An Evaluation of the Efficacy of Promoting the Use of Problem Focused Coping Skills in Repetitive Deliberately Self-harming Adolescents

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Malcolm Wheatley
Consultant Clinical Psychologist
St. Andrew’s Hospital
Northampton

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ABSTRACT

Title: An Evaluation of the Efficacy of Promoting the Use of Problem Focussed Coping Skills in Repetitive Deliberately Self-harming Adolescents.

Author: Mr. M.D. Wheatley

Only rarely is it necessary to detain a troubled adolescent under the Mental Health Act (1983). Frequently the more disturbed adolescents will be placed in specialist adolescent secure inpatient facilities. Many of these young people present a primary risk to themselves in the form of serious self harm and potential suicide. The present research project seeks to investigate the therapeutic value of teaching problem focussed coping skills to deliberately self-harming adolescents.

The six individual participants included in the project show a mixed response to the intervention. Three participants demonstrate a good response to the intervention as measured by frequency of self harm. However, follow-up data on one of these participants suggests a relapse of self harm after the end of the intervention. Psychometric measures of symptomatology show very limited convergence with reduction in self harm. However, assessment of coping responses at pre and post intervention suggests that the observed reduction in frequency of self harm is associated with the development of more adaptive coping responses. Of the remaining three participants, two fail to demonstrate a response to the intervention, and the third failed to engage in the intervention.

The limitations of attempting to evaluate a specific and relatively discrete intervention in the case of complex and challenging patients are discussed. However, the results suggest that coping skills interventions are a necessary and vital component of an effective therapeutic programme for self-harming adolescents and further refinement and integration with other therapeutic modalities may substantially improve the prognosis for some of our societies most damaged young people.
INTRODUCTION

Defining Deliberate Self Harm

Defining deliberate self harm (D.S.H) has posed considerable difficulties in the literature over the years. The matter is complicated by the plethora of terms and definitions employed to describe a heterogeneous composition of self damaging behaviours. Terms commonly used in the literature include self harm, deliberate self harm, self mutilation, self injury, self injurious behaviour, parasuicide, focal and partial suicide. It has been suggested that self harm is a family name for a broad range of behaviours which are intentionally performed by an individual who causes damage to his or her body. However, various definitions of self harm and deliberate self harm have been proposed which directly contradict one another. For example Favazza (1989) defines self harm as "The deliberate destruction or alteration of your own body tissue e.g. cutting, burning, breaking bones, sticking needles in your skin, interfering with wound healing ..... it does not refer to taking an overdose of drugs or alcohol" (p.138). In direct opposition Morgan (1979) defines deliberate self harm as including failed suicides, overdoses, self poisonings, gas inhalations and self mutilations.

Much of the early literature attempted to address some of the definitional problems in the field initially by focusing upon the distinction between self harm and suicide attempts. Schniedman (1973) proposed a definition of suicide as "the human act of self inflicted, self intentional cessation" (p.383) and went on in later years (Schniedman, 1985) to present ten common characteristics of suicide (i.e. of
individuals who have committed suicide or are about to commit suicide). Walsh and Rosen (1988) used these ten characteristics to discuss in counterpoint ten basic characteristics of self mutilative behaviour (S.M.B.) hence emphasising the definitional distinction between self mutilation and suicide, for example Schniedman identifies the goal of suicide as cessation of consciousness while Walsh and Rosen identify the goal of S.M.B. as alteration of consciousness. Ross and McKay (1979) emphasise the distinction between S.M.B. and suicidal behaviour focusing upon the lack of intent and minimal risk of dying with S.M.B., as opposed to suicidal behaviour. Indeed, they go on to state that S.M.B. is actually counter-intentional to suicide.

The literature contains a number of formal definitions of S.M.B. Some definitions emphasise the risk of lethality of the act, others emphasise the physical damage performed. Others have focused upon the social consequences of S.M.B., emphasising that S.M.B. is a “Socially unacceptable alteration of physical form” (Phillips & Alkan, 1961, p.421). Walsh and Rosen (1988) have attempted to incorporate all of these features into a coherent definition of S.M.B., defining the behaviour as “Deliberate, non life threatening, self effected bodily harm or disfigurement of a socially unacceptable nature” (p.10).

However, despite the attempts of many authors to distinguish suicidal behaviour from self harm, others have continued to employ the wider definition, often referred to as “parasuicide”. This term is defined by Linehan et al. (1991) as “Any intentional acute self injurious behaviour with or without suicidal intent including both suicide attempts and self mutilative behaviour” (p.1060).
Self injurious behaviour (SIB) is another term that has been in favour over recent years. Winchel and Stanley (1991) define SIB as “The commission of deliberate harm to one’s own body. The injury is done to oneself, without the aid of another person, and the injury is severe enough for tissue damage (such as scarring) to result. Acts that are committed with conscious suicidal intent or are associated with sexual arousal are excluded” (p.306).

Self poisoning is often separated from self mutilation or self injury just as suicidal behaviour is often separated. Indeed, one distinction which has been drawn between types of self harm is that the bodily damage resulting may be external (e.g., self mutilation) or internal (e.g., self poisoning) (Tantam & Whittaker, 1992).

With respect to self mutilation, three sub types have been distinguished primarily in relation to degree of injury inflicted (Favazza, 1989). The first of these subgroups usually involving the more extreme self inflicted injuries typically occurs within the context of severe mental illness such as psychosis or major depression. Injuries may include enucleation or amputation of limbs or genitals. The second subgroup involving more moderate self mutilation concerns external damage to the body usually causing fairly minor injuries e.g. self cutting, burning or bruising. This latter subgroup was further divided into three more subgroups by Favazza comprising of compulsive, episodic and repetitive self mutilators. Compulsive self mutilation is described as ritualistic behaviour performed many times per day, e.g. hair pulling, skin picking or nail biting. Such behaviour typically involves little thought and only limited affect, although tension relief is associated with the behaviour which is
viewed as having both impulsive and compulsive qualities. Episodic self mutilation and repetitive self mutilation involve similar behaviours e.g. cutting or burning, but in different patterns. Each pattern is associated with a constellation of other symptoms and is particularly evident in those with a personality disorder diagnosis. Repetitive self mutilation involves chronic use of such behaviours as a habitual response to stress or distress. The third subgroup of self mutilation involves minor, stereotypical behaviour such as head banging or eyeball pressing. Such behaviour is typically associated with mental handicap, autism and acute psychosis.

**Deliberate Self Harm As A Clinical Problem**

Deliberate self harm is one of the most emotive and challenging problems facing clinicians. The behaviour engenders extreme reactions in those caring for the deliberately self harming patient. Indeed, the literature in the field of self harm also evokes extreme descriptions, for example Walsh and Rosen (1988) describe self mutilation as an example of “human beings gone wrong, as wrong as is conceivable” (p.3). Aversive responses in those who witness self harm may be expected when they encounter fellow human beings who are so intensely distressed that they cause themselves concrete and severe physical damage. Reactions of shock, disgust, anger, extreme concern and a desire to comprehend and help are all well documented in the literature (e.g. Crabtree, 1967). However, it is perhaps the difficulty that many carers and professionals experience in understanding what drives the self damaging behaviour that causes such extreme reactions. These extreme reactions which surround self harm may inhibit its effective management.
Prevalence and Incidence

Epidemiological surveys suggest a prevalence of approximately 750 episodes of D.S.H per 100,000 of the general adult population each year (Favazza & Conterio, 1989). However, D.S.H. is most common in the age group 15-35 years in which the rate rises to approximately 1.8 per cent of the population (Favazza, 1987). The prevalence of self harm among psychiatric in-patients is significantly higher, with estimates ranging from 7 to 10 per cent (Favazza & Conterio, 1989).

A major concern exists over the rising incidence of self harm since the 1960’s. Epidemiological studies from Canada (Johnson et al. 1975), England (Morgan, 1979), Denmark (Bille-Brahe, 1982), and the United States (Clendenin & Murphy, 1971) have consistently found a rising incidence in the general population.

During the 1970’s and 1980’s research indicates that the problem has steadily risen particularly among female adolescents, aged 15 - 18 years (Kreitman & Schreiber, 1979; Goldacre & Hawton, 1985; Hawton & Fagg, 1992). In the U.K. it is estimated that there is a rate of 16 per 100,000 deaths by suicide in this age group each year (DoH, 1992) and such figures have aroused public concern. Indeed, the reduction of suicide has been a focus of health policy initiatives throughout the 1990’s and is reflected as one of the key targets in the governments White Paper (DoH, 1992) ‘The Health of the Nation’.
Despite this rising trend, determining the precise incidence of deliberate self harm is not possible. This is largely due to under-reporting and to inconsistencies and disagreements in the definition of deliberate self harm and related terms. Despite the lack of definitive data the one area of agreement is that self harm is under-reported (Whitehead, Johnson & Ferrence, 1973).

It is estimated that self harm in the form of overdosing is the reason for 100,000 admissions to casualty departments each year in England and Wales (Hawton et al. 1994). Overdosing is by far the most common form of self harm presented to casualty departments constituting approximately 95 per cent of all self harm presentations (Vlachos et al. 1994). With respect to psychiatric inpatients, between 7 and 10 per cent of patients harm themselves (Favazza & Conterio, 1989) and nearly 6 per cent of psychiatric admissions are for self mutilation (Langbehn & Pjohl, 1993). Rates of self harm have been estimated to be as much as 50 times as high among psychiatric patients (including out-patients), compared to the general population (Hawton, 1978).

Research into adolescent inpatients engaging in D.S.H. and suicidal behaviour is lacking in the U.K. However, research from the U.S.A. has demonstrated that this patient group is at risk of engaging in continued, repetitive D.S.H. and eventual suicide. Brent et al. (1993) investigated 134 adolescent inpatients who were followed up 6 months after an initial interview in hospital. Nearly 10 per cent had made a serious suicide attempt during the follow up period. Over 90 per cent reported having felt suicidal whilst in hospital.
Adolescents who present with serious and repetitive deliberate self harm pose a considerable clinical challenge. The clinical picture presented by such patients is complex and diverse. Repeated self harm is one of the symptoms of borderline personality disorder (DSM-IV, American Psychiatric Association, 1994) and of other categories of personality disorders (Sperry, 1995). As such, these adolescents may go on to receive the label of a personality disorder as adults. However, the validity of personality disorder diagnosis has been criticised (e.g. Appleby, 1991) and there is no personality disorder diagnosis which is unique to deliberate self harm. Those who repetitively self harm may present with a variety of impulsive behavioural difficulties, including aggression, alcohol or drug abuse, promiscuity, theft and absconding leading some researchers to pose a multi-impulsive syndrome (Lacey & Evans, 1986).

The literature concerning psychiatric disorder in young people who are inpatients and engage in D.S.H. or suicidal behaviour is again primarily based upon research conducted in the U.S.A. Welner et al. (1979) studied 77 adolescent inpatients with a mean age of 16 years who were followed up for up to 10 years after discharge. The study revealed that approximately 15 per cent went on to receive a diagnosis of bipolar affective disorder and nearly 4 per cent committed suicide. Pfeffer et al. (1988) investigated psychiatric disorders associated with suicidal behaviour in 200 adolescents admitted for inpatient treatment. The study indicated that major depressive disorder and alcohol abuse were not only highly prevalent but also positively associated with severity of suicidal behaviour in both females and males.
Brent et al. (1988) also found high rates of affective disorders in suicidal adolescents and their families.

Frequently the repetitive deliberately self harming patient has experienced considerable emotional, physical and/or sexual abuse during childhood. Schetky (1990) notes that research on long-term effects of sexual abuse indicate elevated rates of hospital admissions, self abuse, dissociative disorders and impaired interpersonal relationships. In most cases adolescents who have been victims of incestuous sexual abuse as children later experience greater incidence of many symptoms compared to non-sexually abused children (Beitchman et al. 1992) but no one symptom pattern is specific to sexually abused persons. A recent review of 45 studies (Kendall-Tackett et al., 1993) confirmed this view, but also concluded that some symptoms may be specific to certain age groups e.g. suicidality in adolescence.

de Wilde et al. (1992) found suicidal adolescents were more likely to report a history of sexual abuse (33%) than depressed (21%) or non depressed adolescents (5%) who had not attempted suicide.

The literature clearly illustrates a variety of symptoms associated with Child Sexual Abuse (C.S.A.). However, certain abuse-related characteristics have been proposed to explain the variability of outcomes found across sexually abused children. For example, abuse taking place over a long period of time (Caffaro-Rouget et al. 1989), abuse where coercion and force are employed (Gomes-Schwartz et al. 1990), and abuse involving penetration (Black et al. 1994) have been associated with greater psychological impairment. More recently other variables have been examined to
explain the adjustment process of victims of C.S.A. In particular, the cognitive
evaluation of the abuse by the child, the coping strategies used and the parents’
reactions following disclosure have all received attention. The predominance of
P.T.S.D. symptoms in sexually abused children indicates the necessity to construe
sexual abuse as a stressful event and to conceptualise the consequences of C.S.A. in
terms of the human stress and adaptation literature. Indeed, a focus on these new
variables to understand the relationship between abuse and victims’ adjustment are
inspired by earlier concepts concerning the role of stressful events on psychological
well being.

The aetiology of deliberate self harm, although undoubtedly multi-factorial, is best
understood within the context of adaptation to an intolerable situation (Favazza, 1989;
Tantum & Whittaker, 1992). Favazza (1989) for example, conceptualises the initial
acts of deliberate self harm as a form of self help which serves to bring pressure to
bear on others to intervene (often referred to as coercion) and to release internal
tension directly. Tantum and Whittaker (1992) identify the combination of being
trapped and being neglected as particularly likely to lead to deliberate self harm.
Repetition is made more likely by the persistence of the original circumstances, by
beliefs about self harm, by the emotional responses that the act produces, by
medicalisation, and by euphoriant mood changes induced by the self harm.

Adolescents who continue to repeatedly self harm, to the extent that detention under
the Mental Health Act (H.M.S.O., 1983) is deemed necessary, represent a small, but
particularly disturbed and treatment resistant subgroup of adolescent inpatients in the
U.K. Such patients typically present a complex picture of post-traumatic stress
disorder, reporting high rates of dissociative phenomena including amnesia, depersonalisation, derealisation, identity confusion and post traumatic flashbacks as well as psychotic symptoms. Cuffe and Frick-Helms (1995) for example, found that between 30 and 50 per cent of sexually abused children experience post traumatic stress disorder. In contrast to traumatised adults, survivors of childhood trauma often present a more complex set of challenges (Cole & Putnam, 1992). In addition to post traumatic stress disorder and an array of other psychiatric disorders (e.g. anxiety, depression, sleep disturbance, eating disorders, substance abuse) incest survivors, for example, often show long standing maladaptive coping patterns and difficult attachment styles. Herman (1992) describes the extraordinary adaptation necessarily required of a child in order to survive an abusive family environment, an adaptation that disrupts the normal developmental process of defining, regulating and integrating aspects of the self and of meaningfully relating to others in a secure way.

Indeed, many researchers have recently recognised a more complex stress reaction in survivors of prolonged and repeated interpersonal trauma. Herman (1992) outlines three areas that differentiate this more complex reaction from the traditional post-traumatic stress disorder diagnosis. Firstly, the symptom pattern is more complex, diffuse and resistant to change. Secondly, there are personality changes including deformations of relatedness and identity. Thirdly, these survivors are more vulnerable to repeated harm, either self-inflicted or from others.

**Models of Human Adaptation, Coping and Associated Constructs**

Explanations to shed light on the process by which individuals become intent upon D.S.H. have taken various directions. Initially, much research was focused upon the
role of precipitant stressors, to the extent that the critical role of stressful life events in
the development of D.S.H. is now well established (Hawton & Catalan, 1982). In the
same way, there are consistent findings of a strong relationship between life stress and
depression, suicidal ideation and suicidal behaviour (Brown & Harris, 1978; Buglass
& Horton, 1974; Morgan 1979).

However, despite the strong relationship between D.S.H. and life stress, a
considerable amount of variance regarding the manifestation of D.S.H. is left
unexplained. Indeed, several variables that influence this relationship have been
identified, including depression, anxiety disorders, and substance misuse (Hawton &
Catalan, 1982; Rudd et al. 1994). The relationship is further influenced by
psychosocial factors such as socio-economic and work status, available or accessible
support networks, (Runz & Schallow, 1997) and cognitive factors such as
hopelessness, (McLaughlin et al. 1996) cognitive rigidity (Clum et al. 1979) and
problem solving skills (Rudd et al. 1994).

Clum et al. (1979), with respect to suicidal behaviour, proposed a diathesis-stress
model in which cognitive rigidity was hypothesised to mediate the relationship
between life stress and suicidal behaviour. The model proposed that under conditions
of high stress, individuals showing cognitive rigidity or limited divergent thinking
capabilities quickly become overwhelmed and unable to generate adaptive coping
solutions. Such individuals subsequently become hopeless and therefore at higher
risk of suicidal behaviour.
The model was further expanded by Schotte and Clum (1981) who highlighted that suicide ideators demonstrated specific deficiencies in interpersonal problem solving skills. In summary, the diathesis-stress-hopelessness model of suicidal behaviour proposes that individuals with deficient problem solving skills tend to become overwhelmed as external stressors increase, and become progressively more hopeless to the extent that if such conditions persist there is an increased risk of suicidal behaviour.

With regard to the field of adolescence one of the principle areas of research over the past decade has been that of coping and resilience (Coleman & Roker, 1998). A distinction has been drawn between active coping, internal coping and withdrawal (Seiffge-Krenke, 1995). Active coping is described as going to meet the problem, often seeking advice from others; internal coping involves planning how to deal with a problem using one’s own resources; and withdrawal includes denial or making attempts to forget. Frydenberg (1997) pleads for more attention to be paid to promoting coping skills among young people, arguing that we now know enough about coping in adolescence for that knowledge to be turned into action.

Coping becomes necessary during normal developmental tasks of adolescence e.g. adapting to physical changes in one’s body or the widening of social circles and roles. The focal model of adolescence (Coleman, 1974) argues that an issue or difficulty arising from a particular relationship pattern comes into focus at a particular stage, and, in time, comes to be replaced by another focal issue. The model is similar to a stage theory, in that it proposes a progression from one focal concern to another. The implication, however, is that those young people who have to deal with more than one
issue at a time are more at risk of not coping as well with the necessary adaptation as those for whom issues are well spaced out.

Coping strategies have therefore come to be viewed as crucial mediating factors between life stress and behavioural response. Burt and Katz (1988) define coping as 'Efforts made in response to stimuli experienced as threatening or stressful - efforts aimed both at reducing the anxiety that those stimuli create and at reducing the interference of the stimuli with one’s capacity to function' (p.345).

Lazarus (1991) presents what he terms a cognitive - motivational - relational theory of emotion in which the role of appraisal is central. He identifies primary and secondary appraisal systems. The primary appraisal system is concerned with goal relevance, goal congruence and type of ego-involvement. In this model, if a goal is at stake in an encounter (between the individual and the environment), then an emotion will be generated, but if there is no active goal, and none emerges as salient during the encounter, there will be no emotion. Goal congruence will determine whether the emotion generated is positive or negative. If there is goal congruence the consequent emotion will be positive, if incongruent, it will be negative. The type of emotion generated will depend upon secondary appraisals. Secondary appraisals concern coping options i.e. whether any given action might prevent harm, ameliorate it, or produce additional harm or benefit. The theory focuses on the important influence of these coping appraisals upon which the outcome of any person-environment interaction will depend. Lazarus defines coping as consisting of “Cognitive and behavioural efforts to manage specific external or internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person”
Lazarus formulates coping by drawing a distinction between problem-focused and emotion-focused coping efforts. Some coping processes change the actual person-environment relationship and source of distress directly through behaviour e.g. when a physical attack wards off an enemy: this is termed problem focused coping and such forms of coping are action centred forms of coping. Alternatively, the coping processes may change only the way in which the relationship between the person and the environment (i.e. the source of distress) is attended to or interpreted e.g. a threat that is dealt with by psychological distancing or denial. These latter coping strategies are termed emotion focused or cognitive coping strategies and involve mainly thinking rather than acting to change the person-environment relationship. Such strategies are by no means passive and are to do with internal cognitive restructuring and form the central focus of many therapeutic approaches e.g. cognitive therapy.

An example of the distinction between problem focused and emotion focused coping processes is given by Lazarus (1991). If a neighbour’s tree is producing emotional distress because it is dropping leaves in one’s garden, a problem focused coping strategy is pursued if, for example, one tries to induce the neighbour to cut down the tree or trim it. If this strategy succeeds, emotional distress should subside. If on the other hand, one were to adopt an emotion-focused strategy one might avoid thinking about the threat, for example, or reduce the intensity of distress by endorsing the belief that within a few weeks the wind will blow the leaves away.

Deliberate self harm can therefore be viewed within this model of human adaptation as a coping strategy. More specifically, deliberate self harm can be described as a
behavioural strategy which can be either problem focused or emotion focused depending upon the function that is serves for that particular person.

Moos (1990), drawing upon the work of Lazaras and others, developed a conceptional framework within which coping strategies can be categorised. This conceptual framework distilled in the Coping Responses Inventory (C.R.I.) considers the personal and contextual determinants of acute life stressors and the social and coping resources that alter the influence of stressors on adaptation. Within this framework coping responses can be categorised as either cognitive or behavioural and as either approach or avoidant. Within each of these four cells Moos specifies two subcategories of coping responses yielding a total of eight subgroups of coping strategies. The organisation of these categories are illustrated in Figure A.

