagnosis and clinical improvement. Analysis of variance was conducted to explore if there were differences between the young person's diagnosis and dependent variable ratings on the different instruments used in the study. While the research demonstrated that there had been overall improvement across the range of diagnoses, there was no statistically significant difference in psychometric test outcomes between clients with different diagnosis.

Figure H2 in Appendix H presented improved percentage symptom severity changes for females in day treatment as opposed to males in day treatment, whose symptom severity changes were negative for depression, anxiety and strengths and difficulties. The clinician ratings showed improvement in symptom severity change. Both male and female clients in the outpatient condition improved on all instruments. As there were more girls in day treatment than in the outpatient group and a large proportion were diagnosed with an anxiety disorder in day treatment, one would expect a significant relationship between anxiety and clinical improvement. However, possibly due to limited numbers in each diagnosis condition and the high incidence of co-morbid conditions as discussed later, results indicated that there was no significant difference between client's pre and post outcomes for the differing diagnosis. Of particular interest was that there were only five boys in day treatment, two of whom had a psychotic disorder, two with severe depression and one severely anxious/depressed.

Although this research did not initially set out to examine differences in mental health gains with respect to gender, visual analysis of the graphs in Figure H2 indicated a noticeable difference in the symptom severity change percentage for males in day treatment as opposed to all other clients. Statistical analysis of the data indicated that there

was a significant difference between symptom severity change for males and females in day treatment, whilst the comparison of other gender/treatment options indicated that those differences were not statistically significant. Whilst the limited numbers of males in day treatment (5 in total) may have affected the statistical analysis validity of the outcomes, the differences indicate that changes in treatment may be required and that further research into this aspect should be carried out.

A key question was whether the increase in scores was due to the ineffectiveness of treatment, or whether the males responded to the questionnaires inaccurately. There may be some validity in the first suggestion concerning program effectiveness. Perhaps a different type of program is needed for boys.

Clinchy, (1990, 1995) from her observations of students in the classroom, proffered that learning occurs in different ways for different people in different situations. Studies, using an instrument called the Attitudes Toward Thinking and Learning (ATTLS) suggested pronounced differences in the ways males and females respond to the ATTLS (Galotti, Clinchy, Ainsworth, Lavin & Mansfield, 1999). Results suggested that some males and females had different kinds of cognitive or learning styles, not intellectual abilities or capacities. Galotti, Drebus and Reimer (2001) further supported gender differences in ways of knowing. Males had significantly higher SK scores (Separate Knowing: involving objective, analytical and detached evaluation) than females. Females had significantly higher CK scores (Connected Knowing: where individuals place themselves in alliance with another's position). SK and CK scores were unrelated to ability.

Furthermore, combined with the differences in learning styles between genders, research by the National Association for Single Sex Education (NASSPE, 2004) supports



the theory that there is no difference in what boys and girls can learn but there are big differences in the best way of teaching them. According to the NASSPE, this is because emotional activity is processed in different parts of the brain in adolescent girls compared to adolescent boys. In girls brain activity associated with emotion is localized primarily in the cerebral cortex, the area used for reasoning, language and higher cognitive skills. In boys, the locus of emotional control remains in the amygdala, an area with no direct connections to the cerebral cortex. Hence girls are typically able to articulate emotions reasonably well, whereas boys feel uncomfortable when asked how they feel.

Pomerantz, Altermatt and Saxon (2002) assert that girls are likely to be more critical in their self-evaluation of their academic performance, whilst boys on the other hand are likely to have unrealistic high expectations of their academic abilities and performance. There are fundamental differences in factors motivating girls vs. boys (Pomerantz & Saxon, 2001, and Pomerantz et al., 2002). Researchers have found that girls are more concerned about pleasing adults whilst boys are motivated to study if the topic interests them. It seems small group work is beneficial for girls and context enhances learning for girls but possibly not boys (Taylor, 2002).

Thus, girls prefer stories about experiences whilst boys tend to prefer action stories and films. Role-playing exercises work well for girls but not for boys. They prefer assignments that are objective and fact-oriented (NASSPE, 2004). In addition, it is quite possible that these differences could have ramifications for the effectiveness of the program at The Cottage and need to be addressed in future planning of the program.