Figure A. Conceptual Organisation of Coping Responses

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In studies of coping with life stress, some coping strategies have been found to be more effective than others. In particular, active behaviourally oriented problem solving strategies tend to be more effective than emotion focused strategies such as avoidance and denial (Billings & Moos, 1981). However, certain emotion focused strategies appear to be effective in some cases. For example, Burt and Katz (1988) found that expressive coping after sexual assault tends to increase over time and is associated with long-term recovery. Runtz and Schallow (1997) suggest that emotion-focused coping can involve both potentially positive (e.g. emotional expression) and negative behaviours (e.g. self blame).

Studies have shown that emotion-focused coping is used more in encounters perceived as holding little possibility for change (Folkman & Lazaras, 1980); while currently distressed trauma survivors have reliably been found to rely primarily upon emotion-focused coping strategies such as wishful thinking or avoidance (Long & Jackson, 1993). Such coping methods have further been found to be associated with greater concurrent and future levels of symptomatology (Norvell et al.1993; Solomon et al. 1988). There also appears to be a positive relationship between the overall number of coping strategies reported and severity of current symptoms (Spurrell & McFarlane, 1993). Indeed, Charlton and Thompson (1996) suggest that deeply distressed survivors cannot find effective ways of obtaining relief and therefore report many ways of trying to cope. It is well recognised now that a persistent use of avoidant coping strategies leads to adjustment difficulties in the long term (Ebata & Moos, 1991; Lazaras & Folkman, 1984).
Further constructs relevant to a thorough understanding of the impact of childhood abuse and adversity upon personality development and behaviour are those of locus of control and self efficacy. Indeed, powerlessness and loss of agency have been found to be strongly associated with a history of abuse, particularly chronic, interpersonal childhood abuse (Briere & Runtz, 1993). It appears also that external expectancies of control are related to greater distress in trauma survivors (Moore & Stambrock, 1992), while high levels of personal efficacy are associated with less distress and a greater degree of problem focused coping. Solomon et al. (1988), for example, found that external locus of control was associated with greater post traumatic stress disorder symptoms in soldiers. Parkes (1984) found that people with an internal locus of control used more direct coping and less suppression than people with an external locus of control. Charlton and Thompson (1996) also found an association between personal efficacy and planful problem solving in traumatised patients. Indeed, their study showed that emotion-focused coping was associated with greater self-reported distress, and was the principal predicting variable of distress, followed by low efficacy expectation regarding interpersonal control.

Johnson and Kenkel (1991) looked specifically at adolescent incest victims and found therapists’ rating of psychopathology to be associated with emotion-focused detachment/distancing coping responses. Although such coping is not presumed to constitute dissociation, it may be seen as lying along the same continuum. Wohlbeg (1997), for example, considers detachment/distancing to be a first or second line of defence against anxiety, while considering dissociation to be a third line defence or an attempt to control anxiety by mobilisation of intrapsychic or repressive defences.
While detachment/distancing may start off under conscious control it may become less consciously controlled over time (Briere & Runtz, 1998).

The significance of Lazarus’s contribution to the psychological literature on coping and stress is its emphasis upon the cognitive mediation of stress and emotional experiences and upon coping outcomes. However, with respect to traumatic stress, Janoff-Bulman (1992) draws attention to a third type of appraisal process. These appraisals are those that occur not during the initial confrontation with the traumatic situation, but rather interpretations and redefinitions that occur over the course of coping and adjustment. Essentially these appraisal processes are viewed as cognitive strategies that ultimately contribute to the difficult process of rebuilding the victim’s inner world. This third type of appraisal may be the primary focus of trauma-focused therapy.

The Role of Social Support

In addition to coping strategies, social support appears to be an important mediator of the effects of life stress in general (Heller et al. 1986). Social support and coping also appear to have an interactive effect on adjustment and personal well-being (Heller et al. 1986), which may be explained by the view that effective use of social support is in itself a coping strategy. Indeed, the mediating effects of coping skills and social support upon the relationship between child abuse and later adjustment may be even more important determinants of adjustment than the extent and characteristics of the abuse itself (Runtz & Schallow, 1997). Johnson and Kenkel’s (1991) research
supports this conclusion and they emphasise the need to assist the adolescent survivor in learning how to develop effective coping processes.

Recent studies have looked at the role of social support on the outcome of child sexual abuse survivors specifically and in particular at the perception of the support received from parents and peers. Cobb (1976) defines social support as 'information leading the individual to believe that he or she is cared for, loved, esteemed, and valued, and is a member of a network of communication' (p. 300). Two plausible effects of social support on well-being are postulated; a main effect and a buffering effect model. The main effect model views social support as influencing well being independently of situations by the provision of positive affect, a sense of predictability and stability in one's life situation, and a recognition of self-worth (Cohen & Wills, 1985). The buffering effect model is postulated as operating in two possible ways: firstly by intervening between the stressful event and the reaction of the person by influencing the cognitive evaluation of that particular event. Secondly, by reducing or eliminating the victim's reaction (for example, by providing a solution to the problem or facilitating functional behaviour). Whatever the mechanism, it is generally recognised that the presence of supportive persons is associated with better adjustment in both the short term and long term following a stressful event (Cohen & Wills, 1985; Kinard, 1995; Teja & Stolberg, 1993). Spaccarelli and Kim (1995), for example, conducted a study to evaluate the mediator role of cognitive education, perceived social support and coping strategies in a group of sexually abused girls. Results of the regression analysis showed that perceived social support was the best predictor of the children's adjustments with respect to social, interpersonal and academic domains.
Spaccarellis’ model (Spaccarelli, 1994) to explain adjustment of sexually abused children is based upon stress and adaptation concepts. The model integrates variables related to the abusive situation, personal characteristics of the victims (cognitive evaluation, coping strategies, age and sex) and the familial environment (social support). As can be seen from Figure B, coping strategies and social support form the central elements of the model.

Figure B. Spaccarellis’ model of the influence of coping strategies and social support on children’s adjustment

Tremblay et al. (1999) have recently evaluated this model in a study involving fifty sexually abused children. Their results indicated in fact that both coping strategies and social support exert direct effects on victims’ adjustment instead of the mediator influences originally expected. These results highlight the importance of addressing both social support and coping strategies when designing therapeutic interventions with this population.
A Model of the Development of Deliberate Self Harm in Adolescents

It is surprising that one population that has not been studied extensively with regard to deliberate self harm is adolescents. This is particularly surprising in view of the fact that deliberate self harm typically begins during adolescence (Pattison & Kahan, 1983) and it would seem important to study the behaviour during its period of onset. ‘Adolescence’ is generally defined as the period of life between the ages of 10 and 21 years (Flannery et al. 1994), although slight variations are frequently reported.

Despite the paucity of research in this area, Walsh and Rosen (1988) propose a conceptual model for the development of self mutilation in adolescents, drawing particularly upon research conducted by Walsh (1987). Walsh’s initial hypotheses linked traumatic and deviant childhood experiences to later adolescent self-mutilative behaviour. Indeed, he hypothesised that such experiences may be the necessary building blocks for the eventual occurrence of self-mutilative behaviour. This study confirmed that certain conditions in childhood were associated with subsequent self mutilation. Walsh and Rosen (1988) explored these conditions further and found more specifically that loss of a parent (i.e. placement into foster care, group care, and divorce of parents), serious or chronic illnesses during childhood (e.g. asthma, eczema, epilepsy, diabetes and cardiac illness), sexual and physical abuse, family alcohol abuse, and family violence were more common childhood experiences in self mutilators than non mutilators.

Walsh and Rosen (1988) suggest that the combined impact of these experiences may include the following:
The result is therefore the establishment of a loss-vulnerable individual trained to be violent, impulsive and substance abusing, with a strong tendency towards self abuse or self victimisation.

A major developmental challenge for some adolescents is that of coping with the physical changes associated with puberty (Malmquist, 1978). A normal acceptance of pubertal changes requires a foundation of physical mastery experiences and positive body image. As Walsh and Rosen (1988) point out: 'Individuals who have experienced considerable body alienation during childhood (due to illness, surgery and/or abuse) are likely to experience pubertal changes as highly alarming' (p.69). For those who have been physically abused, increased body size and physical strength may stimulate frightening thoughts of retaliation and revenge. For those who have experienced sexual abuse the development of secondary sex characteristics may intensify feelings of shame, guilt and self loathing. For those with a serious illness, such developmental changes may magnify feelings of physical imperfection and
disfigurement. The cumulative effect of such pubertal changes may intensify feelings of body alienation.

Recent losses are posed by Walsh and Rosen (1988) to trigger the emergence of self mutilation in vulnerable adolescents. Indeed, loss during adolescence has been found to be particularly common in those who self mutilate (Sweeny & Zamecnik, 1981). Similarly, peer conflict and intimacy problems have been shown to be particularly evident in adolescents who self mutilate (Hawton, 1986) and these are viewed as possible conditions for the development of self mutilation in vulnerable individuals.

At a cognitive level it is proposed that four categories of cognitions underpin the development of self harm (Walsh & Rosen, 1988): firstly, that self harm is acceptable; secondly, that one’s body and self are disgusting and deserving of punishment; thirdly, that action is necessary to reduce unpleasant feelings and bring relief; fourthly, that overt action is necessary to communicate feelings to others.

**The Function and Meaning of Self Harm**

The literature on deliberate self harm is littered with various opinions and hypotheses regarding the possible function or meaning of self harm for those that engage in such damaging behaviour. Deliberate self harm is frequently formulated as a means of communication.

Orbach (1986) for example has formulated a view of self harm as a means of communicating that a current crisis is beyond control. Leferve (1996) describes the
function of her own self harm as a form of communication of mental distress. Indeed, she goes further and speaks of the role of self harm as an intermediary language, dealing with those things too painful to be dealt with as yet through verbal means. Others emphasise the coercive nature of self harm and the influence that such behaviour is intended to have upon those around one (Favazza, 1989; Bancroft et al. 1976). The most frequent function of self harm reported by those who display the behaviour themselves is that of tension reduction (Gardner and Gardner, 1975; Jones et al. 1979). However, despite immediate relief, this is reported as usually resulting in only a short term reduction in tension. Still others describe the addictive nature of self harm, (e.g. Faye, 1995) particularly cutting where blood flows from the body. There is some evidence that endorphin, a natural opiate in the body, is released during the cutting episode (Coid et al. 1983). Given the addictive quality of the opiates, further cutting is made more likely due to a subjective compulsion to cut (craving). A schedule of negatively reinforced behaviour can therefore be established due to the release of natural endorphin during cutting.

Deliberate self harm can also carry significant meaning for the individual in relation to self image and culpability for past events. Self harm may be seen as consistent with one’s view of oneself as guilty and deserving of punishment. Others have emphasised the notion of control that self harm affords the individual. A similar notion has been employed in the formulation of eating disorders (Slade, 1982, Halek, 1998). The individual may feel powerless in all areas of life, but deliberate self harm brings some control and predictability into one’s environment.
Self harm can also occur in order to avoid or distract from difficult or painful memories. Indeed, self harm has been noted to facilitate dissociation. Dissociation can be experienced as a numbing of affect frequently involving derealisation or depersonalisation. Self harm, through the facilitation of dissociation can therefore serve to avoid painful memories. However, others report that self harm can serve to prevent or bring oneself out of a dissociative state, thereby making the individual feel real again, or serving to interrupt a dissociative flashback. Self harm can also occur within the context of severe dissociative symptoms e.g. command hallucinations. Severe dissociative states involving such hallucinations can bring about self harm.

Some individuals who habitually use self harm learn that self harm can lead to other desirable outcomes e.g. avoidance of specific events or demands (e.g. family visit is postponed due to the individual not being ‘well enough’ or ‘safe’ enough). A similar function reported by some longer-term inpatients is that of avoiding discharge. The most obvious example for this is seen in the institutionalised patient who fears progress, placement in a more independent setting, and ultimate discharge into the community.

Some individuals report that self harm serves to transform their emotional pain into physical pain and they seek a physical sick role with a desire in some instances to be admitted to hospital in order to receive medical care, comfort and reassurance. In some instances the cause of the injury is apparently accidental and maybe labelled as a factitious disorder. Others report that self harm which leaves physical evidence, such as scaring on the arms, can serve to protect one from the attention of others by warding off potential admirers and any sexual advances that may accompany such an
approach. Still others report the need to re-enact aspects of abuse in a self injurious manner in order to confirm the reality of past events to both self and others. This phenomenon of re-enactment may be related to the notion of re-experiencing incorporated in the diagnosis of post traumatic stress disorder. Indeed, re-experiencing can be viewed as an attempt to process emotionally laden material and represents an unresolved trauma theme as described by Lebowitz and Newman (1996).

Another factor in the analysis of deliberate self harm which has been termed ‘contagion’ has been clearly demonstrated by Walsh and Rosen (1985) with respect to residential settings. This phenomenon of contagion has been shown to account for some of the variance in frequency of self harm in adolescents in a residential setting. This is to say that the occurrence of acts of self harm among the individuals in the setting are not unrelated. There is an association among the distribution of self harming behaviour such that initial incidents tend to trigger further incidents among others in that setting. The result is a picture of peaks and troughs in the frequency of total incidents among the residential group over time. Many factors might explain this correlation, but Walsh and Rossen suggest that initial acts of self harm among a particular individual result in sympathetic responses from others. Sometimes such a sympathetic response may come about due to feelings of responsibility for the peer’s distress. Alternatively, sympathetic responses from peers may serve to strengthen the identity of the peer group. At other times self harm might best be understood as a competitive act symbolising the degree of distress being experienced by an individual, with each individual in the peer group needing to assert their need for recognition.
Despite the diversity of possible functions of deliberate self harm reported in the literature, what is clear is that the meaning and function of self harm for a particular individual is likely to be multi-faceted and specific to that individual. There may be commonalities across groups of individuals, but a thorough understanding of the meaning and purpose of self harm for any particular individual will require careful individual assessment where possible functions are explored at an idiosyncratic level. Traditional behavioural analysis may shed light on the context and function of such behaviour (Sturmey, 1996) but must be complimented by detailed and sensitive interview. However, it should not be assumed that the individual him or herself has a clear understanding of their self harm. This is particularly so in the case of adolescents where chaotic and disorganised behaviour may have developed within the context of severe deprivation or abuse.

**Psychological Interventions**

Research on the psychological treatment of deliberate self harm is in a relative state of infancy. The largest body of literature available focuses upon the psychoanalytical treatment of self harm with an emphasis upon the long-term relationship between therapist and patient. Most authors agree that a ‘matter of fact’ approach to the handling of actual incidents of self harm will facilitate an effective therapeutic alliance and encourage the development of the closest, least coercive and most enabling therapeutic relationship. Such a ‘holding’ or ‘containing’ function is common to each of the theoretical treatment approaches discussed in this section.
Nelson and Grunebaum (1971) followed up several recurrent cutters and over the course of the years asked them to identify the factors they felt most significant in their improvement. The factors they identified included the verbal capacity to express feelings, the presence of an accepting therapist with constructive action in crises and, in addition, the control of psychosis when this was present. However, they also note that insight into the genesis of the cutting behaviour did not afford relief. Walsh and Rosen (1988) focusing upon cognitive therapeutic approaches argue that therapists need to restructure the patient's tendency to act into an 'active thinking style', thereby helping the client to think differently about the way they communicate and about their relationships.

There has been much interest recently in trauma focused therapy for survivors of sexual abuse. Lebowitz and Newman (1996), for example, describe the role of cognitive affective themes in the assessment and treatment of trauma reactions. They identify twelve principal trauma themes commonly encountered in traumatised individuals which can guide the focus of therapy over the course of treatment. However, Turner et al. (1996) warn against the risk of pursuing such trauma focused therapy with highly disturbed survivors, particularly those presenting with a marked degree of dissociative symptoms or with an extensive history of self harm in view of the potentially re-traumatising effect. Mollon (1998) reinforces this view, emphasising the extreme vulnerability and fragility of survivors who rely on dissociative defences to maintain their functioning. He states that 'For these patients, the recovery of memories of abuse, even if true, may be highly traumatic and destabilising. Searching directly for memories of trauma is inadvisable because: a)
the patient may generate false memories; b) the patient may be overwhelmed and re-traumatised’. (p.176)

A diverse range of methodological approaches have been employed in the literature to shed light on the clinical manifestation of deliberate self harm, parasuicide and suicidal behaviour. However, the overlaps between these clinical groups and the lack of precision in definitional distinctions between them have caused significant methodological difficulties in research.

Typically, research studies aimed at evaluating the efficacy of the particular intervention have targeted a specific patient group of individuals who share certain common characteristics. Behavioural treatments, for example, have been used widely in the treatment of self harm in people with learning difficulties (Wolf et al. 1967; Azrin et al. 1975). Such treatments have compared the elimination of social response to self harm, the reinforcement of non injurious behaviour, and punishment by electric shock on the frequency of face banging, hair pulling and other self harm in profoundly learning disabled patients. The principal outcome measure employed is frequency of self harm. Although such behavioural techniques have been employed with non-learning disabled clients, there has been no evaluation of these approaches in such differing patient groups.

Ross and McKay (1979) developed a token economy for some of the delinquent girls at their training school and reported that within five weeks self harm in the form of cutting was eliminated. However, when they attempted to expand the program, a substantial increase in cutting occurred. Once again, the principal dependent variable
employed was that of the target behaviour (cutting) with no attention to other relevant constructs in the evaluation of the therapeutic approach. Treatment approaches such as token economy suffer from the major shortcoming of a lack of generalisation across conditions and a focus upon target behaviour alone to evaluate treatment outcome is insufficient if one wishes to demonstrate a treatment effect that can be generalised across conditions. Indeed, evaluation of psychological treatment approaches for both suicidal and parasuicidal people have yielded pessimistic finding over the years. Until recently, attempts to reduce the risk of future suicidal behaviour with psychological, medical or social work treatment had all failed regardless of whether such treatment was with respect to in-patients (Liberman & Eckman 1981), out-patients (Gibbons et al. 1978) or domiciliary interventions (Hawton et al. 1981). However, repetition rates of suicidal and parasuicidal behaviour were again used as the principal outcome variable.

More recently however, greater optimism regarding the efficacy of psychological treatment has developed partly due to a methodological shift in emphasis away from ‘all or none’ outcome variables such as simple repetition. Two particular recent studies demonstrate this shift in emphasis and point the way for future treatment outcome studies. The first, by Salkovskis et al. (1990), employed more detailed and extensive outcome measures focusing upon psychological variables that are known to predict future repetition, such as hopelessness. In addition, Salkovskis established a more satisfactory outcome variable in place of the ‘all or none’ repetition variable in order that length of time between episodes could be established. Indeed Salkovskis’ study was a controlled trial of problem solving therapy with adult out patients with a history of parasuicide. This study marked a turning point in the field of outcome
research with parasuicidal people. The results demonstrated a significant and substantial reduction in depression and hopelessness in the treatment group and although an 18 month follow-up showed no difference in overall repetition rate, the treatment group had delayed the first repetition compared to the control group. Such a ‘delay’ in repetition can be viewed as a good outcome, or at least a positive intermediate outcome. The results also raised the possibility that a longer treatment which added extra components to the problem solving may have yielded greater success.

The second study, a randomised clinical trial, is reported by Linehan et al. (1991). Their treatment approach, termed Dialectical Behaviour Therapy, involved adult out-patient clients who met D.S.M. III criteria for Borderline Personality Disorder with a history of parasuicidal behaviour, and included both a problem solving and coping strategies orientation (in groups) together with individual therapy. Treatment took place over the course of one year. The results demonstrated that the treatment group not only engaged in fewer incidents of parasuicidal behaviour over the course of the year, but that such incidents were less medically severe in the treatment group compared to the control group. Furthermore, those allocated to the treatment group were more likely to stay in treatment and required fewer in-patient psychiatric days.

The methodological shift in recent years that has yielded far greater optimism in the efficacy of psychological treatments for parasuicidal people involved the two issues of: a) moving away from the all or nothing outcome variable of repetition; b) including other relevant measurable psychological concepts as outcome variables e.g. hopelessness or depression.
However, the fact remains that with the exception of some encouraging but limited evidence psychological and pharmacological treatments of individuals who demonstrate suicidal or self harming behaviour have limited proven efficacy. Hawton et al. (1999) for example after reviewing the literature conclude ‘There is insufficient evidence to make recommendations on which treatments are the most effective for patients who have engaged in deliberate self harm’ (p.46).

In a similar vein, King et al. (1999) in a review of the empirical status of cognitive behavioural programmes for sexually abused children exhibiting P.T.S.D. or emotional/behavioural problems, conclude that despite early encouraging findings, ‘it would be premature to extort the positive benefits of cognitive-behaviour therapy at this stage of treatment research’ (p.305).