Klyczek and Mann (1986) compared the effectiveness of two different approaches to day treatment: one with twice as much activity therapy as verbal therapy. Although the clients were adults, not adolescents, it was found that clients receiving activity therapy

achieved a four times greater symptom reduction. The researchers determined that the process of 'doing' facilitated the client's return to higher or more adaptive levels of functioning. Support for differing treatment approaches such as Klyzek and Mann's is further strengthened by an approach taken by a day program in Adelaide, Australia.

A Day Program in Adelaide (Adolescent Services-Enfield Campus (ASEC)) is divided into two streams according to the needs of the young people (McEntee & Hilton, 2002). The two streams are the Trekkers and the Adventurers. The Trekkers involves young people who have been bullied and have significant learning difficulties, whilst the Adventurers involves young people who have trust issues, conflictual relationships with adults and poor self esteem. The two streams have different objectives. The implementation of different programs may assist young males. Regardless, further evaluative research of different types of programs and the impact on males is needed in the future.

There maybe other reasons for the males' limited improvement on the standardised measures. As stated, the males had a diagnosis of either psychosis or severe depression. One supposition may be that the clients completed the questionnaires inaccurately, however why females should complete their questionnaires differently is another question to be answered. The staff at the day program noted that the males often filled out their questionnaires in an ad hoc fashion. This concurs with Milin et al. (2000), who mentioned that adolescents often under report clinical symptoms on self-report measures, possibly due to a lack of motivation in completing questionnaires, or perhaps poor insight.

Pini, Cassano, Delloso and Amador (2001) reported that individuals with psychotic disorders (schizophrenia) or bipolar affective disorder have poor levels of insight. Individuals in the Pini et al. study had poor retrospective awareness of response to

medication, poor awareness of past mental disorder and past social consequences. The young men in this study of day treatment may have had little awareness of their symptomology. A large scaled study of young people with various diagnoses would need to be carried out to enable causality conclusions to be drawn.

The third hypothesis explored whether parents/guardians report higher levels of mental health gains in the client than would the client in their self-report ratings. A comparison of the pre-treatment minus post-treatment outcomes of the parent rated Strengths and Difficulties Questionnaire (SDQ) against the self-rated SDQ was conducted. The results showed that parents rated improvement similarly to the children. The comparison graphs of symptom severity change further supported these findings with regard to the SDQ (Self) and SDQ (Parent) outcomes (Figure H2 in Appendix H). In addition the parents rated symptom severity as more abnormal on the SDQ, which was similar to their children's ratings (Figure H1 in Appendix H).

It was therefore interesting to note parents' perceptions of their child's psychopathological and behavioural problems as scored on the Devereux (Figure 2). The Devereux scales as discussed in the methodology section of this thesis is a lengthy (110 questions) standardised, objective method of detecting behavioural problems associated with psychopathology, whereas the SDQ is a brief behavioural screening tool (25 Questions) for generating scores for conduct problems, inattention-hyperactivity, emotional symptoms, peer problems and pro-social behaviour.

It is perhaps not surprising that parent and child did not differ considerably on the SDQ scores. The SDQ has an emphasis on strengths and difficulties rather than the identification of individuals who evidence association with psychopathology. The Devereux , on the other hand, has a detailed comprehensive array of questions, which are

effective for deriving information on differential diagnosis. To increase the detection of child psychiatric disorders using the SDQ, one would need to have community samples using multi-informant SDQs (Goodman et al., 1998).

Of note, on the Devereux were the psychopathological and behavioural problems scores across all subsets. Parents of day treatment clients and outpatient clients classified their child as severely depressed, anxious and rated them with high scores on the conduct, delinquent, externalising and internalising and autistic subsets. Day Treatment clients had a slightly higher overall total, indicating an overall higher level of symptom severity.

This result is perhaps not surprising, although to obtain a more valid and reliable result, the Devereux would need to be completed by another person and completed post intervention to allow for comparison. These results concur with Hawley and Weisz (2003), who found after questioning 315 children, parents and therapists separately, that more than 75% of the child-parent-therapist triad began treatment without consensus on a single problem. Parents were more likely to rate their child with externalizing problems, including aggressive delinquent disorders and internalising (anxious /depressed type) behaviours. As with Hawley and Weisz's study, this study demonstrated parents focussing primarily on problems that they considered the child needed to work on. It is important, that for treatment to be effective, the child, parents and therapist's goals are synchronous.

The parent and child may be 'worlds' apart in terms of understanding the situation for each other. Ginsberg (1987) noted that sometimes, young people who are admitted to inpatient units are left 'to be fixed,' and sometimes many of the issues at admission miraculously 'disappear,' only to return again when they return to their natural surroundings. According to Ginsberg, clients, whose families participate in the therapy process, have a greater chance at success. Milin et al. (2000) further supports family

involvement. When the focus of day treatment changed from an individual oriented to family oriented, adolescents improved significantly.

### *Limitations*

There were several limitations of this research that may have impacted on the results. Differences in the homogeneity of the groups were noted which may have impacted on improvement rates of the young people in the day treatment program and outpatient treatment condition. In particular, this study not only had an inequitable distribution of females to males (17:5 respectively) in the day treatment condition, there was also a high proportion of individuals in day treatment with co-morbid conditions. The day treatment had 68.2 % with Axis 1 and 2 diagnoses whilst the outpatient group had 45 % with co-morbid conditions. The small number of personnel with various diagnoses also may have impacted upon the results.

As noted previously, another factor that may have impacted on the results was the client's amount of time in treatment. To observe significant changes in mental health status a person may need to participate in treatment for a longer (greater than three months) period of time. Stewart (1994), in a study of traumatised adolescents participating in a therapeutic community established that stronger successful outcomes were apparent after nine months of treatment. Howard et al. (1993) suggested that patients require at least a 16 week period to experience an initial "remoralization" period, where hope is restored, and then they go through a 'remediation' period' where growth and change begins. DeLeon and Jainchill's (1982) research on adults further supported a period of nine months to affect change in at least 50% of the population attending day treatment.

This research was based on the evaluation of an initial 10-week period of day treatment and outpatient treatment only, and did not evaluate clients over a prolonged period. In accordance with Stewart (1994), it could be that patients in day treatment require at least two terms of treatment to explain a difference between the two groups. Clients in both treatments may go through an initial positive, hopeful period and then plateau to their habitual patterns. The more intensive therapeutic approach in day treatment could assist in motivating the client to make changes. Research on adolescents attending day treatment and outpatient treatment for a period of at least 6 months may have shown statistical significant differences between the two groups. Moreover a follow-up study of these individuals may show if results are sustainable over time.

Likewise, serious consideration needs to be taken concerning other factors that may have influenced the differential effects of treatment on diagnosis. Perhaps improvements would have been noted due to attention effects or maturational effects over the passage of time. Social support as a measure of impact was not considered and it is possible that specific components of the day program may have had a greater impact than the program as a whole. Perhaps by attending the structured schooling program at The Cottage the attendees would have been put back into the mode of learning that facilitated their re-entry into school either way. It is possible that a shortened program, with just schooling or group work only, may have had a similar effect.

Furthermore, Chambless and Hollon (1998) suggested that although 50 clients per condition makes a reasonable statistical power to detect medium differences among treatments, 25 - 30 per condition is sufficient to estimate the effects of difference. In this research, in terms of differentiating diagnosis effect, there were insufficient numbers and the samples were convenient rather than randomly selected. There was only one subject in

outpatient treatment and five young people overall diagnosed with a psychotic illness, as well as eight outpatients with mood disorders compared to twelve clients in day treatment. There were ten adolescents with anxiety disorders in outpatients compared to six in day treatment. Hence the power of the analysis in determining the degree of mental health gain dependent on intake diagnosis was severely compromised and generalizability of the results was not possible.

Further, the study was not able to use random assignment of clients to each treatment condition. This may have biased the two groups somewhat and has limited the true experimental nature of the research. As the study is only correlational in design, careful inferences would need to be drawn from the data.