The foregoing review highlights a number of points. Firstly there is a paucity of adequate studies evaluating the effectiveness of psychological treatment approaches with those who deliberately self harm, particular with non learning disabled adolescents. Secondly, the few studies that do shed light on this issue together with the large body of literature in the field suggest the need to concentrate upon the initial development of new adaptive coping skills within a validating and supportive therapeutic environment. Trauma focused therapy involving therapeutic attention to and processing of traumatic material is not indicated in very disturbed, actively self harming patients until effective coping strategies have been acquired. Indeed, initial therapeutic efforts would appear to be best targeted at the development of coping strategies, in which the patient is encouraged to adopt an active thinking style to
explore behavioural responses to emotional distress. Such a therapeutic approach would appear particularly warranted when relatively inexperienced and untrained staff are involved in the delivery of the therapeutic approach.
METHOD

Participant Selection and Context of Work

Participants included in the study were selected from the inpatient population in the Adolescent Mental Health Service of an independent psychiatric hospital which constitutes the normal place of work of the author. The hospital, St. Andrew's Hospital in Northampton is a registered charitable trust. The Adolescent Service is comprised of 35 beds across two units. One unit provides medium secure care, the other is a locked, but less secure environment. Most young people are admitted to the medium secure unit and may progress on to the less secure unit.

Mental Health Services for adolescents can be described within the structure defined in the Health Advisory Service report entitled ‘Together We Stand’ (1995). Tier four services, representing the most extreme end of the continuum, refer to specialist inpatient services where the degree of psychiatric input is most concentrated for children and adolescents who present severe and complex clinical challenges. Only very rarely is it necessary for a Tier four service to refer a patient on to a more secure service. Indeed, the number of inpatient secure beds for adolescents in the health care system is extremely limited. Often such patients will find themselves in inappropriate adult services, which are at least able to provide secure care for adolescents who present with a mental disorder and require detention under the Mental Health Act (H.M.S.O., 1983) in a secure unit.
The M.H.A. Commissions Seventh Biennial Report (1997, p.187-8) highlighted concern over the uneven provision of services for the relatively few children and adolescents who are detained under the Mental Health Act (1983) which had sometimes led to the inappropriate placement of adolescents in adult facilities. The Government has acknowledged, in its response to the Health Committee on Health Services for Children and Young Peoples' Report on Child and Adolescent Health Services that child and adolescent mental health services (CAMHS) had been historically neglected (DoH, 1997).

Similarly the M.H.A. Commission’s Eighth Biennial Report (1999 p. 248) continues to express concern over the inappropriate placement of adolescents in adult wards and the lack of provision for adolescents requiring inpatient care under the Mental Health Act.

St. Andrew’s Hospital Adolescent Mental Health Service provides eighteen inpatient beds in a medium secure environment, representing over half of the available beds in the country. As such, these young patients represent a small and extreme group. Adolescents are referred from throughout the United Kingdom for secure treatment essentially either due to a lack of appropriate local services or, if referred from a tier four inpatient adolescent unit, due to the need for a more secure environment, or due to a lack of treatment response thus far.

Inclusion and exclusion criteria guided the selection of participants for the study. Inclusion criteria consisted of; a) male or female, aged between fourteen and nineteen years of age.
b) history of deliberate self harm and more than four incidents in the two month period prior to initiation of the study.

c) detained under a section of the Mental Health Act (1983).

Three exclusion criteria were also employed;

a) estimated pre-morbid I.Q. below 80

b) primary psychotic diagnosis

c) patient already involved in coping skills work with the Psychologist. (e.g. patients included in the pilot project).

In the event that more than six patients met the criteria and appropriate consent was obtained, a priority system for inclusion was established. This priority system had a single parameter of recency of admission. In other words, the most recently admitted patients were included in the project. This parameter was employed in order to prioritise more recently admitted patients who are likely to have had the least prior exposure to coping skills interventions. In the event that less than six participants could be recruited from the existing population, new admissions meeting the criteria would be recruited.

**Design**

A single case design involving a non-concurrent multiple baseline across subjects was employed in the present study to investigate the status of the hypotheses. Such a design was necessarily adopted in view of the limited number of accessible participants and due to the applied nature of the project. It was intended that
participants meeting the inclusion criteria would be included in the project. The baseline period was set at ten data points (i.e. ten incidents of actual or attempted deliberate self harm). The duration of the baseline phase therefore varied for each participant depending on how long it took for ten incidents of self harm to be exhibited by the participant. In essence, the participants set their own baseline although it was not possible for this to be properly stabilised by extending the baseline phase due to the ethical and clinical necessity to deliver appropriate interventions without undue delay. In actual practice, units of one day were employed to set the baseline periods. The implication of this was that once ten incidents of D.S.H. had been displayed, further incidents occurring during the remainder of that day were included in the baseline count. Some participants’ baseline periods therefore slightly exceed ten incidents of D.S.H.

Upon completion of the baseline period, an intensive assessment period of between four and six weeks was allocated during which a provisional psychological formulation concerning the function of deliberate self harm was constructed with the participant. This assessment period can be viewed as a continuation of the baseline although the assessment process itself may be seen as an intervention. Based upon this formulation an individually tailored problem focused treatment plan was developed and agreed with the participant (see Appendix H for detailed descriptions of coping skills interventions and Appendix I for standardised structure of the treatment plan). The treatment phase was intended to focus upon the development of problem focused coping skills in place of deliberate self harm over the course of a four month period and a three month follow-up period.
Hypotheses

A set of three related hypotheses were formulated, the status of which could be investigated by adoption of the aforementioned design:

**Hypothesis one:** Adolescents who engage in repetitive deliberate self harm can be taught to use problem focused coping skills.

**Hypothesis two:** The acquisition and use of such skills is associated with a reduction in deliberate self harm.

**Hypothesis three:** A reduction in deliberate self harm is associated with clinical improvement on relevant and related psychometric measures.

Pilot Study

During the development and planning stage of this project, which culminated in the final research protocol, the assessment, formulation, evaluation and treatment approaches were piloted with a number of existing patients over the course of six months. The process of piloting the assessment and treatment approach was essential in order to bring consistency and structure to the interventions across patients and in order to better inform the detailed design of the study. During this pilot phase various functions of deliberate self harm emerged across the patients (N=7) and these were amalgamated with functions of self harm reported in the literature to yield a comprehensive compendium of functions that could be used to guide the assessment and formulation process during the actual study (see appendix A).
The feasibility and practical constraints of specific behavioural coping skills programmes were also explored during the pilot phase. In particular, the limitations upon the extent to which direct care staff, primarily nursing staff, could realistically be expected to support and implement the programmes became apparent. The pilot phase highlighted the need for such programmes to be simple, clear and concisely drawn up and closely monitored by the psychologist.

The pilot phase also enabled the collection of behavioural and psychometric data to be investigated as well as the development of a suitable database using Microsoft Excel. Largely due to the strength of the existing service philosophy and practice, the recording and reporting of behavioural data concerning risk behaviours such as self harm and aggression were found to be comprehensive and reliable. The weekly ward round was established as a satisfactory and reliable forum within which these data were routinely reported. If more detailed information was required concerning these data for the purpose of the study it was relatively easily obtained from the case notes or by discussion with key staff.

Finally, the pilot phase was used to explore the utility of a variety of psychometric measures to assist in the evaluation of the interventions. These measures involved both self rated and observer rated scales. The appropriateness and sensitivity of each, the ease and willingness of patients to complete them and the clinical impressions and research evidence regarding the validity and reliability of the scale guided the final selection of particular scales.
Dependent Measures

Deliberate Self Harm

The primary dependent measure is that of recorded incidents of D.S.H. The weekly frequency of incidents was recorded for each participant throughout the project. Although different modes of self harm were identified in the coding of such incidents, no attempt was made to evaluate the severity of each incident due to the inherent difficulty and subjectivity of assessing severity.

Aggression

Frequency of weekly aggression constituted a further dependent variable. Clinical experience of working with the existing patient group and the pilot project both indicated that aggression and D.S.H. are frequently highly correlated and that this correlation might be either positive or negative. As such it was deemed important to include aggression as a dependent variable. Recording and coding criteria are presented in Appendix B. For the purposes of the study, and with respect to the aggression data presented in Figures 1b to 6b in the results section only frequency of physical aggression is considered. The decision to consider only frequency and not severity of aggression was made for the same reasons as stipulated with respect to D.S.H.
Use of Coping Skills

The participants’ use of agreed coping skills constituted a primary dependent variable to be measured. In order that this was measured in a reliable and consistent manner the following procedure was adopted for each of the six participants. Firstly each participant was reviewed individually on a weekly basis by the Psychology Assistant throughout the intervention period. This review was aimed at trouble shooting and addressing any difficulties encountered in the implementation of the coping skills. Minor refinements were made as necessary. Secondly, the participant was requested to keep a record of frequency of use of each coping skill in a Coping Skills Book. This review served to ensure that this record had been accurately kept and to ensure that it was completed on a weekly basis. Direct care staff specifically involved in the coping skills work with the participant were also consulted on a weekly basis to ensure the validity of this method. When discrepancies were encountered between the participants’ reports and the direct care staffs’ reports of frequency of use of the coping skills the matter was discussed with both parties together. If a discrepancy remained, the conservative count was used. Use of coping skills was not recorded during the follow-up period as it was intended that the skills would evolve during the period of the project and become more covert and less mechanical with greater responsibility for their use being placed with the participant. With this in mind it was felt that continued close monitoring of the use of such skills may be counter-therapeutic.
Psychometric Measures Employed

The theoretical and methodological issues reviewed earlier indicate that a number of psychological constructs in addition to that of global symptomatology are of particular relevance to the assessment and evaluation of this patient group. The principal constructs distilled from this review and requiring attention in the present project include depression, hopelessness, anxiety, dissociation, locus of control and coping responses. Despite the relevance of additional constructs such as self-efficacy, stress, social support and quality of attachment, the limitations of the present study prevented inclusion. Repeat weekly measures of global symptomatology, depression, anxiety and hopelessness were deemed necessary to evaluate response to the intervention. However, dissociation, locus of control and coping responses were assessed at pre and post intervention only. The measurement of these constructs is discussed later. For the purposes of the present study it was decided to employ self rating questionnaires for the repeated assessment of the chosen constructs. These would need to directly tap the constructs of interest and needed to be repeatedly administered in a relatively quick and easy format. Structured clinical interviews were dismissed as an unrealistic method of assessment due to the length of time required to conduct the process. Observer rated measures were also viewed as inadequate as the design of the project would require repeated ratings from the same staff and the pilot phase had clearly shown staff consistency to be a significant problem.

The following psychometric scales were finally chosen for the present study based upon the considerations discussed thus far and impressions gained through the use of
each during the pilot phase. Each scale is reviewed below with respect to its suitability for the present patient group.

**Repeat Psychometric Measures**

**Depression and Hopelessness**

The Beck Depression Inventory (B.D.I.; Beckham & Leber, 1985) is one of the most frequently used psychometric measures in contemporary psychological and psychiatric research. Its robust psychometric characteristics and easy administration and scoring have resulted in its frequent use both as a research outcome measure and as a screening instrument for the detection of depression. The B.D.I. has also been used extensively with adolescent non-clinical and clinical populations (e.g. Kumar et al. 1996; Westefeld & Liddell, 1994). Indeed, validity studies concerning the use of the B.D.I. in assessing adolescent depression have established good concurrent validity with depressed and non-depressed hospitalised adolescents (Carter & Dacey, 1996). The B.D.I. has been found to be more effective than adolescent-specific scales in the identification of depression in clinical and control groups (Atlas & Discipio, 1992). Furthermore, the sensitivity of the B.D.I. to discriminate between adolescents with depressive disorders and non-affective psychiatric disorders has been shown to hold true for both boys and girls and in-patients and out-patients (Marton et al. 1991). The B.D.I. has also been shown to be a good predictor of suicidal behaviour in college age students (Westefeld & Liddell, 1994). However, it is clear that the B.D.I should not be used to make a clinical diagnosis of depression (Roberts et al. 1991). It should also be noted that with out-patient adolescent populations, girls tend to score
higher than boys on the B.D.I. (Kashani et al. 1990). With these considerations in mind the B.D.I. was employed as an appropriate measure of depressive symptomatology.

The Beck Hopelessness scale (Beck et al. 1974) has been used extensively with young adult and adolescent populations as well as with adults. The importance of hopelessness as a concept relevant to suicide, parasuicide and deliberate self harm is well established. Salter and Platt (1990) for example found that hopelessness accounts for the relationship between depression and suicidal intent in parasuicidal 16-64 year old patients. Indeed, suicidal intent has been found to be more consistently correlated with hopelessness than with depression both in children (Kazdin et al. 1983) and adults (Minkoff et al. 1973). Kazdin et al. (1983) have rephrased the B.H.S. which was essentially developed for use with adults and modified the items for use with adolescents. The new scale, the Hopelessness Scale for Children (H.S.C.) was tested with in-patient children and has subsequently been adopted as a more sound measure of hopelessness with adolescents than the adult version (McLaughlin et al. 1996). The H.S.C. and the B.H.S. were selected for use in the present study as robust and sensitive self report measures of hopelessness, the former being employed for subjects less than 16 years of age.

Anxiety

As in the case of depression, the measurement of anxiety in adolescents is problematic. This is particularly so because little attention has been paid to age differences in the manifestation of these disorders. Three principal methods have
been employed to assess anxiety in adolescents. The first and perhaps the method of choice when careful diagnosis according to established criteria is the goal is that of structured clinical interview. However, this is time consuming and does not lend itself well to repeat administrations. The second method involves the administration of self rating scales. These scales are frequently quick and easy to administer and have the advantage of tapping directly the internal state of the rater. However, the principal weakness is that of the ease by which the rater can fake good or fake bad. The third method is that of observer rating scales. The principal weakness of this method is that the internal construct being measured must be inferred from observed behaviour.

Measures of anxiety can be distinguished on two principal dimension. Firstly upon the state-trait dimension and secondly upon the global or situation specific dimension. For the purpose of the present study a global measure reflecting recent and present state was sought. The rationale for this was to employ a measure that would be responsive to treatment progress but not tied to specific situations.

With these issues in mind, and with a review of the relevant literature, the Beck Anxiety Inventory (Beck et al. 1988) was chosen for the present study. The Beck Anxiety Inventory (B.A.I.) has been shown to have high internal consistency (Jolly et al. 1993; Kumar et al. 1993) and is significantly related to both clinical ratings and other self report measures of anxiety in adolescent in-patients. It continues to be used frequently with in-patient adolescent research (Kumar et al. 1996).
Global Measures of Psychopathology

The Brief symptom Inventory (B.S.I.; Derogatis, 1992) is a 53 item self report inventory designed to assess levels of psychiatric symptoms and distress. It is a shortened form of the more widely used symptom checklist-90-R (SCL-90-R; Derogatis, 1977). The B.S.I. has been used to investigate psychological distress among a variety of patient populations including adolescent psychiatric inpatients as well as being used as an index of clinical change or improvement (Carscadden, 1990; Piersma et al. 1994b). Despite the fact that the B.S.I and its parent scale the SCL-90-R are comprised of nine symptom dimensions, factor-analytic studies of both suggest that the greatest utility of both scales is as a unidimensional measure of generalised psychological distress (Bonyenge, 1993; Piersma et al. 1994a). Indeed, this conclusion has been specifically reached regarding the use of the B.S.I. with adolescent psychiatric inpatients (Piersma et al. 1994a).

As well as being used frequently across a variety of patient and non-patient populations, internal consistency reliabilities of the B.S.I. have been found to be high (Derogatis & Melisaratos, 1983) with excellent test-retest reliability.

The Symptom Checklist-90 Analogue (SCL-90 Analogue; Derogatis, 1983) is a useful and compatible adjunct to the B.S.I. providing an observers' assessment of the patients' distress. The SCL-90 Analogue is a graphic observer rating scale that provides a brief, standardised method for collecting data on a patients' psychological symptomatic distress in terms of the same primary symptom dimensions measured by
the B.S.I. Although the Analogue Scale can not boast sound psychometric properties in its own right, it is a useful aid to the interpretation of the self-completed B.S.I. and as such can strengthen the validity attributable to the B.S.I. profile.

**Pre and Post Psychometric Measures**

The literature review detailed thus far points to a number of further relevant constructs pertinent to the evaluation of the proposed intervention. In particular the coping response profile of the participants is of primary interest. Indeed the principal focus of the proposed intervention is intended to facilitate a more adaptive pattern of coping behaviours in the participants. The Coping Responses Inventory (C.R.I.) developed by Moos (1990) was therefore administered at pre and post intervention (during baseline and at the end of the follow-up period). A repeat, more regular administration of this assessment tool was not employed due to the demand already upon participants to complete a number of assessment scales repeatedly and also due to the expectation that coping profiles would change gradually and slowly.

The C.R.I. has adequate psychometric properties (Moos, 1993). The Scales have been shown to possess moderate to high internal consistency (average alpha of 0.65 for women), to be moderately correlated and moderately stable over one year. The scales are only minimally associated with such sociodemographic characteristics as age, education, and ethnic background. Research applications of the C.R.I. have consistently shown that distressed and dysfunctional adults and youth employ avoidance coping strategies more heavily than normal individuals do. Moos (1991) for example, compared depressed patients with case controls. At treatment intake the
depressed patients relied less on problem-solving coping and more on emotional discharge coping as measured by the C.R.I. He also found that a one year follow up, non-remitted patients still relied more on emotional discharge coping and less on problem-solving coping, but that remitted patients no longer differed from controls. Thus, depressed patients can develop or resume normative patterns of coping associated with clinical improvement as measured by the C.R.I.

In addition, the Locus of Control Scale for Children (Nowicki & Strickland, 1973) was administered pre and post intervention at the same time as the C.R.I. The construct of locus of control has similarly been postulated as related to positive mental health and adaptive coping in adults and adolescents exposed to traumatic stress. As such, an efficacious intervention may be expected to be associated with an increase in a sense of internal locus of control. This scale, specifically designed for use with children and adolescents, is a measure of the general construct of locus of control and as such constitutes a global measure of the construct.

Reliability and validity evidence concerning the scale is satisfactory. Biserial item correlations for item-total relationships are moderate but consistent for all ages. Informal consistency estimated via the split-half method is as high as 0.81 for 17 years olds. Test-retest reliabilities have also been shown to be satisfactory (Norwicki & Strickland, 1973). In addition the scale score is not significantly related to social desirability or intelligence test scores, but is related to achievement adding further validity to the scale.
The construct of dissociation has a central role in the clinical manifestation of this patient group. Indeed, dissociative phenomena such as trauma flashbacks and psychotic symptoms (e.g. command hallucinations) have been postulated as primary causes of self harming behaviour. Dissociation has also been implicated as a cognitive avoidance coping response to traumatic experiences. For these reasons it was deemed pertinent to gauge dissociative experiences in all participants. The Dissociative Experiences Scale (Bernstein & Putnam, 1986), although a lifetime measure and as such not intended to be responsive to symptomatic improvement, is the most widely used screening instrument for dissociative disorder currently in use. The Dissociative Experiences Scale (D.E.S.) is a self rated 48 item question that yields a total score reflecting the degree of dissociative symptoms reported by the respondent. It has been used with adolescent and young adult populations and normative data have been reported to aid interpretation (Murphy, 1994). The scale has been shown to possess reasonable reliability and validity (Carlson & Putnam, 1993). The D.E.S. was administered to participants during the baseline period and again at the end of the follow-up period.

**Additional Behavioural Measures**

It was decided that other impulsive and risk behaviours should be monitored and recorded if meaningful conclusions were to be drawn from the study. Indeed, in view of multi impulsive syndrome proposed by some authors it was deemed necessary to monitor the occurrence of such behaviours at a time when D.S.H. was being targeted for reduction. To this end, the presentation of other risk behaviours was recorded on a
weekly basis for all participants in the study (e.g. attempts to abscond, drug or alcohol use).

**Definitions Employed to Guide Behavioural Monitoring**

The pilot phase, once initiated, quickly highlighted the need for a clear definition of deliberate self harm and criteria to differentiate incidents of self harm from one another. For the purpose of the present study a wide definition of deliberate self harm was established together with specific criteria to delineate episodes from one another (see appendix C). However, it was deemed unnecessary to establish either a coding system or operational definition regarding other impulsive or risk behaviours for two reasons. Firstly, it was anticipated that such behaviours would be too low in frequency to warrant a detailed coding system and would be best recorded in full. Secondly, the existing service philosophy and practice paid much attention to risk behaviours such that risk behaviour was particularly salient and formed a principal focus in clinical meetings. (e.g. ward rounds). The salient but infrequent presentation of such risk behaviours precluded the need to develop an operational definition or coding system. Instead the occurrence of other risk behaviours would be reported upon in full when evaluating the impact of the intervention.

**Recording of Additional Threats to Validity**

Two of the most prominent potential threats to the validity of the research design and possible conclusions that might be drawn concern medication changes and therapeutic contact time. Improvements, as reflected by the dependent measures may not be
attributable to the intervention but instead may be due to changes or increases in medication, or due to the non-specific effect of a greater quantity of therapeutic input targeted at the participant. In order to investigate the possible influence of these two factors the following data gathering exercises were undertaken.

**Psychotropic Medication Monitoring**

Changes in psychotropic medication were monitored on a weekly basis by referring to the medication cards. Use of P.R.N. medication was also monitored weekly with respect to number of times used. The regular prescribed medication (other than P.R.N. medication) was converted to a single value figure representing the total sedation value prescribed during each week as set out in *The Maudsley Prescribing Guidelines* (1996). This figure reflects the number of sedative medications and the degree of sedation of each medication to yield a total score. The dose is not represented in the total score as individual differences in sensitivity prevent meaningful quantification. Instead, the assumption was made that for any particular sedative medication prescribed for the participant, the current dose was an appropriate therapeutic dose. Certain medications carry a high sedation factor (e.g. Chlorpromazine = +3) others a medium or low sedation factor (e.g. Clozapine = +1). Medication included in this calculation incorporated anxiolytic, hypnotic, antidepressant and antipsychotic medications.
Quantity of Therapeutic Input

Changes in the dependent measures following the introduction of the intervention could be attributable to an increase in the sheer quantity of therapeutic efforts targeted at those participants included in the study rather than due to the specific characteristics of the particular intervention being investigated.