### *Implications*

This research, although demonstrating the effectiveness of day treatment and outpatient treatment and providing much information, has probably evoked more questions than answers. Overall improvement in measures of depression, anxiety, strengths and difficulties and psychological functioning and behaviour took place in both groups, however the presence of a comparison group did not enable the researcher to establish efficacy of one treatment over another. This begs the question: "If both treatments are effective; is the more expensive (in terms of staffing due to the higher staff/client ratio) option of day treatment necessary - or is outpatient treatment sufficient and feasible for young people experiencing moderate to severe mental illness"?

The theoretical benefits of day treatment are plentiful. Young people with moderate to severe behavioural and emotional issues can be maintained in a community setting rather than an inpatient or residential setting. Young people requiring supervision are able to benefit from educational services and receive daily psychotherapeutic interventions. A

day program can provide the intensity of a group-oriented milieu and focus on family treatment, which is not possible with outpatient treatment. In addition, day treatment programs are less costly than inpatient treatment, which is what many of these young people would require if day treatment programs were not available.

Notwithstanding, this study has demonstrated that outpatient treatment is beneficial for those young people (particularly boys) who have moderate to severe mental illness and who have not as yet entrenched behaviours of school refusal. On the other hand the day treatment program at The Cottage was shown to be beneficial for young people who had established continuous symptoms over a prolonged period, had suffered major impairments of their day-to-day activities and relationships and had been truant from school for long periods of time. The adolescents had been on medications for some time and had been labelled treatment-refractory in terms of individual work. Additionally, a large proportion of the young people in the day treatment group returned to mainstream school or employment whereas many of the young people who had attended outpatient treatment had not returned to school/employment and were subsequently referred to the day program. Thus, the day treatment program (The Cottage) plays an important part on the continuum of care of the adolescent with mental health issues and is an important and viable treatment approach.

The research, however has prompted many questions in terms of quality, improvement, and provided equivocal information about the benefits of the opposing intervention.

Examples of questions that have been prompted are: Would a different type of program with two streams prove more beneficial for some young people? Would greater numbers in the sample show difference in parent rating as against child and clinician



ratings, differences across outcomes in relation to varying diagnosis and differences in male's outcomes? Would more young people remain in school if transition plans were implemented in outpatient treatment before absences from school become intractable? Does the severity of psychopathology add to the necessity for a longer duration in day treatment for greater improvement in mental health status? Do referral procedures need to be introduced to establish how best young people learn or do individuals have learning difficulties prior to coming to the day program? These and many more questions have been prompted, but unanswered in this research.

This study has important implications in terms of further research and developments. Research of a large sample of adolescents with differing diagnosis and equitable numbers of females and males at multi-system sites would be advantageous. Comparisons of varying treatment approaches, for specific disorders, against day treatment programs would add to the knowledge base around day treatment. Qualitative research of adolescent and parent's perceptions of improvement and what components have played a part in getting better could add to the richness of information around treatment approaches for young people.

Furthermore, implementation of transition plans and intensive reintegration into schools by clinical managers of outpatient clients could be trialled for those individuals at risk of leaving school. Different types of programs (activity versus verbal) need to be conducted whilst taking account of gender. A pilot of the two stream programs could then be carried out. Finally it is important that the young people in this study are monitored over time to determine if improvement persists.

A theoretical framework describing the program theory of day treatment has been included at Appendix E; however further research is required to examine elements of this

theory. Future investigators could identify, examine and compare components of this program against other adolescent day programs. Through the use of a multi-site approach the investigators will be able to employ a larger sample of adolescents in future research.

#### *Day program improvement recommendations*

What emerged from this research was that, although improvements were noted in both outpatient treatment and day treatment, young boys in day treatment did not improve in terms of symptom severity changes for depression, anxiety and strengths and difficulties. In the absence of significant changes, a baseline level of learning abilities, styles of learning would be helpful in identifying young people requiring assistance. This would assist in guiding clinicians in formulating individual treatment plans for both boys and girls in day treatment. This information would also assist in tailoring a program to suit the individual and possibly assist in developing differing programs similar to the one in South Australia (ASEC).