In view of the fact that the present project concerned a minority proportion of patients sharing a common residential unit with other patients, an ethical transgression would occur if those in the study received a greater quantity of therapeutic input than those not in the study. In addition, it was deemed necessary to monitor the overall level of therapeutic input to participants included in the study prior to the initiation of the intervention and during the period of intervention. In order to address these two requirements together it was decided to undertake a full Therapeutic Input Analysis of activity of all patients on the ward on two separate weeks, one prior to the initiation of the project and the other roughly half way through the treatment phase of the project. This involved the monitoring of all input received by each patient from Monday to Friday between 9am and 5pm on two separate occasions, the first a month prior to the initiation of the project and the second three months after the project began (approximately mid way through the project phase). This was achieved by documenting all timetabled sessions attended, individual and group, as well as all unplanned time spent with patients by each discipline. A recording sheet was devised on which to document this information (appendix D). The sheet was divided into 20 minute time slots, throughout each day in the identified week. A Psychology Assistant spent the time from 9am to 5pm on the unit during this week to observe,
track and record all activity throughout the day. All input received by each patient on each day of the specified week was recorded to achieve a baseline level of input to the unit and each individual patient. Levels of sickness and leave were also recorded to identify any particular changes which may have taken place as a result (no significant absences were identified).

The information accrued from the activity analysis was categorised according to the following activities (for results see appendix 2):

- Meeting with keyworker (nursing) or associate nurse.
- Psychiatric assessment and review (medical).
- Social worker assessment and review.
- Psychological assessment (psychologist).
- Individual therapy (multidisciplinary)
- Group therapy (multidisciplinary)
- Family therapy
- Community meeting (multidisciplinary)
- Low key group activities (generally occupational therapy and nursing)
- Educational activities (education department)
- Recreation and P.E. (facilitated by gym staff and nursing)
- Free time (structured)

**Method of Data Analysis**

The use of single subject research has increased dramatically over the past two decades. Long and Hollin (1995) for example in a review of the use of single case
research report that an examination of published studies in two leading journals of applied clinical psychology (Journal of Applied Behaviour Analysis, and Behavioural Psychotherapy) between 1987 and 1991, revealed that more than one third of their space was devoted to studies using single case design methodology. As single case research has enjoyed increased use, the debate has shifted away from the debate about whether single case research is useful relative to traditional large scale between-group designs, to the issue of the method of evaluating data generated from such methods.

Single care research is plagued with pitfalls and difficulties. Despite these difficulties it is the only methodology available to the clinician who seeks to engage in applied research evaluating treatment efficacy in relatively small numbers of patients in the course of normal clinical practice. As such, single case research is often the primary methodology employed to evaluate new treatment approaches in small groups of subjects. It is also the only methodology available when the subject group is extremely small e.g. in rare or extreme conditions.

The essential difficulty with single case research concerns the ability to generalise the findings to other subjects. Although this external validity threat will always remain inherent in the methodology, it can be subdued by the repeated demonstration of treatment effects from subject to subject. What works for one subject may not work for another, but to demonstrate an effect in ten individual subjects lends greater confidence that the intervention may be effective for others. It should be noted that despite this issue of generalisation constituting the major shortcoming in single case methodology, a major problem in between-group research is the generalisation of the performance of groups to individual subjects.
Single case research consequently concerns itself with issues of ‘internal validity’ which can be substantially addressed within the methodology employed. Internal validity refers to the degree of certainty that manipulation of the independent variable (for example the application of the intervention) is responsible for observed changes in the dependent variable. Threats to internal validity fall into a number of domains and the primary threats to the present project are discussed below.

i) History. This refers to events that are extraneous to the independent variable but that occur concurrently and may account for observed changes in the dependent variable. To address this threat the investigator can either plan the intervention to occur when extraneous events are least likely to occur, or use random allocation for initiating the intervention. In either case, interrogation of the possible impact of such extraneous variables by gathering data relating to the primary threats will strengthen the design and may diminish historical internal validity threats.

ii) Maturation. Confounding due to maturation may occur when changes occur within subjects naturally over a period of time. The extent of this threat will depend upon the normal or expected rate of maturational change with respect to the dependent variable in question for that particular subject.

iii) Testing. Repeated measurement can be a significant problem due to reactive effects from the subject or the observer e.g. observer drift or bias, or subject practice effects or novelty effects.

iv) Instrumentation. Inconsistent or unreliable measurement methods may produce highly variable data.
v) Instability. Natural variations in the dependent variable may be wrongly labelled as an intervention effect.

vi) Reactive interventions. This refers to the threat to the validity of conclusions that may be drawn from the data which suggest a positive treatment effect when the treatment was actually instigated at a natural peak or trough in the cycle. Frequently interventions are instigated when ‘the problem’ is at its worst and as such an improvement in the dependent variable would have occurred despite the intervention.

The most robust designs available to the applied single case researcher incorporate an intervention withdrawal phase (for example ABA design where A represents baseline and absence of the intervention and B represents the intervention phase). A stronger variation on this design would be the ABAB design where the intervention is implemented in a second phase. Such a design reduces the threat of historical confounding, but is not suitable when learning phenomena or skill acquisition are involved because the data will not return to baseline. It also raises profound ethical difficulties if one proposes to withdraw an effective intervention solely to satisfy the desire for methodological rigour.

For these reasons a simple AB design may be required when learning phenomena are involved and withdrawal of an intervention is unethical. In such cases a multiple baseline across subjects can be employed. As is common across all single case designs, time is used as the crucial variable to determine the efficacy of the intervention. Multiple baseline across subjects allows for replication across subjects.
at different points in time addressing the threats of historical confounding and maturation.

In all designs a stable baseline is crucial in order to evaluate the efficacy of the intervention. However, the luxury of achieving a stable baseline is not always afforded to the practising clinician and the applied researcher may need to adopt creative solutions to strengthen methodological weaknesses.

**Data Evaluation**

The method of data evaluation for single case research will be dictated by the purpose of the study, the pattern of the data and the characteristics of the design (Kratochwill, 1978). The blind use of either visual inspection or statistical evaluation will lead to interpretative problems. The use of statistical tests is controversial. The most frequent method of analysing results is through graphical presentation of the data and subsequent visual inspection. The assumption is that if the intervention effect is not apparent by this method then it is unlikely to be of adequate significance. Despite this assumption the use of statistical methods to aid visual expectation may be particularly useful under the following conditions. Firstly, when the baseline is not stable; secondly when there is only a weak treatment effect; thirdly when raters disagree and finally, when small changes are of great or clinical significance.

Graphical presentation of data serves three main functions. Firstly, graphs provide a summary of the data. Secondly, graphs can provide detailed description of the data.
Thirdly, graphs enable analysis of the data. Simple descriptive statistics frequently aid visual analysis.

Appropriate statistical tests to compliment visual inspection are subject to considerable limitations. One of the principle limitations is that brought about by the frequent observation of serial dependence in the data. This rules out the use of conventional parametric statistics (F and T tests). However, time series analysis can be appropriately applied to serially dependent data. The presence or absence of a slope within a data phase, or a change in level between phases, or a change in the slope between phases can be established through the use of time series analysis. This contrasts with conventional T and F tests which are primarily concerned with changes in means between phases. Time series analysis involves various steps. The first step involves the evaluation of serial dependency in the data. Once the pattern of serial dependency is identified a model is applied to the data. The analysis itself consists of several steps including adoption of a model that best fits the data, evaluation of the model, estimation of parameters or the statistic and generation of T for level and slope changes. Computer programmes are available to handle these steps. Although stable baselines are not necessary for the use of time series analysis, a large number of data points are required to identify the model that best fits the data. However, Crosbie (1993) has more recently developed the interrupted time series design which requires very few data points before and after the intervention.

A variety of other contemporary methods for exploring time series data involving the use of graphical techniques, including procedures for summarising the central tendency of data, plotting linear and non-linear trends and displaying variability and
change in variability in time have been described in the literature (Morely & Adams, 1991). Randomisation tests can be employed to estimate the probability of a more extreme set of data than that obtained if the data were to be arranged in all possible combinations (Hand, 1982). In addition, several nonparametric tests can be used to search for trends in data sets (Morley & Adams, 1989) for example the Records Test and the C Statistic (Tryon, 1982). However, despite the diversity of statistical procedures now available for use with single case data, a minimum number of baseline data points is required by each method and a particular method is only useful if it adds something to the interpretation of the data over and above that of visual inspection.
PROCEDURE

Staff Awareness and Training

Prior to initiation of the project a multi-disciplinary awareness and training meeting was set up for the team members and in particular the nurse keyworkers. During this forum the nature of the project was fully outlined, together with a detailed description of how the treatment interventions would be developed and delivered. The demand requirements from nursing keyworkers and nursing assistants were clearly outlined in terms of both therapeutic input and completing psychometric measures. The principle of a collaborative working relationship between the Psychologists and the nursing staff was emphasised. This process was deemed essential in order not only to fully inform and prepare other team members of the project but also in order to engage them co-operatively in the project. Keyworkers who were subsequently asked to complete psychometric measures concerning their patients were fully inducted in the use of such measures on an individual basis.

Consent to the Project

Once a participant had been identified for inclusion in the project, suitability and possible contraindications were discussed with the keyworker and Responsible Medical Officer (R.M.O.) to ensure inclusion was appropriate and to gain multi-disciplinary co-operation. If the participant was under 18 years of age a standard letter was sent with an Information Sheet (Appendix E) and Consent Form (Appendix F) requesting parental consent. The participant was then given the Information Sheet
and the project was outlined and discussed, allowing opportunity for clarification and questions. If the patient was agreeable to participating a Patient Consent Form (Appendix G) was provided for the patient to complete.

**Initiation of Baseline and Assessment Phases**

Once a participant had been selected for the project and appropriate consent had been gained, the participant immediately began the baseline phase.

The baseline phases varied in length of time for each patient according to how long it took to register ten incidents of D.S.H. However, both the pre and post psychometric measures and the weekly administration of the repeat psychometric measures were sought during this baseline phase.

Once the baseline time period had been established (ten incidents of D.S.H.) the participant then entered an assessment phase of approximately four to six weeks. This phase was predetermined as a sizeable period of time for two reasons. Firstly, due to the weakness in the experimental design of operating with only a single baseline data point, the assessment phase could serve as an extended baseline period. Secondly, the assessment process itself involved behavioural analysis, clinical interviews with the participant and the development of a functional formulation of the target behaviours (D.S.H.), and associated intervention plan. This is a necessarily detailed and lengthy process subject to delay and complications (e.g. the participant being unsettled and unable or unwilling to engage in the assessment process on a particular day).
Participants therefore entered the baseline phase at different points in time determined by the selection process and obtaining consent from relevant parties. In addition, the length of the baseline period itself varied between participants; the baseline period was set by the participants (i.e. ten incidents of D.S.H.). There was also some variability between the length of the assessment periods between participants according to the length of time required to complete the assessment and formulate the intervention plan, although this variability was kept to a minimum for methodological reasons.

**Development of Coping Skills Intervention**

The outcome of the assessment phase for each participant was an agreed set of coping skills (between three and five) established as alternative strategies to replace D.S.H. These skills were born out of the functional assessment of D.S.H. for that particular participant. The functional assessment was achieved through the following methods:

i) Discussions with keyworker and nursing staff to yield an informal behavioural analysis of the target behaviours (D.S.H.) based upon the staffs' observations and knowledge of the participant. Formal behaviour observational methods were not employed due to the excessive time required to achieve this and also because the pilot study had revealed a predominance of internal stimuli and triggers to the target behaviours. Despite the relevance of environmental factors to the presentation of the target behaviours (in particular interactions with staff and peers, activity level and family contact issues) the pilot study had yielded considerable confidence in this informal method of behavioural analysis as providing
adequate information upon which to build a functional formulation. The area of notable omission with respect to building a more complete functional formulation concerned that of internal stimuli (e.g. flashbacks and hallucinations).

However, the informal method of behavioural analysis drew upon nursing staffs’ observations of the context and function of the target behaviours and provided a provisional formulation and working hypothesis which was subsequently developed and modified through the following steps.

ii) Interview with the participant aimed at gaining an insight into the meaning and the participant’s understanding of their self harm. This focused upon the initial development of the behaviours, the immediate and longer term consequences and the participants’ current view and beliefs about the behaviour.

iii) The final step in the assessment process involved reference to the compendium of functions of self harm. This was initially compiled from extensive background reading of the literature and research findings regarding the variety of possible and proposed functions of D.S.H. The compendium (see Appendix A) was further developed during the pilot project to yield a comprehensive assessment format which was used to guide this final step in the assessment process.

Having achieved a formulation of the functions of the target behaviours a set of functionally equivalent coping skills aimed at replacing D.S.H. were negotiated with the participant (see Appendix H for a summary of
identified functions of D.S.H. and agreed coping skills for each participant).

The agreed coping skills were then detailed in a Coping Skills Book which was kept by the participant. This was organised into a number of sections with a standard format across participants. The sections included were:

i) Short term and medium term goals.

ii) The formulation of D.S.H., couched in terms of dysfunctional coping responses.

iii) Details of the agreed functionally equivalent coping responses to replace D.S.H.

iv) Risk Rating scales aimed at promoting self assessment and to encourage participants to share responsible risk decision taking.

v) Recordings and self monitoring.

1. Participant logs use of agreed coping skills.

2. Aids the decision making process regarding when to instigate the use of agreed coping skills.

vi) Crisis management plan detailing specific coping methods as a last resort in cases when the agreed coping methods had been bypassed or proved ineffective.

vii) Relapse prevention. This section was completed towards the end of the intervention phase and included attention to early warning.
signs, abstinence-isolation effect, maintenance of progress, future goals, life style balance and sources of support.

This clear structure across participants was viewed as an essential component of the intervention in order that the intervention was a standardised and replicable as possible. Appendix I gives details regarding the content of each section of the Coping Skills books.
RESULTS

Case Vignettes of the Six Participants

Participant 1: Case Vignette

Gender: female

Estimated premorbid I.Q. (National Adult Read Test (N.A.R.T.)): 94

Age at intake to project: 17 years 10 months

Length of current admission at intake: 21 months

Legal statue: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: history of intra familial sexual abuse

Presenting behaviour problems: suicidal behaviour

self harm

eating disorder

absconding

Principal methods of D.S.H. since admission: ligatures

headbanging

Diagnosis: post traumatic stress disorder and depressive disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

Participant 2: Case Vignette

Gender: female

Estimated premorbid I.Q. (N.A.R.T.): 89

Age at intake to project: 18 years 11 months
Length of current admission at intake: 53 months

Legal status: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: history of repeated intra familial sexual abuse

Presenting behaviour problems: self harm

physical aggression

Principal methods of D.S.H. since admission: cutting

headbanging

inserting objects into vagina

Diagnosis: Borderline Personality Disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

Participant 3 : Case Vignette

Gender: female

Estimated premorbid I.Q. (N.A.R.T.) : 81

Age at intake to project: 16 years

Length of current admission to intake: 31 months

Legal status: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: history of chronic intra familial and physical abuse

Presenting behaviour problems: self harm

physical aggression

Principal methods of D.S.H. since admission: headbanging

 cutting
Diagnosis: Post traumatic stress disorder and schizoaffective disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

Participant 4: Case Vignette

Gender: female


Age at intake to project: 16 years 8 months

Length of current admission at intake: 1 month

Legal status: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: 3 extrafamilial sexual assaults at ages 13 and 14 years

Presenting behaviour problems: suicidal behaviour

self harm

Principal methods of D.S.H. since admission: banging hand against wall

cutting

inserting objects into skin wounds.

Diagnosis: Post traumatic stress disorder and depressive disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

Participant 5: Case Vignette

Gender: female


Age at intake to project: 16 years, 4 months
Length of current admission at intake: 8 months

Legal status: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: history of intra familial and extra familial sexual abuse

Presenting behaviour problems: suicidal behaviour

self harm

absconding

Principal methods of D.S.H. since admission: headbanging

cutting

ligatures

Diagnosis: Post traumatic stress disorder and schizoaffective disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

Participant 6: Case Vignette

Gender: female

Estimated premorbid I.Q. (N.A.R.T.): 102

Age at intake to project: 18 years, 6 months

Length of current admission at intake: 7 weeks

Legal status: Section 3 (Mental Health Act, 1983)

Mental disorder category (Mental Health Act, 1983): mental illness

Abuse status: history of chronic intra familial sexual abuse and physical abuse

Presenting behaviour problems: suicidal behaviour

self harm

Principal methods of D.S.H. since admission: inserting objects into vagina
Diagnosis: Post traumatic stress disorder and depressive disorder

Details of the principal functions of D.S.H. and the agreed problem focussed coping skills are detailed in Appendix H.

The results are presented by subject for each of the six participants. A standard format of presentation is used in each case. Graphical presentations of behavioural data are followed by psychometric data and data pertaining to use of medication. These results are followed by pre and post psychometric data presented in tabular form and then a discussion devoted to the interpretation of results in which data concerning the Activity Analysis are incorporated.

The data in the first two graphs for each participant (Figures 1a-6a and 1b-6b) are presented in baseline time periods along the x axis. This time period varies between two days and ninety five days across participants according to the length of time taken by the participant to display ten incidents of D.S.H. The last baseline time period of the assessment and intervention phases represent prorated values in order that both the assessment and intervention phases could be kept within the time parameters specified in the design of the study (that is, a four to six week assessment period and a four month intervention period). The frequency of incidents of D.S.H. and aggression during these shortened time periods were simply prorated by calculating the proportion of the time period employed and multiplying the inverse of this figure by the frequency of D.S.H. and aggression.
Participant 1. Behavioural Data

Figure 1a - D.S.H. and use of coping skills in baseline time periods

Figure 1b - Aggression in baseline time periods

Figure 1c - Weekly D.S.H. over pre-baseline and experimental periods

~ 71 ~
Participant 1. Psychometric Data

Figure 1d - B.S.I. Global Severity Index over Experimental Period

Figure 1e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

Figure 1f - Anxiety, Depression and Hopelessness over Experimental Period
Participant 1. - Use of Medication

Figure 1g - Use of Medication during Experimental Period

Participant 1. Pre and Post Psychometric Data

Table 1 ~ Coping Responses Inventory, Nowicki-Strickland Locus of Control and Dissociative Experiences Scale

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<thead>
<tr>
<th>CRI SUB-SCALES</th>
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<tr>
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<td>Emotional Discharge</td>
<td>72</td>
<td>94**</td>
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* = moderate change between pre/post scores  
** = substantial change between pre/post scores

Norwicki-Strickland Locus of Control Total Score

<table>
<thead>
<tr>
<th>Normal non-clinical 17 year old female mean score = 12.4 st. dev. = 5</th>
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Dissociative Experiences Scale

<table>
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<tr>
<th>Normal undergraduate mean score = 14.7 st. dev. = 10.8</th>
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<tr>
<td>46</td>
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</table>
Interpretation of Results (Participant 1)

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

Figures 1a, 1b and 1c are concerned with behavioural data. Figure 1a, illustrates the use of coping skills and the occurrence of D.S.H. during the study period. The baseline time period is established as fifteen days. Visual inspection of Figure 1a suggest there is marked variability in the rate of D.S.H. during the assessment period. However, the final baseline period the assessment phase (period four) is a prorated value and therefore subject to a considerable source of error. Following the introduction of the intervention D.S.H. quickly reduces in frequency to the extent that during baseline periods seven and eight (a total of 30 days) there is an absence of D.S.H. entirely. During these first four time periods of the intervention phase there is frequent and regular use of the agreed coping skills as measured by recorded use of coping skills in the participants’ Coping Skills Book. These recordings were corroborated by nursing staff specifically involved in supporting the work. However, over the next three time periods (periods nine, ten and eleven) use of coping skills tails off and there is minimal use thereafter. As use of coping skills starts to tail off, the occurrence of D.S.H. emerges once again (time period nine). Despite D.S.H. continuing for the remainder of the intervention period, there are time periods towards the end of the intervention period (periods thirteen and fifteen) without incidents of D.S.H. Indeed incidents of D.S.H. are more scarce during the follow-up period with
the lowest mean level of incidents occurring during this phase (see Figure 1c) as well as the largest single period without D.S.H. (forty five days). Mode of D.S.H. did not change significantly over the course of the project with a continued presentation of headbanging as the primary form of D.S.H. and occasional use of ligatures.

Despite initial impressions that the use of coping skills is accompanied by a reduction in D.S.H. during the first periods of the intervention phase, the second half of the intervention phase sees the use of coping skills dropping off, and despite this initially being associated with a recurrence of D.S.H., D.S.H is on a downward trend from time period nine onwards, despite the absence of use of coping skills. Indeed, the most salient change in frequency of D.S.H. occurs after time period nine. From that point on frequency of D.S.H. is reducing. This suggests that factors other than the use of coping skills account for the reduction in D.S.H. from time period nine onwards.

Figure 1b concerns frequency of physical aggression towards others during the period of the Project. The occurrence of aggressive behaviour closely mirrors the occurrence of D.S.H. suggesting that there is a close association between D.S.H. and aggression towards others.

Figure 1c adds further weight to the view that the coping skills intervention was not responsible for reduction in frequency of D.S.H. The pre-baseline data should not be directly compared to the data during the project. The criteria of recording incidents of D.S.H. differ. In essence, the data before initiation of the project represent an underestimation compared to the data during the project. This is essentially due to the method of recording incidents of D.S.H. that preceded the project that involved
recording either the occurrence or absence of D.S.H. during each one hour period of the day. If, for example, three incidents of D.S.H. had occurred during an hour period, separated as defined in Appendix C these would have been recorded as a single incident prior to the project, but as three incidents for the purposes of the project. The criteria before initiation of the project were not well defined, adding a further source of error to these data. However, any trend in the data prior to initiation of the project can be determined and will aid interpretation of the project data. In the case of Figure 1c the pre-baseline data also indicate that it is not unusual for the subject to demonstrate a number of consecutive weeks without incidents of D.S.H. The primary source of error between the pre-baseline data and the project data concerns absolute number of incidents of D.S.H. recorded rather than whether or not an incident has occurred. Figure 1c demonstrates that consecutive weeks without D.S.H. incidents (as demonstrated in time periods seven and eight of Figure 1a) are not infrequent. Figure 1c therefore confirms the conclusion that the coping skills intervention has had no determinable effect upon the frequency of D.S.H. exhibited by Participant 1.

Figures 1d, 1e and 1f concern psychometric data. The first of these illustrates the participants Global Severity Index (G.S.I.) on the Brief Symptom Inventory. Completion of this scale became less frequent over the course of the project due to the participants disinclination to repeatedly complete the questionnaire. These data demonstrate no trend within phases of the project and no level changes across phases. The absence of regular and frequent data on this measure prevent any conclusions being drawn.
Frequency of the staff rated measure, the SCL-90 Analogue presented in Figure 1e is more satisfactory. This is a measure of global psychopathology as rated by a number of key members of nursing staff involved in the patient’s care. These data, presented in a scattergram to reflect the nature of these multiple and irregular data, suggest two particular trends. Visual inspection of the graph suggests a rising trend during the intervention phase with respect to both staff 2 and staff 3 scores. Although there are too few data points to make anything other than tentative observations, a downward trend appears to begin after week 25 during the final 5 weeks of the intervention phase and continue through the follow-up period. Once again, this turning point (week 25) which equates to baseline time period thirteen in Figure 1a suggests that factors other than the coping skills intervention may be affecting frequency of D.S.H. This turning point may be consistent with the turning point in Figure 1a if one attributes a time lag between a change in a patient’s behaviour and staff member’s perception that the change is reliable and genuine.

Figure 1f like that of 1e illustrates the participants increasing reluctance to complete questionnaires. The absence of regular data on these measures prevent any conclusions being drawn. However, it is worth noting that self-rated anxiety, depression and hopelessness scores are at their lowest at week 44 at the end of the follow period.

Figure 1g concerns use of medication during the experimental period. Despite the difficulties in interpreting such data, neither the total sedation index nor use of PRN medication would appear to account for the turning point observed in Figures 1a, 1b and 1e. Indeed PRN use is high during baseline and assessment phases and reduces
during the first part of the intervention phase. There is a transient increase around week 18 coinciding with the burst of self harm illustrated in Figure 1a, but thereafter PRN use remains low. The graphical data concerning Sedation Index rule out the possibility that high sedation accounts for observed behavioural changes. Closer scrutiny of actual drug changes (Appendix J) confirms the conclusion that medication is unlikely to account for observed behavioural changes.

Finally, Table 1 presents the pre and post psychometric scores on the C.R.I., Locus of Control Scale and the D.E.S. Two moderate changes (a change of more than one standard deviation with respect to scores obtained in a normative sample with mean score of 50 and standard deviation of 10) and one substantial change (a change of more than two standard deviations) are observed across the pre and post C.R.I. scores. The first moderate change in the domain of ‘seeking support’ is a positive shift. However, the second moderate change and the substantial change in the areas of ‘cognitive avoidance’ and ‘emotional discharge’ respectively reflect an increase in use of avoidant coping responses. The coping skills incorporated in the intervention involve approach strategies, primarily of a behavioural nature and an expected positive therapeutic outcome would be reflected in an increase in approach strategies and reduction in avoidant strategies. The C.R.I. therefore does not support the efficacy of the intervention with this participant. Similarly the Locus of Control scale demonstrates no positive change with respect to the participant’s experience of control over events. The D.E.S. which should not be sensitive to change as it is a ‘lifetime’ measure suggests that Participant 1 experiences a particularly high degree of dissociative phenomena.
The data presented in the Therapeutic Activity Analysis (Appendix D) confirm that Participant 1 did not receive an increase in total therapeutic input due to inclusion in this research project. It should be noted also that one other risk behaviour was recorded during the course of the project during baseline time period eleven in the second half of the intervention phase. This incident involved an attempt to abscond from the unit by pushing through an exit door. The incident was easily managed by the staff present at the time and no further untoward incidents were observed.
Participant 2. Behavioural Data

Figure 2a - D.S.H. and use of coping skills in baseline time periods

Figure 2b - Aggression in baseline time periods

Figure 2c - Weekly D.S.H. over pre-baseline and experimental periods
Participant 2. Psychometric Data

Figure 2d - B.S.I. Global Severity Index over Experimental Period

Figure 2e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

Figure 2f - Anxiety, Depression and Hopelessness over Experimental Period
Participant 2. - Use of Medication

Figure 2g - Use of Medication during Experimental Period

Participant 2. Pre and Post Psychometric Data

Table 2 ~ Coping Responses Inventory, Nowicki-Strickland Locus of Control and Dissociative Experiences Scale

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</table>

* = moderate change between pre/post score

| Norwicki-Strickland Locus of Control Total Score | Normal non-clinical 17 year old female mean score = 12.4 st. dev. = 5 | 20 | 16 |
| Dissociative Experiences Scale                   | Normal undergraduate mean score = 14.7 st. dev. = 10.8            | 31 | 29 |
**Interpretation of Results (Participant 2)**

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

Figures 2a, 2b and 2c illustrate the behavioural data for Participant 2. Visual inspection of Figure 2a shows that the participant adopted the use of agreed coping skills and continued to use these skills throughout the intervention period on a frequent basis. The principal target behaviour (D.S.H.) occurs at a frequent and reasonably constant rate during the baseline and assessment periods (baseline time period 3 is a prorated value). Following introduction of the intervention, frequency of D.S.H. falls significantly and a total abstinence of D.S.H. pursues for four consecutive baseline time periods (92 days). There is a limited recurrence of D.S.H. during the final phases of the intervention period which reduces as the participant enters the follow-up period and then rises again marginally towards the end of the follow up period. Despite the occurrence of headbanging, cutting and inserting objects into her vagina during the baseline and assessment phases, thereafter Participant 2 engaged only in headbanging behaviour.

It should be noted that despite the absence of data regarding the use of coping skills during the follow-up period, the participant continued to use the skills but these were neither recorded nor actively reviewed any longer by the Researcher.
Figure 2b represents the frequency of physically aggressive behaviour towards others during the study period. The frequency of aggressive behaviour broadly corresponds to occurrence of D.S.H. and adds further weight to the impact of the intervention as well as indicating a close association between the behaviours.

However, a wider picture can be gained in the evaluation of these data by referring to Figure 2c. Caution must be employed in the interpretation of these data due to the differing criteria used for the occurrence of D.S.H. during the pre-baseline period compared to the experimental period. However, these data do allow inferences to be drawn regarding the presence or absence of trends during the pre-baseline period.

The data in Figure 2c suggest no obvious trend in the frequency of D.S.H. during the 48 weeks prior to baseline. The mean number of weekly incidents of D.S.H. during this 48 week period is just less than one (0.98 per week, standard deviation = 1.98). During the baseline and assessment period that rate rises to 4.5 per week (standard deviation = 3.2). However, the rate during the intervention period is less than 0.5 (standard deviation = 0.83) rising to approximately 0.7 (standard deviation = 1.39) during the follow-up period.

These data therefore suggest that despite the high frequency of D.S.H. during baseline and assessment periods, the intervention is associated with a reduction in D.S.H. compared even to pre-baseline rates. This reduction is further partly maintained during follow-up although it is possible that the follow-up period is showing an increasing rate approaching that of the pre-baseline rate. It should also be noted
however, that the intervention phase is accompanied by the largest period of total abstinence of D.S.H. (16 weeks) over the entire data series of 92 weeks.

These data give no clue as to why frequency of D.S.H. should increase during baseline and assessment periods. This finding is addressed later in the Discussion section.

Figures 2d, 2e and 2f concern psychometric data. The first of these Figures concerns the Global Severity Index (G.S.I.) of the Brief symptom Inventory. These data indicate a rising index during the baseline period, followed by a moderate decline during the assessment period. Thereafter, during the intervention period and follow-up period the index fluctuates with no obvious trend. Two peaks of self reported symptoms occur in weeks 17 and 25. However, despite a generally lower index apparent during the intervention phase compared to the assessment phase, there is no reduction when compared to the baseline measures. It should be noted that the highest and third highest G.S.I. scores during the study period occur immediately after the termination of the intervention phase and at the end of the follow-up phase respectively. Figure 2e concerning staff ratings of global psychopathology offer little assistance in the interpretation of these data due to wide variability in scores. However, with the exception of staff 2 ratings in weeks 17 and 25 the data suggest a change in level between week 7 and 8, a week prior to the initiation of the intervention.

Figure 2f offers concurring data to that of Figure 2d. Self reported psychological symptoms appear to rise during the baseline period. Thereafter there is some
variability but no clear trend. However, the B.H.S. does suggest a change in level a week after the initiation of the intervention phase. All three psychometric graphs concur with an increase in symptoms during weeks 17 and 25. These spikes are corroborated also by one of the nursing staffs’ SCL-90 Analogue ratings (Figure 2e).

Figure 2g concerns use of medication during the experimental period. Neither the total sedation index nor use of P.R.N. medication would appear to account for the reduction in frequency of D.S.H. during the intervention phase. Indeed, use of P.R.N. is reduced during the intervention phase raising the possibility that the use of agreed coping skills may have replaced reliance on P.R.N. medication as a coping strategy. Closer scrutiny of actual drug changes (Appendix J) supports the conclusion that medication changes do not account for observed changes in behaviour.

Finally, Table 2 presents the pre and post psychometric scores on the C.R.I., Locus of Control Scale and the D.E.S. The C.R.I. suggests only one moderate change in the subject’s coping responses profile. This change, representing an increase of just over one standard deviation with regard to scores obtained in a normative sample, (mean score = 50, standard deviation = 10) is in the area of ‘problem solving’. The Locus of Control Scale suggests a slight reduction in external locus of control indicating a shift in a positive direction. The D.E.S. illustrates the high degree of dissociative symptoms experienced by the participant.

One of the principal internal threats to the validity of the conclusions that may be drawn from these data in support of the stated hypotheses concerns that of a possible non-specific effect of increased therapeutic input to the participants included in the
study. However, the Therapeutic Activity Analysis (Appendix D) suggests that Participant 2 continued to receive a comparable level of total therapeutic input during the course of this when compared to the level of input prior to the project. In addition, no other serious risk behaviours were observed during the course of the project.
Participant 3. Behavioural Data

Figure 3a - D.S.H. and use of coping skills in baseline time periods

Figure 3b - Aggression in baseline time periods

Figure 3c - Weekly D.S.H. over pre-baseline and experimental periods
Participant 3. Psychometric Data

Figure 3d - B.S.I. Global Severity Index over Experimental Period

Figure 3e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

Figure 3f - Anxiety, Depression and Hopelessness over Experimental Period
Participant 3. - Use of Medication

Figure 3g - Use of Medication during Experimental Period

![Graph showing use of medication during experimental period.]

Participant 3. Pre and Post Psychometric Data

Table 3 - Coping Responses Inventory, Nowicki-Strickland Locus of Control and Dissociative Experiences Scale

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<td>60</td>
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</table>

* = moderate change between pre/post scores  
** = substantial change between pre/post scores

Norwicki-Strickland Locus of Control  
Total Score  
Normal non-clinical 17 year old female mean score = 12.4, st. dev. = 3  
PRE  | 14  | 9   |

Dissociative Experiences Scale  
Normal undergraduate mean score = 14.7, st. dev. = 10.8  
PRE  | 39  | 36  

~ 90 ~
Interpretation of Results (Participant 3)

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

Figures 3a, 3b and 3c illustrate the behavioural data for Participant 3. For the purposes of visual presentation the baseline period is not marked in Figure 3a. Instead, the baseline and assessment phases are shown together. However, as is the case with all other participants the first interval along the x axis constitutes the baseline period. In the case of Participant 3 this baseline period lasts 2 days and eleven incidents of D.S.H. were recorded in this period. The baseline period is not marked on this graph as marking would interfere with the visual presentation of the data.

Visual inspection of Figure 3a shows that the participant adopted the use of agreed coping skills and continued to use these skills throughout the intervention period on a frequent basis. The principal target behaviour (D.S.H.) continues to occur during the assessment period but considerably less frequently than during the baseline period. Following the introduction of the intervention there is a further continuation of a long period of abstinence from D.S.H. of over ninety days bringing the entire period of abstinence starting half way through the assessment phase to nearly one hundred days. However, incidents of D.S.H. recur during the latter stage of the intervention period, but very soon in the follow-up period abstinence is retrieved for a further period of approximately sixty days. Once again, there are a small number of incidents of
D.S.H. towards the end of the follow-up period. During the baseline and assessment periods Participant 3 presented one incident of cutting with the remaining incidents of D.S.H. involving headbanging. Following the initiation of the intervention, incidents of D.S.H. were restricted to headbanging.

Figure 3b concerning the occurrence of physical aggression confirms a high level of behavioural disturbance during the baseline and the first two days of the assessment period. Thereafter, incidents of aggression continue at an intermittent rate with two particular periods of abstinence during the assessment period and during follow-up. No trend is apparent from these data.

However, a more complete picture is obtained by studying Figure 3c. These data show a long history of frequent D.S.H. over the previous sixty weeks. Indeed, the longest period of abstinence is three weeks during this pre-baseline phase. There is no obvious trend in the pre-baseline data and the mean number of incidents of D.S.H. during this phase is 1.58 per week. This compares to a Figure of 3.20 per week during the baseline and assessment phases, and 0.53 per week during the intervention phase and 0.50 during the follow-up period. These data suggest a substantial treatment effect with regard to frequency of D.S.H.

Figures 3d, 3e and 3f concern psychometric data. Self rated Global Severity Index (G.S.I.) Scores (Figure 3d) show a relatively high level of symptomatology during the period of assessment. There are too few data points to determine a trend, however, the final data point prior to the initiation of the intervention phase suggests a reduction in global symptomatology. Following the initiation of the intervention phase, and
indeed throughout the intervention phase, global symptomatology scores remain low compared to the pre-intervention scores. However, G.S.I. scores are again relatively high during the follow-up period.

Figure 3e offers only infrequent and discontinuous data across three raters. However, these data do offer some support for the G.S.I. data. Scores are high during the assessment phase, appear to fall substantially during the intervention phase and then rise once again during the follow-up period. It should be noted that the only rating obtained during week 1 of the baseline, from staff member 1 is low, and not substantially different from the ratings obtained during intervention or follow up phases.

Figure 3f offers further support to this profile of high levels of distress during the assessment phase, reducing levels during intervention and rising levels once again during follow-up. However this is with respect to anxiety alone. Neither depression nor hopelessness scores demonstrate either a shift in level or any trend across phases.

Figure 3g suggests that the subject was not using P.R.N. medication as a coping strategy during the intervention phase any more than across the other phases. Mean rate of use across the three phases of assessment, intervention and follow-up are 2.00, 1.90 and 2.20 per week respectively. Similarly, the sedation index data provide evidence that behavioural improvement during both intervention and follow-up phases was not merely due to the subject being heavily sedated. Further inspection of actual drug history (Appendix J) during the project period provide little evidence that medication changes account for the observed behavioural changes.
Finally, Table 3 presents pre and post psychometric scores on the C.R.I. and Locus of Control Scale. Using a ten point difference as the criteria for a significant change across subscale scores (ten points corresponds to one standard deviation in the normative sample) the C.R.I. suggests a significant change on three of the eight subscales. An increase in ‘seeking support’, which is categorised as a behavioural approach strategy, is observed at post assessment. A substantial decrease in ‘cognitive avoidance’ (greater than two standard deviations of the normative sample) is also demonstrated, as is a significant reduction in the subscale labelled ‘acceptance/resignation’. This latter subscale is also categorised as a cognitive avoidance strategy. Each of these three changes are viewed as positive changes in the coping strategy profile.

The Locus of Control Scale also offers evidence of some improvement at post assessment with regard to the participant reporting a greater degree of internal control over events in her environment. The D.E.S. demonstrates a consistently high level of self reported lifetime dissociative experiences by Participant 3.

As was the case with Participant 2, the potential internal validity threat concerning the non-specific effect of increased therapeutic input is addressed by the Therapeutic Activity Analysis (Appendix D). This analysis demonstrates that total therapeutic input did not increase as a result of inclusion in the project thus ruling out this factor as a serious threat to the validity of the findings. In addition, no other serious risk behaviours were observed during the course of the project.
Participant 4. Behavioural Data

Figure 4a - D.S.H. and use of coping skills in baseline time periods

Figure 4b - Aggression in baseline time periods

Figure 4c - Weekly D.S.H. over pre-baseline and experimental periods
Participant 4. Psychometric Data

Figure 4d - B.S.I. Global Severity Index over Experimental Period

Incomplete data - only four data points completed by Participant, each with minimal symptoms being reported.

Figure 4e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

Incomplete data - only four data points completed by Participant, each with minimal symptoms being reported.

Figure 4f - Anxiety, Depression and Hopelessness over Experimental Period

Incomplete data - only four data points completed by Participant, each with minimal symptoms being reported.
Participant 4. - Use of Medication

Figure 4g - Use of Medication during Experimental Period

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*: more than one standard deviation above or below the normative population mean

Norwicki-Strickland Locus of Control Total Score
Normal non-clinical 17 year old female mean score = 12.4 st. dev. = 5

Dissociative Experiences Scale
Normal undergraduate mean score = 14.7 st. dev. = 10.8
Interpretation of Results (Participant 4)

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

Participant 4 exhibited ten incidents of D.S.H. in the space of thirteen days during the baseline yielding a baseline time period of thirteen days. As illustrated in Figure 4a, during the second half of the assessment period, which extended over approximately thirteen weeks, frequency of D.S.H. increases to a peak of over fifty incidents over a thirteen day period. The assessment period for Participant 4 was necessarily extended beyond the intended six week maximum due to disturbed mental state and lack of the participant’s ability to engage in the assessment process. Indeed, the participant’s compliance with some aspects of the study, particularly completion of psychometric measures, became a significant problem during the course of the project.

During the intervention phase frequency of D.S.H. recedes from the peak observed during the assessment phase but continues on a regular basis. The final two data points of the intervention phase are associated with a relatively low frequency of D.S.H. which continues throughout the follow-up phase. Participant 4 continued to engage in banging her hand against the wall, cutting her skin and inserting objects into the wounds throughout the phases of the project.
It is clear from Figure 4a that Participant 4 did not engage in the treatment approach with respect to use of agreed coping skills. It is also not possible to draw any inferences from these data in relation to the phases of the project. The predominant features of the D.S.H. data are firstly that D.S.H. is a frequent occurrence, and secondly, that there is a substantial peak in frequency of D.S.H. around time period 7.

Figure 4b concerning incidents of aggression during the course of the project offers no assistance in the evaluation of the efficacy of the treatment approach. However, Figure 4c, although adding only four weeks worth of pre-baseline data suggests the possibility of a cyclical occurrence of D.S.H.

Unfortunately there are no data to report in Figures 4d and 4f due to the participant’s unwillingness to complete the questionnaires on a regular basis. Baseline ratings were obtained but these were characterised by total denial of symptoms. However, Figure 4c concerning staff ratings of global psychopathology offers some support for the primary observation of a peak in the participant’s psychological disturbance around weeks ten to fifteen of the study. This corresponds to the observed peak of D.S.H. identified in Figure 4a.

Figure 4g, concerning use of medication during the project, possibly sheds light on the relatively low frequency of D.S.H. towards the end of project. The Sedation Index is steadily rising through the course of the project as is the frequency of P.R.N. use though at a more gentle rate. This rising trend in use of
medication together with the participants non-engagement in the psychological intervention reflect a poor response to the Coping Skills project.

Table 4 represents pre-intervention psychometric scores. The participant declined to complete the same measures post-intervention. The pre-intervention profile is one of low reliance on ‘seeking support’, high ‘cognitive avoidance’ but low ‘acceptance’ (Coping Responses Inventory). A score of 8 on the Locus of Control Scale suggests a relatively high internal locus of control and a score of 24 on the D.E.S. indicates only a moderate degree of self reported dissociative experiences. These data are discussed more fully in the Discussion.