While a large proportion of young people in day treatment returned to school/employment (81.8%), a smaller proportion of outpatients (20%) returned to school/employment. The protocol in transitioning young people back to school/employment from The Cottage is an integrated approach involving parent training, school consultation and child treatment. Much time and effort is put into developing individual transition plans for the young person reintegrating back to school. A meeting is held, where the School Counsellor, Welfare Workers, School Principal, Class Coordinator, Parent, Cottage Clinical Manager and child are invited. The plan is discussed and all involved helped to facilitate the child's return to school. A similar strategy for young people attending outpatient treatment could prove to be beneficial.

In addition, because there were comparable differences in parents and child's perceptions of psychopathology as shown by the Devereux, inclusion of the family in treatment approaches, coupled with psycho education could prove to be beneficial.

Hence specific recommendations based on these suggestions include:

- The implementation of different referral and assessment procedures. Prior to admission to the Cottage it may be beneficial to enquire about a young person's style of learning-whether they best take in information kinaesthetically, visually, auditory or via their senses. Neuro-psychometric testing may establish any learning difficulties at admission and neuro-linguistic assessments may identify the way the young person programs things. With this information in hand a specific individual program could be tailored to suit the needs of the individual and facets of the program could be adapted accordingly.
- The instigation of different activities could be introduced for interested students i.e. rock-climbing, abseiling, adventure treks, basketball, camping, gym or bowling. The child could rate their level of stress pre and post the activity.
- The implementation of transition plans for young people at risk of leaving school. If clinical managers in the outpatient service introduce an individual management plan for the young person, in collaboration with the schoolteachers, welfare worker and parents at the first signs of school refusal, the child may feel supported, less anxious and remain in school.

- Introduction of more family work and psycho-education for parents/guardians and family members. Greater understanding of the condition and strategies to cope with the young person could assist parents in caring for their child.

### *Conclusions*

This study supported both the CAMHS Adolescent Day Program and the outpatient service as successful treatment approaches for adolescents with moderate to severe emotional disorders, withstanding limitations. The outcome data indicated that both the adolescent day program and outpatient treatment were effective treatment modalities for adolescents diagnosed with a moderate to severe mental illness. There was however no statistically significant difference in psychometric test outcomes between the two groups.

Nonetheless the research demonstrated a significant difference between the return to full-time schooling/employment rates of the two groups. This finding supports the day treatment program as a pivotal treatment approach in helping to motivate the young person to return to school or employment. This is an exceedingly important outcome as schools/career paths form a central part in the life of a young person and offer opportunities for learning, development and normative social practises. These positive experiences further contribute to the young person's mental health and resilience and prevent further anguish and deterioration.

Success of the Adolescent Day Program, The Cottage, was reflected in client symptom reduction, favourable outcomes in return to school ratings and client adaptation back into society, whilst many of the young people who had been in the outpatient group required referral to the day treatment program before they could return to mainstream school/employment. This research found that day treatment is particularly beneficial for those young people who have been "treatment refractory".

From this research, perhaps one could propose that the underlying Day Program processes of social learning: reinforcement, modelling, constructive feedback and behaviour rehearsal empower the young person to return to the community or school. It is possible that developmental growth occurs within the micro system of The Cottage milieu and through support, interaction and treatment interventions, the young person develops improved mental health status in the form of:

- Increased understanding of self and others
- Increased understanding and management of mental illness
- Relapse prevention and
- Returning to the community or school.

Furthermore the success of the program was reflected in the statements of some of the young people, who have participated in the day treatment program at the Cottage or their parents:

“I wish I had known about this program earlier. Everyone accepts you here and they let you be yourself, so you can relax and learn and forget you’re different”.

“I’ve been seeing my counsellor for ages and she’s good, don’t get me wrong, but it’s the other kids and the groups that help you. The others have mental illness too, so they know what you’re going through,”

“My child has improved since coming to the day program. I like the way the individual needs of the child are addressed. Finally, after many years of struggling, my child feels safe, accepted and for the first time in her life has some friends.”

Thus the adolescent day program in supporting young people with their mental health concerns and enabling them to return to school has evolved as an important setting for promotion, prevention and early intervention.

Whilst this research is complete, it is important that research into day programs continue to ensure that the effectiveness of treatment options are continually measured to provide empirically based foundations for continual change and improvement.

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