Participant 4 presented no other serious risk behaviours during the course of the project.
Participant 5. Behavioural Data

Figure 5a - D.S.H. and use of coping skills in baseline time periods

Baseline Time Periods (95 days)

Baseline Assessment Baseline Time Periods (95 days) Intervention Follow-up

Figure 5b - Aggression in baseline time periods

Baseline Assessment Baseline Time Periods (95 days) Intervention Follow-up

Figure 5c - Weekly D.S.H. over pre-baseline and experimental periods

Pre-baseline Baseline & Assessment Intervention Follow-up

~ 101 ~
Participant 5. Psychometric Data

Figure 5d - B.S.I. Global Severity Index over Experimental Period

Figure 5e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

Figure 5f - Anxiety, Depression and Hopelessness over Experimental Period
Participant 5. - Use of Medication

Figure 5g - Use of Medication during Experimental Period

Participant 5. Pre and Post Psychometric Data

Table 5 ~ Coping Responses Inventory, Nowicki-Strickland Locus of Control and Dissociative Experiences Scale

<table>
<thead>
<tr>
<th>CRI SUB-SCALES</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Analysis</td>
<td>42</td>
<td>Refused</td>
</tr>
<tr>
<td>Positive Appraisal</td>
<td>42</td>
<td>Refused</td>
</tr>
<tr>
<td>Seeking Support</td>
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<td>Refused</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>41</td>
<td>Refused</td>
</tr>
<tr>
<td>Cognitive Avoidance</td>
<td>62*</td>
<td>Refused</td>
</tr>
<tr>
<td>Acceptance</td>
<td>59</td>
<td>Refused</td>
</tr>
<tr>
<td>Alternative Rewards</td>
<td>60</td>
<td>Refused</td>
</tr>
<tr>
<td>Emotional Discharge</td>
<td>63*</td>
<td>Refused</td>
</tr>
</tbody>
</table>

* = more than one standard deviation above or below the normative population mean.

<table>
<thead>
<tr>
<th>Norwicki-Strickland Locus of Control</th>
<th>Pre</th>
<th>Refused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>22</td>
<td>Refused</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dissociative Experiences Scale</th>
<th>Pre</th>
<th>Refused</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28</td>
<td>Refused</td>
</tr>
</tbody>
</table>
**Interpretation of Results (Participant 5)**

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

Visual inspection of Figures 5a, 5b, and 5c yields no conclusive treatment effect regarding the coping skills intervention. A long baseline time period of 95 days was employed based upon the length of time it took for the participant to display ten incidents of D.S.H. Baseline time periods 2 and 4 in Figures 5a and 5b are prorated frequencies (based upon 22 days and 27 days data respectively). The fact that these values have been prorated is particularly relevant in the case of Participant 5. Due to the unusually long baseline time period employed with this participant, there is only a single data point in the assessment phase and this represents a prorated figure. Similarly the second of the two data points during the intervention phase also represents a prorated value.

Figure 5a illustrates an increase in frequency of D.S.H. following the introduction of the intervention. Thereafter, during the latter part of the intervention phase and during the follow-up period frequency of D.S.H. returns to pre-intervention levels. Despite the failure of the intervention to produce an apparent reduction in the target behaviour, the participant did employ the agreed coping skills during the intervention phase. However, use of these skills was relatively infrequent (approximately once per
Participant 5 demonstrated no significant change in mode of D.S.H. during the course of the project.

Figure 5b demonstrates an interesting finding. Frequency of aggressive behaviour during the study period would appear to be negatively correlated with D.S.H. Reference to the identified functions of D.S.H. and the specific coping skills employed sheds further light on this finding and is addressed further in the discussion.

The psychometric data (Figures 5d, 5e and 5f) illustrate a similar picture of inconclusive data. There are no apparent trends or level changes across any of the psychometric graphs, with the exception of Figure 5f regarding depression scores. An increase in self reported depression may be inferred during the intervention phase in relation to self reported depression during the baseline. This concurs with the increase in frequency of D.S.H. observed in Figure 5a.

Figure 5g concerning use of medication illustrates marginal fluctuations in sedation index over the course of the project. However, a substantial reduction in frequency of use of PRN medication is apparent from three weeks before the end of the intervention phase. Nevertheless, regular medication, as reflected in the sedation index continues during the follow-up period at a relatively high level.

The participant declined to complete the post intervention psychometric measures. However, her pre-intervention scores illustrate a heavy reliance on avoidant coping strategies, particularly 'cognitive avoidance' and 'emotional discharge' (C.R.I.). She
also presented a profile of an external locus of control and a high degree of
dissociative experiences.

The Therapeutic Activity Analysis (Appendix D) confirms that Participant 5 did not
receive a greater degree of therapeutic input as a consequence of being included in the
present project. No other serious risk behaviours were recorded during the course of
the project.
Participant 6. Behavioural Data

Figure 6a - D.S.H. and use of coping skills in baseline time periods

Figure 6b - Aggression in baseline time periods

Figure 6c - Weekly D.S.H. over pre-baseline and experimental periods
Participant 6. Psychometric Data

Figure 6d - B.S.I. Global Severity Index over Experimental Period

![BSI Global Severity Index](Image)

Figure 6e - SCL-90 Analogue Global Psychopathology Ratings over Experimental Period

![SCL-90 Analogue Global Psychopathology Ratings](Image)

Figure 6f - Anxiety, Depression and Hopelessness over Experimental Period

![Anxiety, Depression and Hopelessness](Image)
Participant 6. - Use of Medication

Figure 6g - Use of Medication during Experimental Period

Participant 6. Pre and Post Psychometric Data

Table 6 ~ Coping Responses Inventory, Nowicki-Strickland Locus of Control and Dissociative Experiences Scale

<table>
<thead>
<tr>
<th>CRI SUB-SCALES</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Analysis</td>
<td>27</td>
<td>32</td>
</tr>
<tr>
<td>Positive Appraisal</td>
<td>29</td>
<td>40*</td>
</tr>
<tr>
<td>Seeking Support</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>43</td>
<td>56*</td>
</tr>
<tr>
<td>Cognitive Avoidance</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>Acceptance</td>
<td>61</td>
<td>56</td>
</tr>
<tr>
<td>Alternative Rewards</td>
<td>51</td>
<td>46</td>
</tr>
<tr>
<td>Emotional Discharge</td>
<td>69</td>
<td>51*</td>
</tr>
</tbody>
</table>

* = moderate change between pre/post scores

<table>
<thead>
<tr>
<th>Norwicki-Strickland Locus of Control Total Score</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal non-clinical 17 year old female mean score = 12.4 st. dev. = 5</td>
<td>23</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dissociative Experiences Scale</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal undergraduate mean score = 14.7 st. dev. = 10.8</td>
<td>42</td>
<td>22</td>
</tr>
</tbody>
</table>
Interpretation of Results (Participant 6)

The graphical presentations of behavioural data are complete and represent no absent or missing data. No zero scores were obtained by any of the participants on any of the psychometric measures, therefore all psychometric scores are represented on the graphical presentations.

The baseline time period was established by Participant 6 at thirty five days as illustrated in Figure 6a. A shortened assessment period of six days was employed with this participant for clinical and ethical reasons due to the fact that the participant was eager and willing to complete the assessment process quickly. The participant had only been recently admitted and was highly motivated to initiate the coping skills work as soon as possible. Baseline time period 2 therefore represents a condensed six day assessment period. Visual inspection of Figure 6a reveals a reducing occurrence of D.S.H. during the intervention phase. Indeed, during the final baseline time period of the intervention phase (period 6) there is an absence of D.S.H. throughout the thirty five day period. The graph also illustrates the regular use of agreed coping skills throughout the intervention phase.

However, during the follow-up period we observe a substantial increase in the occurrence of D.S.H. up to and beyond that observed during baseline. Participant 6 continued to present just one mode of D.S.H. involving inserting objects vaginally.
Figure 6b concerning frequency of physical aggression during the study period demonstrates a very similar pattern of aggression to that of D.S.H. suggesting a close positive relationship between both behaviours.

Figure 6c provides an additional seven weeks of data concerning frequency of D.S.H. prior to the initiation of the project. Together with the weekly D.S.H. data during baseline and assessment phases, these data indicate no obvious trend prior to the intervention phase. The mean frequency of D.S.H. across each of the phases is indicated in Figure 6c, together with standard deviations. The pertinent points to note are the substantial reduction in the mean frequency of D.S.H. during the intervention phase compared to the preceding phases, and the contrasting increase in mean frequency of D.S.H. during the follow-up phase, together with an increase in variability (standard deviation).

The data presented in Figures 6a, 6b and 6c suggest a significant intervention effect but that this was not maintained during the follow-up period.

Figures 6d, 6e and 6f concerning psychometric data largely support the behavioural data with some exceptions. Figure 6d suggests relatively high symptom severity as measured by the B.S.I. during the baseline and assessment phases. Thereafter, during the intervention phase symptom severity appears to drop and then level out during the second half of the intervention phase. However, we observe a rising trend during follow-up back to the levels observed prior to the intervention.
Figure 6e concerning two staff members' ratings of the participants' global symptoms demonstrates a mixed picture. The paucity of pre-intervention ratings makes it difficult to draw clear inferences. However, staff member 1 rates a high degree of global symptoms during the preintervention and the early part of the intervention phase but we observe lower ratings during the second half of the intervention phase. This rises again at the end of the intervention phase and remains high during the follow-up period. Staff member 2 rates global symptoms at a lower level during the first half of the intervention phase compared to pre intervention levels, but these ratings rise during the second half of the intervention phase. Staff member 2 concurs with staff member 1 with regard to high ratings during the follow-up phase.

Figure 6f illustrates lower levels of self reported depression and anxiety particularly during the second half of the intervention phase when compared to pre intervention scores. These levels are largely maintained during follow-up but, particularly in the case of anxiety there is the possibility of a slowly increasing trend. Hopelessness scores, however, demonstrate no visible change in level or trend throughout the study period.

These data broadly support the behavioural data suggesting a positive intervention effect but little maintenance of change during follow-up.

Figure 6g casts some doubt on the validity of the preceding data insofar as the sedation index is marginally higher during the middle part of the intervention phase. This raises the possibility that the observed improvements in behavioural and psychometric data during the intervention phase may be explained by increased
sedative medication. However, the increase in sedation index is marginal and is accompanied by a reduction in use of PRN medication. Details regarding actual medication are presented in Appendix J.

Table 6 presents pre and post psychometric scores on the Coping Responses Inventory, the Locus of Control Scale and the Dissociative Experiences Scale. The C.R.I. suggests a moderate improvement in ‘positive appraisal’ and ‘problem solving’ strategies. Both of these approach strategies are viewed as adaptive and represent positive changes in the participants coping profile. In addition we observe a moderate reduction in the avoidant strategy labelled ‘emotional discharge’. Again this is essentially viewed as a positive change.

The Locus of Control Scale indicates a substantial shift towards internal control. However, the significantly lower score observed on the D.E.S. at past assessment requires explanation in view of the fact that the scale is a lifetime measure and should not reflect a reduction at re-test. However, at pre-testing the participant clearly reported a very high degree of dissociative symptoms. This issue is discussed further in the next section.

The Therapeutic Activity Analysis (Appendix D) once again confirms that the clinical improvements observed in Participant 6 are unlikely to be accounted for by the general factor of increased therapeutic input as a consequence of inclusion in the project. No other serious risk behaviours were noted during the course of the project.
Results Across Participants

**Hypothesis 1** Adolescents who engage in repetitive deliberate self harm can be taught to use problem focused coping skills.

Figures 1a to 6a illustrate the extent to which each participant used the agreed coping skills. Only Participant 4 failed to significantly use agreed coping skills. However, Participant 1 used the skills only during the first half of the intervention phase. Participant 5 used the agreed skills only once per week on average, D.S.H. being employed more frequently than the intended functionally equivalent coping skills. In summary, therefore, three of the six participants (Participants 2, 3 and 6) used the skills regularly, throughout the intervention phase more frequently than D.S.H. In conclusion hypothesis 1 receives support from these data but requires mitigation as illustrated by Participants 1, 4 and 5.

**Hypothesis 2** The acquisition and use of such skills is associated with a reduction in deliberate self harm.

Figures 2a, 3a and 6a are relevant in the assessment of the status of this hypothesis. Figures 1a, 4a and 5a, as previously discussed do not demonstrate proper acquisition and use of the skills. Figure 2a appears to lend strong support to this hypothesis. Indeed the gains are maintained at follow-up. However, Figure 2c suggests that the intervention effect may not be quite as strong as seen in Figure 2a. The pre-baseline data indicate a lower frequency of D.S.H. than is seen in the baseline and assessment phases. The frequency of D.S.H. is still substantially lower following the introduction of the intervention (mean = 0.41 incidents per week) compared to the pre-baseline level (mean = 0.98 per week). However the rate is higher during follow up raising the
possibility of a problem regarding maintenance of the improvement. It should be
borne in mind that the pre-baseline data most probably represents an underestimate of
the true frequency of D.S.H. due to a difference in recording criteria prior to the
present project.

Figure 3a offers ambiguous support to hypothesis 2. There is a substantial reduction
in the frequency of D.S.H. following the baseline period. The change in frequency
would appear to occur immediately after the baseline period when the assessment
phase begins. Figure 3c helps the interpretation of this. Pre-baseline rates of D.S.H.
are high. However, the occurrence of D.S.H. during the baseline period is unusually
frequent. The change in frequency (i.e. reduction) of D.S.H. does, however coincide
with the introduction of the intervention. This is also maintained during the follow-up
period. The mean frequency of D.S.H. pre-baseline is 1.58 incidents per week
compared to 0.53 and 0.50 during the intervention phase and follow-up period
respectively. The anomaly occurs during the baseline period where an unusually high
frequency is observed. This phenomenon can also be seen in the data of Participant 2,
and to a lesser degree in Participant 1 with regard to the baseline and assessment
periods (Figures 2c and 1c). This observation might best be labelled as a reactivity
phenomenon and is addressed later in the Discussion. Despite this observation the
data concerning Participant 3 lend further support to hypothesis 2.

Figure 6a appears to lend strong support to hypothesis 2. It should be remembered
that data point 2, representing the assessment phase was only six days duration in this
case. However, the data indicate a lack of maintenance during follow-up. Figure 6c
confirms the impact of the intervention when pre-baseline data are included but also confirms the lack of maintenance during follow-up.

In conclusion, the data concerning Participant 6 support hypothesis 2, but the status of this hypothesis must be qualified with regard to maintenance of the gains.

**Hypothesis 3** A reduction in deliberate self harm is associated with clinical improvement on relevant and related psychometric measures.

The status of this hypothesis is difficult to evaluate from the present data. The lack of an adequate number of data points during the baseline and assessment phases precludes proper evaluation. Participants 2, 3 and 6, each demonstrating a reduction in the frequency of D.S.H., require particular attention. However, the reactivity phenomenon observed earlier further obscures proper evaluation of these data. Indeed Participants 2, 3 and 6 all show this phenomenon as demonstrated in Figures 2c, 3c and 6c. Baseline and assessment data cannot therefore be viewed as reliable or valid measures. In the light of these two major shortcomings the repeated psychometric data are unable to support hypothesis 3.

The pre and post psychometric measures of coping (C.R.I.), Locus of control (Norwicki-Strickland) and Dissociation (D.E.S.) are however of interest. Participants 2, 3 and 6 each demonstrated a reduction in D.S.H. Participant 6 differs from Participants 2 and 3 in so far as a recurrence of D.S.H. is observed during follow up. The post administration of these three psychometric measures occurred at the end of the follow up period. All three participants demonstrate significant shifts in their coping profile at post assessment. Participant 2 shows a moderate increase in the use
of 'problem solving'. Participant 3 shows a moderate increase in the domain of 'seeking support' and a moderate reduction in 'acceptance' and a substantial reduction in 'cognitive avoidance'. Participant 6 shows moderate increases in the domains of 'positive appraisal' and 'problem solving' and a moderate decrease in the use of 'emotional discharge'. Each of these significant changes at post assessment represent a change in a positive direction with respect to increasing use of approach strategies and reducing use of avoidance strategies.

The Locus of Control Scale for each of the three participants reflects a more internal locus of control at post assessment. Although these changes are slight for Participant 2 and 3, the change is significant for Participant 6.

The D.E.S. is a lifetime measure, and as such should not be responsive to clinical improvement. However it was included as an additional adjunct in the clinical description of the participants and its repeat administration serves as a useful check on the reliability of the initial administration. Both Participants 2 and 3 continue to score highly on the D.E.S. at post assessment. However, Participant 6 scores significantly lower at post assessment raising concerns over the validity of this scale in assessing dissociative symptoms in Participant 6.

In summary, hypothesis 3 receives little support from the psychometric data. Repeat measures of symptom status fail to support the hypothesis, however, the behavioural change in frequency of D.S.H. in three participants is accompanied by a shift in the coping responses profile in the expected direction. In addition, one of these
participants demonstrates a significant shift towards internal locus of control, the other two demonstrating only marginal shifts in the expected direction.

**Overview of Results**

The preceding section illustrates that three of the six participants were able to learn to use problem focused skills and that the use of these skills was associated with a reduction in the frequency of D.S.H. It is also interesting to note that frequency of aggression reduces along with D.S.H. Indeed, with the exception of Participant 5 where there appears to be an inverse relationship, all participants exhibit this correlation between D.S.H. and aggression.

Two of the principal threats to the conclusion that the present intervention was effective for these three participants have been investigated and largely dispelled (medication and the non-specific effect of increased therapeutic input). In addition, the data presented in Appendix D demonstrate that the six participants included in the project did not receive an increase in therapeutic input because of their inclusion in the project at the expense of other patients on the ward. The results of the activity analysis presented in Appendix D are important not only to exclude a primary threat to the validity of the study design, but also for ethical reasons. It would be unethical for patients to have less access to therapeutic input as a result of choosing not to participate in the project.

The behavioural changes observed in these three participants are not accompanied by clinical improvement as measured by the repeat psychometric tools employed. Three
factors compromise the proper evaluation of this issue. Firstly an inadequate number of baseline data points preclude meaningful analysis. Secondly, intermittent and missing data prevent proper evaluation. Thirdly, the threat of reactivity during the assessment and baseline phases which is clearly observed with respect to the behavioural data for these three participants, throws significant doubts on the validity of the psychometric scores.

Pre and post evaluation of coping profiles demonstrate significant positive changes towards approach coping responses and away from avoidance responses for all three participants who responded to the intervention. The remaining three participants demonstrated a mixed response (Participant 1) or refused to complete the post assessment (Participants 4 and 5).

A crucial question in evaluating these results concerns the issue of why half of the participants responded to the intervention and the other half did not. In order to address this question a summary of the psychometric characteristics of each participant is present below in Table 7. The summaries concern the participants’ characteristics when assessed during the baseline phase of the project.
Table 7. Summary of the baseline psychometric characteristics of participants.

<table>
<thead>
<tr>
<th></th>
<th>Avoidant Coping</th>
<th>External Locus of Control</th>
<th>Dissociation</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Hopelessness</th>
<th>Global Symptomatology (self rated)</th>
<th>Global Symptomatology (observer rated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 2</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Participant 3</td>
<td>M</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Participant 6</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Participant 1</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Participant 4</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Participant 5</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>H</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
</tbody>
</table>

The summary description of each psychometric scale is rated as high (H) moderate (M) or low (L). With regard to avoidant coping, a summary of coping profile was sought. This was achieved by considering the eight subscale scores of the C.R.I. Subscale scores within one standard deviation of the mean were ignored, and the remainder were viewed as significant. The remaining significant scores were then labelled as +1 (significantly high avoidant subscales and significantly low approach subscales) or −1 (significantly low avoidant subscales and significantly high approach subscales). These values were then summed together to yield an approach-avoidant summary value. A score of 1 or less was then labelled as ‘low avoidant’ (L), a score of 2 as ‘moderate avoidance’ (M), and a score of 3 or more as ‘high avoidance’ (H).

External locus of control is rated as low if the participant’s score is within one standard deviation of the normal population (female, same age) mean or lower, as
moderate if between one and two standard deviations above the mean and as high if greater than two standard deviations above the mean. The same criteria are employed in the case of dissociation and self-rated global symptomatology. In the case of the depression, anxiety and hopelessness scales the allocation to low, moderate and high are inherent in the scoring and interpretation of the scales. With regard to observer rated symptomatology (SCL-90 Analogue) an arbitrary categorisation symptom was employed in view of the lack of normative data on the scale. A score of between zero and 35 was rated as low, between 35 and 65 rated as moderate and 65 to 100 rated as high. Where more than one baseline value exists the mean was calculated for the purposes of summarising these data.

Despite achieving a summary of the baseline psychometric profile of the participants (Table 7), no clear distinction between participants who responded to the intervention and those who did not can be drawn from these profiles. However, it is noteworthy that one of the ‘non-responders’ (Participant 1) scores highly across all psychometric measures, suggesting extremely high levels of symptomatology. Participant 4 on the other hand, also a ‘non-responder’ shows almost entirely low symptomatology. As described earlier, this participant could not be engaged in the treatment approach, refused to complete the repeated psychometric measures, and tended strongly towards denial of her symptoms. The only psychometric measure suggesting elevated symptomatology was that of the observer rated scale (SCL-90 Analogue).
DISCUSSION

It is abundantly clear from the secure environment, the legal status, the complicated clinical picture and the length of time spent as inpatients that the participants in the present study represent an extreme group of disturbed adolescents. Psychiatric treatment through the normal provision of child and adolescent mental health services, having proven ineffective, has resulted in referral to the current medium secure adolescent service. It is within this context of complex and challenging clinical cases that the present project was instigated. Given the treatment resistant history of the presenting patient group it is to be expected that an effective intervention will need to be intensive, innovative and comprehensive. The present project is concerned with a focused and discrete intervention. No attempt is made to describe the integration of the coping skills intervention with other aspects of the treatment programme. However, such integration does occur as a matter of course within the treatment programme but has been purposefully excluded from the account of this research project. Although it is recognised that attention to other elements of treatment and their integration is of great importance this was considered to be beyond the scope of the present project. Instead, a focused evaluation of one element has been pursued in an effort to establish the efficacy of the approach as one element of an effective treatment programme. It should be highlighted however, that the efficacy of a specific intervention such as this when evaluated in isolation may be hidden and that in the case of evaluating psychological treatments with complex cases it is necessary to evaluate the integrated treatment programme as a whole if one is to expect a positive finding.
Despite these issues, three of the participants in this study demonstrate a positive outcome in the behavioural domain (D.S.H. and aggression) and in terms of self assessed coping responses (C.R.I). This indicates the necessity to include special attention to the development of problem focused coping strategies as a vital component of a comprehensive treatment approach for this patient group. Indeed, this mirrors the prominent position of the skills training component within Dialectical Behaviour Therapy (D.B.T.) as described by Linehan (1993). This skills component of D.B.T. includes both cognitive and behavioural approach strategies and although delivered in a group therapy format, is designed specifically for patients with a diagnosis of borderline personality disorder who present with repeated deliberate self harm and suicidal behaviour. It is interesting that despite the absence of a specific diagnosis of borderline personality disorder for all bar one of the participants included in the present study, this, in three of the participants, may be primarily due to their young age (borderline personality disorder being a diagnosis applied to adults) and the reluctance of Responsible Medical Officers to use this as the primary diagnosis for teenagers. This is particularly so when the young person is detained under the Mental Health Act (1983) and is more appropriately detained under the category of mental illness (e.g. depression) than under the psychopathic label as would be necessary if borderline personality disorder was identified as the primary diagnosis. Indeed in addition to Participant 2, Participants 1 and 4 meet the criteria for such a diagnosis and may well go on to receive that diagnosis in the years to come.

**Methodological Issues**

The methodology employed in the present project was substantially dictated by the applied nature of the research. Clinical decisions concerning the needs of the patients
are clearly paramount and the rigours of tight methodology take secondary position. As such, it is not possible to extend the baseline period and withhold intervention until a stable baseline is achieved. Nor is it ethical or indeed clinically appropriate to withdraw an apparently effective intervention and return to baseline. It is also not possible to withhold other treatments that are occurring simultaneously. However, an attempt was made to measure the total therapeutic input to participants during the course of the project, and to monitor psychotropic medication as these two variables pose considerable threats to the design of the study.

Hypothesis 3 concerning the reduction in the frequency of D.S.H. being associated with improvement on related psychological constructs was addressed by the administration of psychometric measures. With the exception of the C.R.I., the psychometric measures employed failed to support this hypothesis. There are two points for discussion here. Firstly, the use of repeat psychometric measures in the form of self administered questionnaires and scales is fraught with difficulty. This is essentially due to the quiescence entailed in repeat administrations. Indeed, one participant refused to continue with the repeat measures and other participants became less co-operative to varying degrees. The second point concerns the choice of ‘related’ constructs to be measured. Despite the fact that the chosen constructs are relevant and the literature indicates their investigation, alternative constructs could have been investigated more fruitfully. Indeed one such construct, that of the quality and nature of the relationship between participants and care staff is discussed further below.
Therapeutic Mechanisms

In view of the apparent efficacy of the intervention for three of the participants it is important to examine the interventions themselves and establish, if possible, the critical elements that facilitate or bring about the treatment response. There are many aspects to the interventions described that might be essential to the efficacy of the intervention. For example, the collaborative nature of the work with a focus on the development of shared goals and agreed procedures may be a crucial component. Similarly, a problem focused approach giving rise to specific and concrete behavioural action plans may be crucial. Participants may require clear guidance as to what to do at times of crisis, distress and high risk. Behavioural coping strategies that have been clearly agreed between participant and the care team and that have been formulated into written procedures (in the Coping Skills Books) provide such clarity.

Alternatively, the critical ingredients may have more to do with the problem solving emphasis that underlies the intervention. The process of initial assessment undertaken with each participant yielded specific coping strategies to be employed. Many of these strategies required the input and support of named members of the nursing team, particularly in the earlier stages of the intervention. In the case of all participants a problem solving emphasis is inherent in the implementation of at least one of the coping skills. Thus, the critical ingredient might be the focus upon, and guided coaching of problem solving skills in which participants are guided in exploring options available to them, appraising those options, implementing the chosen strategies and subsequently appraising the benefit of the strategies. Indeed, the investigator reviewed the agreed strategies with the participants on a roughly four
weekly basis during the course of the intervention. At these reviews the participants were encouraged to consider variations to the agreed coping strategies in the light of their experience of using them. Slight modifications were subsequently made accordingly thus further enhancing the participants' involvement in a problem solving process.

Another component of staff input is that of the provision of support. As identified in the Introduction section, Cohen and Wills (1985) delineate the various components of social support that may promote well being in the recipient. The 'main effect model' is said to operate through the provision of positive affect, a sense of predictability and stability in one's life situation and by the recognition of self worth. The use of flashcards, incorporated as a specific coping strategy for all participants, validates the participants' distress and gives them permission to request staff support. The process of seeking staff support is therefore ratified both for the participant and for the care team. Once staff support has been secured the 'buffering effect model' becomes relevant. One component of this is the focus upon problem solving inherent in the coping skills as discussed above. However, another component concerns the therapeutic dialogue that might ensue between the participant and the member of staff. Cohen and Wills (1985) refer to this in terms of an intervention between the stressful event and the reaction of the person. They propose that well-being may be promoted by such an intervention by influencing the cognitive evaluation of the event.

Despite all of these processes providing a host of possible explanations to account for the treatment response, the fact remains that some participants responded better than others. The treatment response certainly appears to occur within the domain of
behavioural-approach responses as illustrated by the C.R.I. However, the specific coping strategies agreed with each participant require considerable staff input, particularly in the early stages of their use, but with staff involvement continuing to a lesser degree throughout the intervention phase. The point of relevance here is that the quality of the relationship between the participant and the named members of staff supporting the participant in developing the coping skills is potentially a crucial factor. The quality of the therapeutic relationship has long been recognised as a crucial factor in determining outcome of the therapeutic encounter. Frank (1973) for example, describes the common characteristics of the 'psychotherapies' placing primary importance upon the therapeutic relationship. The quality of this relationship will have as much to do with the characteristics and personality of the member of staff as of the participant. Attention is therefore shifted away from intrapersonal characteristics of the participant and from specific characteristics of the intervention itself, to environmental considerations and in particular the qualities of the care team working in the particular therapeutic environment. Indeed, given the extreme adversity of childhood experiences described in all of the participants it should be expected that issues of attachment, trust, dependency and the quality of the relationship with primary caregivers will be of paramount importance to any therapeutic work with the participants. The critical ingredient therefore, might best be formulated in terms of the 'corrective' or 'reparative' experience (Gil, 1991) that can be provided through a secure and empathic therapeutic relationship. However, one would expect such therapeutic change to be a slow process. The treatment effect observed with some of the participants in the present project may best be understood in terms of the endorsement of regular and predictable provision of staff support from a trusted person(s) who is able and willing to contain the distress of the participant.
and in addition can offer practical assistance in managing the immediate crisis in the form of considering with the participant what coping options are available.

Bowlby (1988) formulates the role of the primary care givers in terms of attachment theory. Although the emphasis of attachment theory is focussed upon early childhood, the requirement of an attachment figure is by no means confined to children. Bowlby (1979) emphasises that 'the requirement applies also to adolescents' (p.103) and identifies two sets of influences that shape the development of personality. The first concerns the presence or absence of a trustworthy figure willing and able to provide the secure base required at each stage of the life cycle. These figures constitute the external or environmental influences. The second set concerns the relative ability of the individual to recognise when another person is both trustworthy and willing to provide a base and, when recognised, to collaborate with that person in such a way that a mutually rewarding relationship is initiated and maintained. These individual factors constitute the internal influences. Throughout life the two sets of influences interact in a circular way. The kinds of experiences a person has especially during childhood, greatly affect both whether that person expects later to find a secure personal base or not, and also the degree of acquired competence in initiating and maintaining mutually rewarding relationships when the opportunities arise. In the reverse direction, the nature of the expectations a person has, and the degree of competence he or she brings, play a large part in determining both the kinds of person with whom he or she associates and how they are then treated by others.
It is not only the personal characteristics of the named staff members that might be critical to the efficacy of the intervention, but also the level of understanding and the expectations the staff member has. Indeed, unrealistic expectations, based on a poor understanding of the nature and degree of the participants’ emotional difficulties may result in inadequate provision of consistent, empathic support. The participants ‘failures’ to cope may be attributed to laziness, lack of motivation or to the participant being purposefully difficult. Such beliefs, if present amongst the care staff will result in a withdrawal of support and input. The quality of the staff-participant relationship was not evaluated in the present project but will require further attention in future research to investigate the relevance of this to the efficacy of the coping skills intervention.

**Reactivity Phenomenon**

One particular phenomenon, labelled as the ‘reactivity phenomenon’ was observed in the data across three participants (Participants 1, 2 and 3). This phenomenon is in itself of interest. The reasons why D.S.H. might increase in response to the introduction of the project are varied. The size of this reactivity phenomenon can be evaluated with reference to the pre-baseline data. Despite the limitations discussed above concerning the need for a short baseline, the pre-baseline data can be viewed as constituting part of the baseline. The pre-baseline data adhere to slightly different criteria but represent an underestimate of frequency of D.S.H. compared to the criteria used to measure frequency of D.S.H. during the project (i.e. from baseline data onwards).
It is not unusual for such reactivity to be observed in patients when psychological intervention is first initiated. However, this is usually observed in the direction of expected or desired change. This may be due to the positive and optimistic expectations brought to the therapy by patient and therapist. Attention to, and in particular self monitoring of, problem behaviours can be seen as an intervention in itself and consequently associated with a reduction in the problem behaviour (McFall, 1979). However, an increase in the targeted problem behaviour once it starts to be addressed in the psychological intervention is not a well documented phenomenon. This is particularly so with respect to self harming adolescents. There is no evidence that the observed phenomenon is an artefact of the recording method. On the contrary, the degree of confidence in the reliability of the recording method is unusually high due to the intensive and highly supervised nature of the clinical environment.

The phenomenon might best be construed in terms of the function of the behaviour. Indeed, Participants 1, 2 and 3 all demonstrate a common function of D.S.H. which is not shared by Participants 4, 5 and 6 namely, to communicate distress (see Appendix H). It can be hypothesised therefore, that the reactivity phenomenon observed in Participants 1, 2 and 3 is best understood as a communication to the psychologist that the participant is experiencing severe distress. Such behaviour may also serve to ensure continued therapeutic input concerning the distress. Indeed 'coerce others into (helping) behaviour' was identified as one of the principal functions for Participant 2.
Context of the work

Much has been made of the applied nature of the present project. Research conducted in the real life clinical setting requires consideration of the context. The motivation for conducting research can be multifaceted. Quite apart from the investigators' personal motivation (e.g. professional development) the present research was largely instigated in order to inform the development of efficacious therapeutic interventions with a hitherto difficult-to-treat patient group. The impact within the clinical environment of conducting such research can be considerable. Indeed, the historical context of the clinical environment in the present instance is of great significance. The Adolescent Service has a strong philosophy and history of behaviour modification. At the time of initiating the project a reward system using 'points' was being employed to both manage and treat patients. This approach, although a diluted version of the former token economy that previously governed the ward environment, constituted a management and treatment programme with which the staff team were familiar and felt confident in implementing.

An ideological shift regarding preferred therapeutic orientation had begun to take place at the time of initiating this project. This was partly due to a gradual shift in the composition of the patient group away from an heterogeneous group of mixed-sex adolescents with conduct disorders to a predominantly female group of traumatised abuse victims. The limitations of behaviour modification with regard to maintenance and generalisation of change together with the thrust towards individualised treatment approaches addressing identified patient needs served to strengthen the case for a revision of the treatment approach. At the time of instigating the present project the
recognition of the need to develop a more empathic and individualised treatment programme had been established among senior and relatively newly appointed clinicians. However, the notion of offering individual therapeutic time to patients and validating their experiences of distress and seeking to share the burden of distress was relatively alien to the majority of the direct care staff team.

The relevance of the current project, therefore, must be considered within this context. Enlisting direct care staff in the process of working individually with patients, developing a therapeutic alliance, and sharing the task of helping the patient acquire new coping skills to manage distress represents a substantial shift in the treatment approach. The cognitive-behavioural emphasis of the coping skills approach provides clear guidelines and structure for relatively inexperienced direct care staff in order that they might be actively involved in supporting the therapeutic intervention with the patient. A central coping skill employed by all of the participants in the study is that of using flashcards. The use of flashcards legitimises the act of a participant requesting staff support and help. Having presented the flashcard the member of staff is then prompted to consider the coping options available to the participant and to share the responsibility for this with the participant. Within this sequence of events the key elements of ‘seeking support’ and ‘problem solving’ are facilitated within the relationship between direct care staff and participant.

The impact of research activity can therefore be evaluated not only in terms of its specific objectives and stated hypotheses, but also with respect to the potential impact upon bringing about a change in therapeutic philosophy. In essence, the introduction of sound but new therapeutic methods can be strongly facilitated by the introduction
of research projects such as the present one. Despite the mixed pattern of results the most substantial benefit of the research project has been the development of a clear and strong treatment approach within the Adolescent Service that emphasises supportive and empathic staff-patient relationships with a focus upon individualised interventions in the area of developing new and adaptive coping skills. This has been reflected by a shift in the language used amongst members of the team when discussing patients. One rarely hears patients now being described as 'attention seeking' or 'manipulative' and treatment responses rarely involve ignoring the patient. Previously, ignoring the patients' undesirable behaviour was such a well established treatment method that the method had acquired a specific acronym (TOOTS; time out on the spot). Instead, the language now is of 'coping skills', 'function and meaning' of self harm and 'flashcards', 'communication', 'support' and 'problem solving'.

**Future Directions**

A number of avenues for further enquiry are opened up by this project. Indeed, each has been touched upon in the foregoing discussion. Of primary concern is the issue of integrating coping skills work into a coherent therapeutic strategy for adolescent abuse victims presenting with dangerous and dysfunctional behaviour. It is essential that care staff working with such difficult and complex problems have an adequate understanding of the development and causes of severely dysfunctional behaviour and can start to comprehend challenging behaviours such as self harm. The development of coping skills therapy with such patients requires integration with other therapeutic interventions in order that more adaptive behaviour might develop. Indeed, the
quality of the staff-patient relationship may not only determine whether coping skills work is effective, but may itself be the therapeutic vehicle of change. However, specific hypotheses can be distilled from such speculation. In particular, it is important to establish whether the efficacy of coping skills work is largely or partly determined by the quality of the staff-patient relationship. Alternatively, one might ask a more fundamental question concerning the quality of the patients' relationship with parental carers during earlier childhood and its relationship with the efficacy of coping skills work. Recent research (Shapiro & Levendosky, 1999) suggests that attachment style mediates the effects of abuse on coping and psychological distress. This opens up a number of intriguing questions regarding the relationship between child abuse, attachment style, coping responses and later psychological and interpersonal functioning. These questions require investigation in order for therapeutic interventions to be more effective.

The appropriate timing regarding the delivery of coping skills therapy is likely to be influenced by various factors, with preliminary therapeutic work concerning the development of a positive and viable therapeutic relationship taking precedence before coping skills work is instigated. The same issues pertain to other modes of therapy. For example, at what point is abuse focussed therapy or disclosure counselling indicated for the individual? The development of coping skills through individual intervention may require progression on to a coping skills therapy group to promote maintenance and generalisation. A host of unanswered questions remain concerning the timing, the mode and the focus of therapeutic work with such disturbed adolescents. Coping skills therapy will be an important component of therapy but will require careful integration.
A further potentially fruitful area of enquiry concerns that of the Coping Responses Inventory. It has been shown in the present study to be sensitive to change over time in relation to improved coping responses in extremely disturbed adolescents. This is itself a useful finding and adds further validity to the measure. There may be value in administering the C.R.I. more widely with disturbed adolescents presenting with varied presentations and diagnosis. It is not yet established which patient groups present with which coping profiles. Further research to elucidate this question may yield useful findings to assist in the planning and delivery of appropriate therapeutic interventions for particular patient groups. The C.R.I. would also appear to be a valuable outcome measure to complement behavioural measures and other psychometric methods.

Finally, further investigation of the reactivity phenomenon observed in three of the six participants is warranted. The fact that two of these participants also showed a positive treatment response may indicate that reactivity is a positive prognostic indicator. Alternatively, self harm serving the function of communicating distress may be the prognostic indicator. These hypotheses require further research and are likely to be addressed by the author in subsequent research projects.
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Appendix A

Compendium of Functions & Meaning of D.S.H.

1. **To punish/hurt self**
   Consistent with view of self as guilty and worthy of punishment. Belief that one should be punished. Core view of self as bad or evil. Self blame for past events. Responses from those around one may also be punitive or disapproving.

2. **To communicate distress**
   A way of letting others know how one feels inside. Very powerful message. Causes distress in others. Important that others understand the strength of the feelings so that one does not have to suffer in total isolation.

3. **To coerce others into behaviour**
   To get others to cope for one. To get empathic response, nurturing, care, sympathy, support, time, holding, reassurance. To coerce others in to helping or acknowledging one’s distress.

4. **To release internal tension/stress**
   Immediate relief of tension and negative affect. The most commonly reported function. Short lived relief but highly reinforcing. Relief from acute anxiety. Relief from boredom - lack of stimulation (e.g. studies on social isolation in monkeys).

5. **To avoid painful memories/experiences**
   To distract or dissociate. Dissociation can be experienced as a numbing of affect: perhaps involving depersonalisation. May distract from distressing memories or thoughts/images.

6. **To ground from dissociation**
   To prevent or bring oneself out of a dissociative state. To feel real again. To interrupt a dissociative flashback.

7. **To control an unpredictable world**
   Similar to the proposed function of Anorexia Nervosa. Individual may be powerless in all areas of life but D.S.H. brings control in to ones environment.

8. **Contagion, competitiveness**
   Research shows the peaks and troughs of D.S.H. in an inpatient community are not random. Clusters may occur due to ‘in-crown’ phenomena or need to re-assert one’s identity as a self harmer. Identification with peer group. Status within group. Sympathetic response to others’ D.S.H. To punish self for others self harm.
9. **Addictive**
e.g. endorphin release with cutting - natural opiate and abstinence may lead to craving. D.S.H. negatively reinforced. Addiction to sensory stimulation. Habitual pattern of behaviour. Increased arousal may be reinforcing.

10. **Avoidance of discharge**
Fear of discharge, progress and moving to alternative placement or in the community. Security and identification with current placement. Fear of change. Low self efficacy.

11. **Acting on commands**
Acting upon dissociative symptoms e.g. hallucination - voice of abuser telling one to hurt self.

12. **To avoid aversive situations**
To avoid specific forthcoming events (e.g. relatives due to visit) or to bring about a change in one’s environment e.g. from busy common room to quiet observation lounge or from abusive home environment to ‘safe’ hospital.

13. **To avoid emotional/sexual demands**
To make self physically unattractive in order that others do not pursue you.

14. **Re-experiencing/re-enactment**
In order to re-experience past abuse - to confirm the reality of the events, validation to self or others, or trauma processing.

15. **Sick Role**
Access to sick role and admission to General Hospital. To receive medical care, comfort and reassurance.

16. **P.R.N. Medication**
To gain P.R.N. medication in order to achieve sedation.
AGGRESSION CODES

(V) VERBAL the use of communication to threaten or imply threats to others.

(U) UNPROVOKED no identifiable preceding trigger AGAINST PROPERTY (PR)

(P) PHYSICAL involves physical means to threaten others, with the intent to cause physical harm or damage (e.g. punching, kicking, biting, scratching etc.)

(RI) RESPONSE TO INTERVENTION following a request or demand AGAINST STAFF (S)

(RII) RESPONSE TO DSH INT. following a request or demand regarding an incident of deliberate self harm i.e. with the intention of limiting it. AGAINST PATIENTS (PA)

AGAINST OTHERS (O)

AGAINST PROPERTY aggression directed at objects, through forceful contact i.e. by hitting/kicking, or by throwing objects at the wall/floor with the intention to cause damage to property. This is not to include objects being thrown at people.

(W) USE OF WEAPONS An additional category to be used when any of the above aggressive incidents occur when the aggressor is using a weapon e.g. throwing objects at others, or using implements to threaten or cause harm to others (e.g. glass, knife etc.).

When several incidents occur simultaneously they are counted as one incident unless there is a period of 10 minutes of settled behaviour between them. When more than one type of aggressive incident occurs simultaneously the most serious incident will be recorded (i.e. physical aggression will be recorded over verbal aggression).
Criteria for occurrence of deliberate self harm regarding research project. Investigator - Malcolm Wheatley

For the purposes of the present study D.S.H. is defined broadly as any acute and intentional actual or potentially self-injurious behaviour whether with or without suicidal intent, including both internal bodily damage (e.g. self-poisoning) and external damage (e.g. self mutilation). This wide definition includes such behaviours as tying ligatures, inserting objects, cutting, head banging and also included is overdosing on prescribed medication or noxious substances besides illicit psychoactive substances. Substance abuse is therefore excluded as are specific eating disorders and starvation.

Separating incidents

It is often difficult to separate out incidents of D.S.H. when they occur in succession. For the purposes of the present study a pair of incidents that occur close in time will be treated as separate incidents only if between the two incidents there is a period of ten minutes during which no physical restraint of the patient occurs.

Recording

An incident of D.S.H. will be recorded as such if:

a) the incident meets the definition above, and
b) the injury is confirmed either by a member of staff witnessing the act, the
damage after the event (e.g. assessing self inflicted wounds) or through
confirmation by other professionals or procedures (e.g. doctor removes foreign
object, blood laboratory tests confirm overdose). In the case of overdoses or
ingestion of noxious substances if there is the absence of reliable staff
witnesses or laboratory test results, the incident will not be counted unless the
investigator, research assistant and key nurse agree that the evidence is strong
enough to deduce an incident of D.S.H. with reasonable confidence.

With regard to superficial cutting/scratching and re-opening of old wounds the
general guideline to adopt is that of breaking the surface of the skin such that
the wound bleeds.
Table 8. Therapeutic and Educational input before and at mid-project phase across project participants and non-participants.

<table>
<thead>
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<th>Unit</th>
<th>Patients</th>
<th>Pre-project Total</th>
<th>Mid-project Total</th>
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<tr>
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<tr>
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<td>Low Key activities (group) Hours</td>
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</tr>
<tr>
<td>Education (group or indiv.) Hours</td>
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<td>2.5</td>
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<tr>
<td>Recreation and Physical Exercise Hours</td>
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<tr>
<td>Free Time structured Hours</td>
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</tr>
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</table>

Mean pre-project totals for participants: 16.4 Mean mid-project totals for participants: 13.4

Mean pre-project totals for non-participants: 13.0 Mean mid-project totals for non-participants: 12.7


INFORMATION SHEET

**Study Title:** An evaluation of the efficacy of promoting problem-focused coping skills in repetitive deliberately self harming adolescents.

**Investigator:** Mr. M.D. Wheatley (Consultant Clinical Psychologist)

This study involves evaluating the usefulness of coping skills work while you are at St. Andrew’s Hospital on the John Clare Unit or Nesbitt Lodge.

While young people are at St. Andrew’s Hospital we try to help them find new ways of coping with difficult feelings and memories. This study tries to find out how successful we are at finding new ways of coping. Whether or not you wish to be included in the study, we will still try, in exactly the same way, to develop new coping skills with you.

If however, you are happy to be in the study we will ask you to fill in some questionnaires and to record things more often than if you were not in the study. The study will last for 6 months and you will be asked to fill in some questionnaires and to do some recordings before, during and at the end of this 6 month period. You will also have an appointment with a psychologist at least once a week, on average, during the study. These appointments would be spent talking about your coping skills and helping you to develop them.

If you choose to be in the study, we will ask you to do the following recordings and questionnaires:

**Before the study**

a. **Dissociative Experiences Scale (DES).**
   This is a 28 item questionnaire that takes about 5 – 10 minutes to complete. It measures ‘dissociation’ which our experience tells us indicates the need to develop coping skills.

b. **Coping Responses Inventory (CRI).**
   This is a 48 item questionnaire that takes 10 – 15 minutes to complete. It gives a description of the different ways of coping a person might use.

c. **Nowicki-Strickland Locus of control Scale for Children.**
   This is another short questionnaire that takes about 10 minutes to complete. It measures the degree to which the person sees events as under their control.

**During the study**

During the 6 months of the study you will be asked to monitor and record your use of agreed coping skills on a daily basis in a recording book that will be given to you. In addition you will be asked to complete four short questionnaires on a weekly basis:

a. **Beck Depression Inventory (BDI)**
This is a 21 item questionnaire that takes about five minutes to complete. It measures the extent to which someone feels unhappy or depressed.

b. Beck Anxiety Inventory (BAI).
This is a 21 item questionnaire and takes about five minutes to complete. It measures the degree of anxiety someone feels.

c. Beck Hopelessness Scale (BHS).
This is a 17 item questionnaire that takes about five minutes to complete. It measures the degree of hopelessness someone feels.

d. Brief Symptom Inventory (BSI).
This is a 53 item questionnaire that takes about fifteen minutes to complete. It measures various symptoms and problem areas.

You will also be asked to keep you own diary of progress in order that you can record any real changes or progress you feel you are making over the course of the study.

Staff measures

The nursing staff will also be asked to record things on a regular basis during the 6 month study. They will record any incidents of concern regarding your behaviour. They will also record you use of coping skills as they observe it. In addition two or three nursing staff will be asked to complete a questionnaire on a weekly basis measuring the degree of symptoms and problems you appear to be showing (Symptom Checklist – 90 – analogue).

After the study

At the end of the six months you will be asked to complete the three questionnaires again that you completed before the study and again three months after the end of the study.

You will also be asked to complete each of the questionnaires completed weekly during the study (BDI, BAI, BHS and BSI) once more three months after completion of the study.

You are under no obligation to be in the study. You will incur no penalty or sanction should you choose not to participate. You can choose to leave the study at any time again without ill-effect or penalty.

The data collected during the course of the study is similar to that which is collected routinely from all patients. However, for those young people in the study data will be collected more often than for those not in the study. This data will be kept on computer file confidentially and used for normal clinical purposes i.e. to assess progress with members of the clinical team involved in your care.

If, at a later stage the investigator wishes to publish the study or present the results to other professionals not directly involved in your care, your permission will first be sought, and your identity protected.
CONSENT FORM - PARENT


INVESTIGATOR: Mr. Malcolm Wheatley
Consultant Clinical Psychologist

Signing this form does not commit your son or daughter to completing the study, and he/she will remain free to leave the study at any time and without having to give any reason for doing so.

I, agree for my son/daughter ........................................ to take part in this study.

The study has been explained to me in Malcolm Wheatley’s letter, and I understand what it is about.

Signed: .................................................................

Date: .................................................................
CONSENT FORM - GUARDIAN


INVESTIGATOR: Mr. Malcolm Wheatley
Consultant Clinical Psychologist

I, agree for ............................................. to take part in this study.

The study has been explained to me in Malcolm Wheatley’s letter, and I understand what it is about.

Signed: ..........................................................

Date: ..........................................................
CONSENT TO RESEARCH FORM
(Young Person)


INVESTIGATOR: Mr. Malcolm Wheatley
Consultant Clinical Psychologist

Signing this form does not commit you to completing the study, you remain free to leave the study at any time and without having to give any reason for doing so.

Have you read the information sheet? Yes/No

Have you had the opportunity to ask questions and discuss this study? Yes/No

Have you received satisfactory answers to all your questions? Yes/No

Have you received enough information about the study? Yes/No

Who has explained the study to you? Dr/Mr/Ms ............... 

Do you understand that you are free to leave the study.

- at any time Yes/No

- without having to give a reason for leaving Yes/No

Do you agree to take part in this study? Yes/No

Signature: ..............................................Date: ..................................

(NAME IN BLOCK LETTERS) .................................................................

Confidentiality and Data Protection
Data will be kept in a locked cabinet in the principal investigator’s office. Data kept on computer is coded so that it cannot be linked to subjects names. The project complies with the requirements of the Data Protection Act.
Appendix H

Principal Functions of D.S.H. and Coping Skills Employed

A summary of the principal functions of D.S.H. for each participant is presented below. These functions were established through the assessment process with reference to the Compendium of functions of Self Harm (appendix A). The participant and project investigator rated each of the principal functions as either strongly, moderately or mildly relevant. Based upon these principal functions a number of coping skills were agreed with the participant. The details regarding implementation of the skills were then clearly set out in the participants Coping Skills Book (see appendix I for standard format of Coping Skills Books) and discussed with relevant care staff to ensure proper communication and co-operation.

Participant One

Principal Functions

<table>
<thead>
<tr>
<th>Principal Function</th>
<th>Participant</th>
<th>Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To punish/hurt self</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>2. To release tension</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>3. To avoid painful memories</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>4. To communicate distress</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>5. Acting on command hallucinations</td>
<td>moderate</td>
<td>strong</td>
</tr>
</tbody>
</table>

Coping Skills

1. Positive Focus Care : Statements of self worth
                           Goals and motivational statements
                           Safety statements

2. Flash Card : Reassurance, support, planning next few hours
                     Consider reading short stories (named nurse)
                     Consider need for grounding
Appendix H
Principal Functions of D.S.H. and Coping Skills Employed

3. **Grounding Techniques**: Grounding object (cuddly toy)
   Named nurse holds hand and squeezes
   Use of herb bag

**Participant Two**

**Principal Functions**

<table>
<thead>
<tr>
<th></th>
<th>Participant</th>
<th>Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To communicate distress</td>
<td>strong</td>
</tr>
<tr>
<td>2.</td>
<td>To release tension/stress</td>
<td>strong</td>
</tr>
<tr>
<td>3.</td>
<td>To avoid discharge</td>
<td>strong</td>
</tr>
<tr>
<td>4.</td>
<td>To re-experience</td>
<td>strong</td>
</tr>
<tr>
<td>5.</td>
<td>To avoid painful memories</td>
<td>strong</td>
</tr>
<tr>
<td>6.</td>
<td>To coerce others into helping</td>
<td>mild</td>
</tr>
</tbody>
</table>

**Coping Skills**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Action Card : Validation, responsibility and self-worth statements, reassurance of safety, consequences of inserting.</td>
</tr>
<tr>
<td>2.</td>
<td>Diary : To record difficult feelings and thoughts. Risk ratings to cue use of action/flashcards reviewed weekly by named nurse.</td>
</tr>
<tr>
<td>3.</td>
<td>Flash Card : Staff time Consider increase in nursing observation Consider P.R.N. medication Review Action Card Consider activity planning</td>
</tr>
</tbody>
</table>
Appendix H

Principal Functions of D.S.H. and Coping Skills Employed

Consider use of agreed distraction activities

Agreed objectives of achieving Level 4 only.

**Participant Three**

**Principal Functions**

1. To release tension  
   Participant: strong  
   Investigator: strong
2. Avoid painful memories  
   Participant: strong  
   Investigator: strong
3. Communicate distress  
   Participant: strong  
   Investigator: strong
4. Response to command hallucinations  
   Participant: strong  
   Investigator: strong

**Coping Skills**

1. Flash Card: Physical release of tension (kicking cushions in seclusion room) followed by Action Card
2. Action Card: Staff support and distraction  
   Reassurance and encouragement  
   Playing a board game  
   Plan alternative activities
3. Diary: To record peer conflicts and difficulties  
   Reviewed each week by named nurse  
   Twice daily risk ratings to trigger use of Action or Flashcard
4. Grounding and Distraction: Reading poems  
   Listening to walkman
5. Positive Statement Card: For own use
**Participant Four**

### Principal Functions

<table>
<thead>
<tr>
<th>Principal Function</th>
<th>Participant</th>
<th>Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To punish/hurt self</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>2. To avoid painful memories</td>
<td>strong</td>
<td>strong</td>
</tr>
<tr>
<td>3. To ground from dissociation</td>
<td>strong</td>
<td>moderate</td>
</tr>
<tr>
<td>4. Addictive</td>
<td>moderate</td>
<td>moderate</td>
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</tbody>
</table>

### Coping Skills

1. **Positive Focus Card**
   - Positive statements
   - Short term and long term goals
   - Hopes and aspirations
   - Value and worth of self
   - Use of elastic band as last resort to cause pain

2. **Flashcard**
   - Staff support
   - Distraction (talking, music, T.V.)
   - Grounding (grounding object, statements and focusing on conversation)
   - Use of ice cube in hand to focus attention (last resort)

3. **Writing in diary**
   - Reviewed twice weekly by named nurse; focus upon dealing with urges; expression of feelings aided by use of rating scales.
Appendix H
Principal Functions of D.S.H. and Coping Skills Employed

Participant Five

Principal Functions

1. To punish/hurt self  
   Participant: strong  
   Investigator: strong
2. Acting on Commands  
   Participant: strong  
   Investigator: strong
3. Release tension  
   Participant: moderate  
   Investigator: strong
4. Avoidance of discharge  
   Participant: moderate  
   Investigator: moderate

Coping Skills

1. Safety Card  
   Participant: Statements re current safe environment  
   Investigator:  
      - Slow manageable steps  
      - Important people to me  
      - Future goals
2. Grounding  
   Participant: Grounding object  
   Investigator:  
      - Grounding statements  
      - Distraction activities, drawing and massage
3. Flashcard  
   Participant: Staff support and consider options:  
   Investigator:  
      - kicking cushions in seclusion room,  
      - planning activity for next two hours,  
      - consider necessary level of nursing observation

Participant Six

Principal Functions

1. Ground from dissociation  
   Participant: strong  
   Investigator: strong
2. Acting on commands  
   Participant: strong  
   Investigator: moderate
3. To punish/hurt self  
   Participant: moderate  
   Investigator: strong
### Appendix H
Principal Functions of D.S.H. and Coping Skills Employed

<table>
<thead>
<tr>
<th></th>
<th>Release tension</th>
<th>moderate</th>
<th>moderate</th>
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</thead>
</table>

**Coping Skills**

1. **Grounding** : Stress ball to ground and communicate  
Grounding statements and visual imagery

2. **Flash Card** : Staff support  
Review of positive cue card  
Activity planning (distraction)
OUTLINE FORMAT OF COPING SKILLS BOOK

Objectives

Examples
1. To develop awareness/full understanding of why I self harm.
2. To develop more functional/adaptive coping methods.
3. To promote safe atmosphere/conditions for therapeutic progress

Function of D.S.H.
Identify primary functions of D.S.H. as agreed with participant over the course of the assessment period.

Coping Skills
1. Specify detailed problem focussed coping skills based upon identified functions of D.S.H.
2. Coping skills to be functionally equivalent to the D.S.H. they are replacing.
3. Coping skills to be specified in clear behavioural terms i.e. what should the participant do and what should staff do (when, how, where).
4. Key members of staff supporting the coping skills should be clearly specified.

Some common coping skills are identified below:
1. - relaxation, soothing activity
   - distraction - music, T.V., board games, painting, herb bag
   - grounding - object
     - image
     - statement
     - position
     - flashcards
     - external control
     - communication
     - talking/distracting
   - sharing/talking
   - P.R.N. safety area
Appendix I

Outline Format of Coping Skills Book

- change of scene
- P.R.N. time away (risk ratings)
- writing
- drawing
- physical release - kicking mattress, punch bag, exercise
- less severe self punishment - elastic band
  - ice, cold bath*
- representative self harm - red pen
- unpleasant task*
- planned avoidance of triggers (see formulation)
- staff approach patient on regular basis (observation)
- P.R.N. medication
- lifestyle balance - sport, time off ward, enjoyable things

2. Clear demarcation for employment of crisis plan or coping skills e.g. elastic band - STOP.

3. Use coping skills log to record use of coping skills and to identify problems in using skills.

4. Stick to it, believe in it, be tenacious - transfer optimism to patient.

5. Need to 'over learn' coping skills re practice, practice, practice.

6. Review formulation if coping skills are proving ineffective.

* Develop positive action later.

Risk Rating Scale

1. Visual analogical scale with numbers and verbal description of each point on scale. (use clients own words)
2. Use of the scale will encourage the communication of the person’s internal world.

3. The validity of the self rating scale can be established over time. It may be useful to have a ‘dual’ scale with a staff member concurrently making a rating.

4. Satisfactory validity will allow the self-rating to be used prior to the young person going off the ward and may be used to inform such a decision.

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**Recordings and Self Monitoring**

1. Monitor daily use of coping skills to focus and facilitate the use of such strategies - identify problems with specific strategies and trouble shoot.

2. Record occurrence of traumatic internal material e.g. nightmares or flashbacks - identify common times, high risk times. May be necessary to offer extra support, or build additional coping methods for these periods.

3. Helping young person to self monitor and self rate will encourage sense of control and mastery over the distress.
Appendix I
Outline Format of Coping Skills Book

Crisis Plan

1. Identify cut-off for initiation of crisis plan (risk rating)
2. Ensure adequate attempts to employ agreed coping strategies.
3. Final stage of Emergency Behavioural Management (E.B.M.) to be negotiated in advance with input of Safe Patient Restraint (S.P.R.).
4. Verbal or written ‘contract’.
5. P.R.N. medication, agree if/when this to be used.

Relapse Prevention

1. Establish clear description of High Risk Situations (HRS).
2. Address avoidance and planned avoidance.
3. Address ‘seemingly irrelevant decisions’.
4. Establish early warning signs.
5. Hand over responsibility and control of coping strategies to the patient.
7. Address longer term life goals.
8. Address life style balance positive addictions activities for enjoyment
9. Continue to reinforce, praise and acknowledge patient’s achievements.
<table>
<thead>
<tr>
<th>Medication</th>
<th>Max daily dose</th>
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<tbody>
<tr>
<td>Chloral Hydrate</td>
<td>1000</td>
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<tr>
<td>Lorazepam</td>
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<tr>
<td>Flurazepam</td>
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<tr>
<td>Diazepam</td>
<td>20</td>
</tr>
<tr>
<td>REBOXETINE</td>
<td>8</td>
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<tr>
<td>Carbamazepine</td>
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<td>Paroxetine</td>
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**Date:** 19/Oct/98

**Medication History**

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<td></td>
</tr>
<tr>
<td>Medication</td>
<td>Max Daily Dose</td>
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<td>---------------------</td>
<td>----------------</td>
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<td>Zuclopenthixol</td>
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<td>Trifluoperazine</td>
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<td>Chlorpromazine</td>
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<td>Droperidol</td>
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<tr>
<td>Olanzapine</td>
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</table>

Date: 19/Oct/98

Appendix J
Participant 1 continued
Ward changes

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<tr>
<th>Drug</th>
<th>Max daily dose</th>
<th>Eqv weekly dose</th>
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<tr>
<td>Diazepam</td>
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<td>Zuclopenthixol</td>
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<tr>
<td>Procyclidine</td>
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<tr>
<td>Trazodone</td>
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<td>Carbamazepine</td>
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</table>

Date: 09/Dec/98
NOV/97 - SEPT/98

Name: 
Consultant:
Ward changes
Zuclopenthixol Depot
Max daily dose = 85.71
Eqv weekly dose = 600.

Paroxetine
Max daily dose = 20.

Diazepam
Max daily dose = 40.

Olanzapine
Max daily dose = 20.

Droperidol
Max daily dose = 80.

Trazodone
Max daily dose = 300.

Chlorpromazine
Max daily dose = 400.

Haloperidol
Max daily dose = 60.

Date: 09/Mar/98
Aug 97 - Feb 98
Name: 
Consultant:
<table>
<thead>
<tr>
<th>Ward changes</th>
<th>Max daily dose</th>
<th>Eqv weekly dose</th>
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<tbody>
<tr>
<td>Clozapine</td>
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<tr>
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<tr>
<td>Venlafaxine</td>
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Date: 03/Dec/98
1998

Name: 
Consultant:
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<tbody>
<tr>
<td>Thioridazine</td>
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<tr>
<td>Diazepam</td>
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</tr>
<tr>
<td>Moclobemide</td>
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<tr>
<td>Amitriptyline</td>
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<tr>
<td>Droperidol</td>
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<tr>
<td>Trazodone</td>
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<tr>
<td>Lithium Carbonate SR</td>
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</tbody>
</table>

**Date:** 10/Dec/98

**DEC97 - NOV98**
Ward changes

Clonidine
Max daily dose = 0.05

Chlorpromazine
Max daily dose = 1000.

Date: 10/Dec/98
CONTINUED

Name: 
Consultant:
<table>
<thead>
<tr>
<th>Ward changes</th>
<th>Max daily dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venlafaxine</td>
<td>150</td>
</tr>
<tr>
<td>Trazodone</td>
<td>300</td>
</tr>
<tr>
<td>Lorazepam</td>
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<tr>
<td>Lithium Citrate</td>
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<tr>
<td>Fluoxetine</td>
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</tr>
<tr>
<td>Diazepam</td>
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<tr>
<td>Carbamazepine</td>
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</tr>
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<td>Amitriptyline</td>
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</tbody>
</table>

Date: 14/Jan/99
1998 (1)

Name: 
Consultant:
Ward changes

Clonidine
Max daily dose = 350.

Procyclidine
Max daily dose = 80.

Fluphenazine
Max daily dose = 21.1.

Fluphenazine Depot
Max weekly dose = 50.

Olanzapine
Max daily dose = 20.

Fluphenazine
Max daily dose = 200.

Fluphenazine
Max daily dose = 20.

Thioridazine
Max daily dose = 80.

Fluphenazine
Max daily dose = 7.14.

Eqv weekly dose = 50.

Fluphenazine
Max daily dose = 80.

Clozapine
Max daily dose = 350.

Date: 14/Jan/99

Appendix J  Participant 5 Continued
Ward changes

Procyclidine
Max daily dose = 10.

Zuclopenthixol Depot
Max daily dose = 57.14
Eqv weekly dose = 400.

Zuclopenthixol
Max daily dose = 80.

Olanzapine
Max daily dose = 20.

Risperidone
Max daily dose = 6.

Thioridazine
Max daily dose = 300.

Chlorpromazine
Max daily dose = 400.

Date: 13/Jan/99
CONTINUED

Name: [Name]
Consultant: [Consultant]
Ward changes

Lorazepam
Max daily dose = 1.5

Diazepam
Max daily dose = 30.

Fluoxetine
Max daily dose = 40.

Amitriptyline
Max daily dose = 75.

Date: 13/Jan/99
FEB 98 - DEC 99

Name:  
Consultant: