An Exploration of a Developmental Model of Self-Harming Behaviours in Adolescence

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Declaration

I certify that this is a true and accurate account of the work carried out. The thesis has been composed by myself and the work herein is my own.

Claire Jane Wallace
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Abstract

The aim of the present study was to find out if Adam's (1994) developmental model of suicidal behaviours was applicable to self-harming behaviours in adolescence. It was hypothesised that, after controlling for level of depression, insecure attachment would predict frequency of self-harm and that this effect would be mediated by dissatisfaction with perceived social support. The subjects (n = 20) were drawn from new referrals to a mental health service for adolescents in Edinburgh. A number of questionnaires were administered to the young people within the format of a structured interview. The Relationship Questionnaire and the Relationship Scales Questionnaire were used to measure attachment, the Significant Others Scale measured satisfaction with perceived social support and the Beck Depression Inventory was used to measure level of depression. Several multiple regression analyses were used to build up an observed variable path model. It was found that there was no significant relationship between attachment and self-harm. However, both dissatisfaction with social support and level of depression were found to significantly predict self-harm. Fearful attachment style was found to significantly predict both satisfaction with social support and level of depression. The underlying dimensions of attachment styles were also considered. Model of self was found to significantly predict level of depression and model of other was found to predict satisfaction with social support. The results of the present study do no suggest that Adam's (1994) model of suicidal behaviours is applicable to self-harming behaviours in adolescence. It is suggested that a developmental model may be more applicable to those individuals who continue self-harming in to adulthood. The limitations of
the study are discussed and therefore how research in this area might usefully progress.
Introduction

The present study sets out to explore a developmental model of self-harming behaviour in adolescents. Adam (1994) proposed a developmental model of suicidal behaviours (see Figure 1). It is unclear whether he intends this model to be applied only to those individuals where a clear suicidal intent was present at the time of the behaviour, or whether this model may also encompass self-harming behaviours where a different intent was in mind. The present study therefore sets out to explore its applicability to self-harming behaviours.

The model proposes that early attachment relationships with main caregivers forms the basis of a vulnerability to use self-harming behaviour as a coping strategy at times of acute attachment crises later in development. It is proposed that events in early life, within the context of these relationships, become internalised and structured as model of self and model of other. These internal structures can influence the individual’s experience of subsequent events. They therefore affect sense of self-worth, ability to regulate emotions and capacity to form and maintain relationships. In this model, attachment insecurity leads to a disposition to react to loss or threatened loss within relationships with high levels of anxiety, anger, hopelessness and ego decompensation.

Because this vulnerability is said to emerge early in development, individuals tend to have a longstanding history of relationship difficulties. Suicidal and self-harming behaviour is very frequently precipitated by a perceived loss or rejection, or threat of
this within a relationship. Adam (1994) proposes that this is best conceptualised as an acute attachment crisis and that suicidal behaviour can be seen as an extreme attachment behaviour that has behavioural, emotional and functional similarities to the childhood separation response (Bowlby, 1969).

The introduction will proceed with a discussion of the definitions of self-harm used in the literature. It will then report on studies of prevalence rates of self-harming behaviours in various populations as well as risk factors associated with these behaviours. The functions served by self-harm will be considered next. This will be followed by a discussion of attachment theory and how this relates to the current literature on self-harm. Finally, social support will be considered as a potential mediating factor between a vulnerable attachment style and self-harming behaviour.
Figure 1  Figure showing Adam's (1994) developmental model of suicidal behaviour

**PREDISPOSING FACTORS**
- Adequate parenting
- Secure attachment
- High self-esteem, stable relationships, optimism

**CONTRIBUTING FACTORS**
- Early attachment
- Internal structuring of experience
- Insecure attachment
- Low self-esteem, relationship difficulties, pessimism

**PROTECTIVE FACTORS**
- Resilience
- Secure attachment
- High self-esteem, stable relationships, optimism

**PRECIPITATING FACTORS**
- Current loss, rejection, disappointment
- Attachment crisis
- Anxiety, anger, hopelessness

**CONTRIBUTING FACTORS**
- Contained anxiety, coping
- Resolution, growth

**CONTRIBUTING FACTORS**
- Decompression
- Suicidal behaviour
Definition of Self-Harm

It is important to begin with an elaboration of what is being referred to by the term 'self-harm'. The term 'deliberate self-harm' was first introduced by Morgan et al. (1975), and they used it to refer to:

*a non-fatal act, whether physical injury, drug overdosage or poisoning, carried out in the knowledge that it was potentially harmful and, in the case of drug overdosage, that the amount taken was excessive (p. 564).*

This definition therefore encompasses both the deliberate self-harm syndrome and attempted suicide. The deliberate self-harm syndrome describes multiple recurrent episodes of self-harm where the lethality is low. This would usually begin in adolescence and persist for many years (Pattison and Kahan, 1983). The term 'attempted suicide' has been used to describe acts of non-fatal self-harm, both where suicidal intent was present and where it was absent (Hawton and van Heeringen, 2000). Within the self-harm syndrome, it has been described that reasons for self-harm can be quite different to those who have attempted suicide whose intention is to die. The reasons for self-harm in this syndrome may be more compatible with the wish to preserve, rather than end, life (Feldman, 1988; Menninger, 1938). For example, individuals often report wishing to relieve tension (Allen, 2001).

The present discussion of the literature will consider self-harm as referring to both, multiple and recurring acts of self-injury and less frequent or singular acts, whether suicidal intent was present or absent. It will be made clear where studies have
examined a different definition of self-harm. The justification for considering all types of self-harm in a single group is that there is evidence that there can be considered to be a continuum of self-harming behaviour (Hawton and van Heeringen, 2000). For example, those who self-harm are at an increased risk of committing suicide. Further, rates of self-harm have been found to vary in correlation with rates of completed suicide (Hawton et al., 1997; Sellar et al., 1990).

**Prevalence of Self-Harm**

The prevalence of self-harm varies depending on the population surveyed. Studies have been carried out in schools, psychiatric treatment clinics and in populations presenting to general hospitals due to self-harm. These different study types offer perspectives on self-harm that can be integrated to give a fuller understanding of this behaviour and associated risk factors.

A self-report survey was recently carried out in English schools in order to investigate the community prevalence rates of self-harm in adolescents, as well as associated risk factors (Hawton et al., 2002). This study applied “strict” (unpublished) criteria for what constituted an act of self-harm. It was found that 8.6% of the sample of 6020 15 and 16 year olds had harmed themselves in the previous year. When this rate was examined by gender, it was found that deliberate self-harm was more common in females (11.2%) than in males (3.2%). This prevalence is similar to that reported in an Australian school survey of 1699 15 and 16 year olds where a 12 month weighted prevalence of 5.1% was estimated (Patton et al., 1997).
Much of the literature on prevalence rates has studied populations of people presenting to general hospitals for treatment after having self-harmed. However, Hawton et al. (2002) found that only 12.6% of those who had self-harmed had presented themselves to hospital. Studies on hospital populations are therefore likely to underestimate prevalence and to have limitations in the extent to which findings can be generalised. For example, 22.9% of self-poisoners presented to hospital compared to 6.3% of self-cutters. This difference is reflected in a longitudinal study of adolescents presenting to an Oxford hospital due to self-harm (Hawton et al., 2000). Of all the cases presenting over an 11 year period, 88.7% were self-poisoners, 7.5% were self-injurers and 3.8% both self-poisoned and self-injured. However, in community samples, self-cutting has been found to be more prevalent amongst self-harmers than poisoning. Hawton et al. (2002) reported that 64.6% of self-harmers used self-cutting compared to 30.7% who used self-poisoning. This difference was not so striking in Patton et al.’s (1997) sample (34% vs 27%).

A further difference between community and general hospital samples is in rates of repetition. Of those in the community sample who self-harmed, 54.8% reported multiple acts. In the hospital sample 14% of individuals were reported to present with a repeat episode within 1 year. However, this rate of repetition increased to 29.6% when only those who were psychiatrically assessed were examined and all previous episodes of self-harm (either hospital referred or otherwise) were considered. This finding further emphasises the higher rates of self-harm in the community that is not usually presented to health services. The methods of self-harm are not described for this sub-sample, but this increase in repetition may be in part
due to higher rates of self-harm other than poisoning. The increase also points towards the connection between self-harm and psychiatric problems.

There are few studies that report the prevalence of self-harm among adolescents referred to psychiatric services. A study in Canada found a 54% prevalence of self-harm amongst 187 12-19 year olds referred to inpatient and outpatient programs, longer-term residential settings and day programs (West et al., 1999). 21% of those referred to the study had self-harmed more than once. However, this study does not report whether all individuals referred to these centres were asked to take part or provide any information about those who did not take part. Further, the operationalised definition of self-harm is unclear and may have required that an attempt to end life be present.

Studies on the prevalence of self-harm in adolescents therefore indicate that it is more common in this population than might be indicated from hospital presentation and that it is often a pattern of repeated, rather than singular, episodes. Self-cutting is reported as the most common type of self-harm, however self-poisoning is more common amongst those individuals presenting to hospital for medical care. Also, self-harm is generally more common in females than in males and in psychiatric samples than in community samples.

Hawton et al. (2000) reported changes in the patterns of presentation of self-harm to a hospital in Oxford from 1985 – 1995. They have found that there has been a general increase in the number of under 20s presenting having self-harmed in this
time period, especially in older adolescent males. There has also been an increase in the percentage of individuals repeating acts of self-harm within one year. These trends are in line with the reported increase in completed suicide amongst males in this age group in England and Wales (Charlton, 1995). This increase not only parallels the increased prevalence of self-harm, but is also likely to reflect the known increased risk of successful suicide amongst those who repeat acts of self-harm.

It is therefore evident that not only is self-harm a significant problem in this age group, it is also a growing problem and parallels the increase in completed suicide, the single largest cause of death amongst adolescents (Kosky et al., 1990).

**Risk Factors Associated With Self-Harm**

Risk factors for deliberate self-harm have been investigated amongst different populations of self-harmers and in different types of self-harm. Those who self-poison and self-cut have largely been investigated separately, and where they have been considered together, little attempt has been made to compare risk factors associated with different methods of self-harm. Populations studied include community samples, psychiatric inpatients and outpatients, those presenting to accident and emergency departments and college students.

**Psychological Factors**

Within Adam’s (1994) model of self-harm psychological problems such as depression or anxiety may exert an effect in two different ways. They may have an indirect contribution in that they increase the likelihood of exposure to adverse
circumstances or triggering events. Alternatively they can act as direct contributing factors in that they further reduce an individual’s ability to cope and regulate affect and impulses and may interfere with judgement or ability to problem solve.

Psychiatric Diagnoses

A recent community sample of 398 15 and 16 year olds who reported that they self-harmed investigated the psychological factors associated with this behaviour in males and females (Hawton et al., 2002). Increased scores were found for depression, anxiety and impulsivity as well as reduced scores for self-esteem in comparison to those young people who did not report self-harm. This study therefore suggests similarity in the risk factors associated with self-harm in the community for males and females. However, the study did not report the types of self-harm used by males versus females. It was reported that approaching two thirds of the sample used self-cutting and approaching one third used self-poisoning. It would have been useful to compare psychological risk factors in the sample between these different methods as well as within each gender. However, those risk factors investigated in this study were fairly general and it may well have been that there were no differences between young people using these different methods.

Patton et al. (1997) similarly investigated psychological factors associated with self-harm in a community sample of 15 and 16 year olds. Their analysis was based on 86 young people who reported having harmed themselves. They assessed psychiatric morbidity through a community self-report measure of anxiety and depression, and found a 12 fold increase in rates of self-harm in males assessed as being anxious or
depressed and a 15 fold increase in females. This significant association was found in relation to all types of self-harm (laceration, poisoning, recklessness and battery), although the association was especially high in those using either laceration or poisoning. This suggests a similarity in psychiatric morbidity across methods of self-harm. It may have been interesting to then have investigated whether the severity of the self-harm was related to the level of psychiatric problems reported.

Hawton et al. (1999) investigated the psychological factors associated with repetition of self-harming in a group of young people who had self-poisoned. This study again investigated those attending accident and emergency and was a largely female sample. Those young people classified as repeaters were reported to have higher scores for self-reported depression, hopelessness and trait anger, and lower scores for self-rated problem solving and self-concept. However, the comparisons were then repeated controlling for level of depression using an ANCOVA, and no significant differences remained. This emphasises the wide range of effects that depression can have in increasing risk of self-harm.

The authors defined repetition in this analysis as being either an episode of self-harm in the year before (self-reported) or the year after (presentation to a local hospital with any type of self-harm) the index episode. It is possible that the level of repetition in the sample was underestimated due to the requirement that they have presented to a local hospital. Community prevalence figures indicate that this rarely happens.
Although impulsivity was also measured, no significant differences were found between the two groups. The authors suggest that the effect of impulsivity may be in determining whether or not self-harm ever occurs, and not whether it is repeated.

The above studies all have the design problem of variables being measured in different time periods. For example relating current depression to self-harm over the past year. The temporal relationship between variables is therefore unclear. It may therefore be that psychiatric morbidity in young people who self-harm is underestimated. Adam's (1994) model suggests that such problems may act on both predisposing and precipitating factors, indicating that having experienced a psychiatric problem at any point may be a risk factor for self-harm. However, these studies do not lend themselves to clarifying the relationships proposed.

**Hopelessness**

McLaughlin et al. (1996) looked at hopelessness in a group of 12-17 year olds (largely female) who presented to accident and emergency having self-poisoned. This study investigated whether level of hopelessness influenced risk of self-harm after level of depression was controlled for. They used two non-self-harming control groups, one of psychiatric outpatients who had never self-harmed and one of a random, but matched for age and sex, group from two secondary schools. Young people were categorised from their questionnaire scores as having high or low hopelessness. It was found that 51% of those who had self-harmed were categorised as being high in hopelessness, compared to 29% of the out patient control group and 10% of the school control group.
In order to control for level of depression, subjects were then further categorised into high or low depression groups depending on their questionnaire scores. Only those subjects in the high depression groups were then considered. Self-harmers were compared with a combined control group of the non self-harming out patient and school subjects. Using a chi-square analysis, it was found that there remained a significantly higher proportion of high hopelessness subjects in the self-harm group than in the control group. This would therefore suggest that while depression is a risk factor for overdosing, it is the psychological state of hopelessness in depression that is most significant.

However, this analysis excluded a large number of young people with lower depression scores. Had the authors included all of the subjects in the analysis and performed a multiple regression or an ANCOVA in which depression was controlled for, the nature of the relationship between hopelessness and self-harm may have been more evident.

Research in to adults with a history of self-harm has found hopelessness to be a mediating factor between depression and suicidal intent (Rudd et al., 1994). The above study did not take in to account the intent behind the self-harming behaviour.

Grønholt et al. (2000) examined psychological factors in self-poisoners, after dividing them in to two groups on the basis of whether or not their self-reported intent had been to end their life. It was reported that those who had wanted to die were more
clinically depressed and more hopeless. Those with any other intent were characterised as being “disruptive”. All risk factors that significantly differentiated between the two groups were included in a multiple logistic regression, and the only factor that had a significant effect on intent to die was hopelessness. This indicates that within a single method group, there are varied reasons or functions of the self-harm and that hopelessness is a factor influencing this.

This emphasises that psychological differences exist between individuals, perhaps not in terms of method of self-harm, but in intent and function of the behaviour. Adam (1994) refers to the similarity in behavioural and emotional responses between suicidal individuals and infants separated from their main caregivers for extended periods. The hopelessness response described can be likened to the despair phase in the infantile separation response (Bowlby, 1969). It may be that those who do not intend to end their life do not experience this despair or hopelessness to the same extent as those who do. In discussion of their study’s findings, Groholt et al. (2000) described adolescents who self-harm without suicidal intent as “…overwhelmed by acute problems…They may be rather impulsive, and their emotions and motives are rather unstable, but they see their future with some optimism…” (p. 250). In contrast they describe those with an intent to end their lives as “…depressed, lonely, with less hope for the future, and they less explicitly want help…” (p. 250). The findings reported may reflect state and trait features of hopelessness in relation to the function of self-harm. This emphasises the importance of considering the intent of the behaviour in studies of self-harm in order to determine how findings may be generalised.
Summary

Considering this literature on psychological risk factors for self-harm together, the following impression emerges. Young people who self-harm tend to be experiencing significant levels of distress (as measured by self-report anxiety and depression scales) and reduced self-esteem as compared to their peers. This is combined with a tendency to be more impulsive and to have poorer problem solving skills. Young people who intend to end their lives are rated as more hopeless in comparison to those who self-harm for other reasons. Those reporting other intentions behind their self-harm are characterised as having unstable motives and emotions. Self-harm is frequently repeated, and those young people are reported to be more depressed than those harming themselves on a single occasion.

However, caution should be maintained in generalising these findings regarding hopelessness and regarding psychological risk factors for repetition. These studies have all examined only those attending accident and emergency following self-poisoning. This therefore represents only a small and select sample of those young people who self-harm. Community samples suggest that approximately 1/3 of those who self-harm use poisoning methods, and that a minority of them ever attend hospital. Research into reasons for self-harm, particularly self-cutting, point to the tension reduction function of this activity and also therefore to its role in maintaining life. This would suggest that for many who self-harm, whilst they may be experiencing significant levels of distress, hopelessness may not be a significant enduring psychological factor associated with this behaviour. However, it may be
somewhat more prevalent in those intending to end their lives. Indeed, Patton (1997) reported that only 6% of those who self-harmed in a community sample saw death as a probable outcome of their actions compared to 62% of self-poisoners presenting to hospital who reported an intent to die. Unfortunately, community studies have not thoroughly examined reasons for self-harm or hopelessness as a risk factor.

Social and Environmental Risk Factors

Adam’s (1994) developmental model of suicidal behaviour gives a strong emphasis to the direct and indirect role of social factors in creating vulnerability and resilience at all points. Social and environmental factors impact on the early attachment relationship in terms of the availability of consistent caregiving as well as on the more direct experience of the attachment relationship. It is proposed that social problems are evident early and a pattern of experiencing difficulties in relationships continues throughout development. Further, relationship crises are said to trigger individual episodes of suicidal or self-harming behaviour.

Substance Use

Hawton et al. (2002) investigated a number of social and environmental risk factors in his community sample. It was reported that in both males and females self-harm was associated with smoking, drinking alcohol and using street drugs. Frequent substance abuse was also reported by Patton (1997) in a community sample, although only amongst females. Abuse of substances may serve some of the same functions that self-harming serves for some individuals, in that it can serve to alter emotional
states. It may however, also increase the likelihood of self-harm via increased impulsivity or disinhibition.

**Family Structure**

Hawton et al. (2002) also investigated family structure and living situation. Although the current living situation was not found to be associated with self-harm, females whose parents were divorced were significantly more likely to self-harm. An earlier study (Hawton et al., 1982) investigated family composition in non-psychiatric inpatients who later went on to self-harm. It was reported that 36% were living with a single parent and 12% with neither parent. It would be reasonable to expect a correlation between parental divorce and self-harm if insecure attachment were to be a vulnerability factor. However, Adam (1994) suggests that no particular event per se would be expected to lead to insecure attachment, but that it is the effect of the event on the caregiving received by the child and the extent of any disorganisation in the child’s family environment that may lead to insecure attachment.

**Functioning in Relationships**

Experiences of having been bullied have been found to be prevalent in those who have self-harmed (Hawton et al., 2002; Grøholt et al., 2000). Hawton et al. (2002) found that being bullied was significantly more prevalent amongst those who self-harmed than those who did not in a community sample. However, in a multiple logistic regression, bullying was not found to be significantly associated with reports of self-harm over the previous year. Grøholt et al. (2000) reported that as well as bullying, less than half of a sample of self-poisoners considered that they belonged to
a group of peers. This study did not use any control group however, so it is unclear what percentage of young people who do not self-harm may also report this.

Relationship problems in general are reported to be common amongst young people who self-harm (Hawton et al., 1996; McLaughlin et al., 1996). McLaughlin et al. (1996) found that young people who had self-poisoned and their parents reported significantly more problems for the young person in the areas of family, friends and boyfriends/girlfriends than in a combined control group of psychiatric outpatients and a school sample. When only those problems rated as severe were considered, this significant difference held only for problems in family relationships. It is unclear why the control groups were combined. If only psychiatric outpatients without a history of self-harm had been used then the association between relationship problems and self-harm may have been clearer. However, such problems with peers and with family members are frequently reported.

Problems with family functioning and relationships between parent and child are particularly common amongst young people who self-harm (Kerfoot et al., 1996; Grøholt et al., 2000; Martin et al., 1995; Anderson, 1999; Webb, 2002). Martin et al. (1995) carried out a survey of young people at school regarding family functioning, depression, self-harm, suicidal ideation, suicide plans and suicide attempts. It was reported that reduced general functioning in families was significantly related to the suicidal spectrum. This variable however accounted for more of the variance in level of depression than in the suicidal spectrum. Also, level of depression was a stronger predictor for all points on the suicidal spectrum. The authors therefore suggest that
their findings may indicate a possible mediating role of depression between family functioning and the suicidal spectrum.

For each different category on the spectrum there was also a significant influence of certain aspects of family functioning. Deliberate self-harm was found to be significantly related to dysfunctional affective responsiveness and affective involvement. These particular aspects of family functioning seem the most likely to influence security of attachment (the other aspects assessed were; problem solving, communication, roles and behaviour control) and may point towards this being an important factor in family life for risk of self-harm. However, these effects were no longer found to be significant in a multiple regression model. It was found that 21% of the self-harm variance was accounted for by depression (higher levels), parental marital status (non-intact family) and a history of sexual abuse.

Kerfoot et al. (1996) compared young people who self-poisoned and presented to accident and emergency with psychiatric and community controls on a number of measures. While there was no difference in terms of psychiatric diagnoses between self-poisoners and psychiatric controls, it was reported that families of self-poisoners were found to be more dysfunctional, as measured by the Family Assessment Device (FAD). Further, those who had self-poisoned were more likely to come from “broken homes”. This study suggests that a history of parental separation and family dysfunction are independently associated with self-harm. Had the authors looked at the combined effect of these two variables, this may have proved to be more predictive than either alone as suggested by Adam (1982b).
**Childhood Abuse and Neglect**

Childhood abuse and neglect have been found to be extremely common amongst those who self-harm. In Hawton et al.'s (2002) community sample, it was reported that 20% of those who self-harmed had been physically abused and 19% had been sexually abused. This significant increase in the prevalence of abuse compared to those who had no history of self-harm, was apparent for both males and females. Further, it has been reported that severity of childhood sexual abuse is directly related to extent of self-harm (Romans et al., 1995). This association was reported in a community sample of randomly selected female adults using a broad definition of self-harm, although self-poisoning was found to be particularly prevalent amongst self-harmers. Only one woman who self-harmed was reported not to have been sexually abused in childhood, although she did report that she was physically and sexually abused in adulthood. Boudewyn and Liem (1995) also found this relationship in a group of male and female college students. Self-harmers in this sample typically used self-cutting or mutilation. It has also been reported that childhood sexual abuse is associated with an increased risk of repetition in a sample of patients attending an accident and emergency department (Yeo and Yeo, 1993). An increased level of self-mutilation has also been found amongst female psychiatric in-patients who have a history of childhood sexual abuse compared to those with no such history (Zlotnick et al., 1996).

Childhood abuse has been associated with infants who are classified as disorganised on Ainsworth's Strange Situation (Ainsworth et al., 1978), an assessment of
attachment style in infancy. Children in this category have no clear strategy for organising their attachment behaviours. Childhood abuse represents a huge betray of trust within a caring relationship and therefore impacts on the child’s ability to make use of such relationships in their subsequent development. Children who develop disorganised attachment styles in such circumstances are often described as being caught between requiring the caregiver to look after their needs and comfort them and being scared of them (Solomon and George, 1999).

However, a survey of females who self-mutilated pointed to not only the history of childhood abuse prevalent in this group, but also to their histories of childhood neglect (Favazza and Conterio, 1989). Their childhood experiences frequently lack love, nurturance and comforting physical contact leading to feelings of isolation and abandonment. In Romans et al.’s (1995) community survey, those who self-harmed were also more likely to report a lack of care by both their parents. Further, they were more likely to have had parents who separated and to have lived away from their natural parents for substantial periods of time.

It has been reported that childhood neglect has a stronger relationship to self-harm than does childhood abuse. Van der Kolk et al. (1991) studied in-patients with personality disorders and bipolar disorder. They looked at the influence of physical and sexual abuse in childhood in comparison to the influence of disrupted parental care (neglect, separations and family chaos) on self-harm, other self-destructive behaviours and suicidal behaviour. Both were significantly related to all of these behaviours, however, neglect was more strongly related to self-harm, and abuse to
suicidal behaviour. A similar finding was reported by Dubo et al. (1997). In a study of psychiatric in-patients, neglect was found to be more strongly associated with self-mutilation than childhood sexual abuse was. Emotional withdrawal, failure to protect and inconsistency in the caregiver were aspects of neglect most strongly associated with self-harm.

This research, again, emphasises the importance of the care provided and the attachment relationship in creating a vulnerability for later self-harm, rather than any particular class of event being a significant factor. Previously cited literature draws attention to the high prevalence of relationship problems in young people who self-harm. Further, literature from adult populations highlights the role of rejection, separations and feelings of abandonment that often precipitate self-cutting (Favazza and Rosenthal, 1993; Feldman, 1988). Within this context, Allen (2001) proposes that self-harm can be considered a method of alleviating the unbearable affect triggered by current reminders of attachment trauma.

Summary

The literature regarding social and environmental risk factors therefore highlights the key role of both past and present relationships in both creating a vulnerability in an individual, and in triggering particular episodes of self-harm. A history of neglect and/or abuse leads to difficulties in attachment relationships and self-regulation of affect. These difficulties often become apparent in peer relationships in the form of bullying, or merely a lack of a group of friends. This happens within the context of
continuing poor family functioning and the young person may have previously experienced significant separations from either or both parents.

**Functions of Self-Harming Behaviours**

The previous discussion has highlighted some of the key current and historical risk factors that may increase a young person's likelihood of engaging in self-harming behaviours. The following section will consider the functions that self-harming behaviours serve and therefore begin to discuss reasons for engaging in these behaviours.

Suyemoto (1998) carried out a review of the literature on the functions of self-mutilation and noted that there was a lack of a clear understanding of the psychological functions served by this behaviour. She concluded that this was in part due to the "overdetermined" nature of the behaviour, in that it can serve several different functions simultaneously. In this current review I will consider the functions of self-harm in two categories; functions that primarily have an interpersonal or intrapersonal effect. Both categories of functions are important within the proposed model. Attachment insecurity affects both interpersonal relationships and intrapersonal emotional states and regulation of these.

**Interpersonal Functions**

Self-harm can influence the environment in terms of interpersonal relationships and systems in which the individual is involved.
Self-harming behaviours can be a powerful mechanism for provoking responses from others. This may be caring and concern, the termination of a perceived abandonment or admiration at being able to endure pain (Allen, 2001; Gardner, 2001; Adam, 1994; Suyemoto, 1998). These secondary gains of self-harm can serve to help reduce tension within the individual. In these ways, the behaviour appears very similar to an attachment behaviour in infancy. These reactions are often gained from relationships within the system because the behaviour serves a function for the system also. This may be to divert attention away from a dysfunctional aspect of the system or to express something dysfunctional within the system (Suyemoto, 1998). The behaviour is therefore reinforced by the system through operant conditioning. This further demonstrates the connection between self-harm and dysfunctional relationships with family and peers.

As well as expressing difficulties within a system, self-harm also functions to express feelings within an individual. People who self-harm often experience difficulties in expressing their emotions in words (Allen, 2001; Gardner, 2001). Zlotnick et al. (1996) reported that alexithymia was associated with self-mutilation in a group of female in-patients. Anecdotal evidence within the literature, drawing on the clinical experience of authors (Allen, 2001; Gardner, 2001), also demonstrates that these individuals not only find it difficult to express emotions verbally, but that they believe that “...words cannot possibly express the depth of their emotional pain – only blood and scars will do...” (Allen, 2001. p 227).
Further, self-harm can communicate feelings of anger towards another person that the individual perceives as being too dangerous to express to the other person directly. Taking out this anger on the self is reported to feel safer to the individual than taking it out on the other person whom they fear alienating if they were to do so (Allen, 2001). Authors again point to the individual’s inability to express aggression socially.

Self-harm can therefore serve the function of expressing to others in the young person’s environment the extent of their distress and provoke reactions and responses within individual relationships or within the system as a whole. These reactions provide secondary gains for the individual and therefore can reinforce this coping strategy.

**Intrapersonal Functions**

It has been found that young people rarely report when questioned that the primary reason for them harming themselves was to influence or manipulate other people as suggested by the functions described above. Boergus et al. (1998) carried out a study of 12 – 17 year olds admitted to hospital following self-harming behaviours (the vast majority self-poisoned) and questioned them about reasons for these behaviours. They found that intrapersonal motives (such as “to die” and “to get relief from an intolerable state of mind”) were significantly more commonly endorsed than interpersonal motives. This finding has been replicated by Grøholt et al. (2000). Allen (2001) suggests that environmental and interpersonal effects of self-harm should be considered side effects of these behaviours. He draws attention to
intrapersonal functions being the main concern of the individual who is often relatively unaware of the effect the behaviour has on others.

One of the main functions of self-harming behaviour reported in the literature is to regulate unbearable emotions. Young people who self-harm very frequently report a sensation of tension reduction and calm following this act. In a survey of female habitual self-mutilators, Favazza and Conterio (1989) reported that the top three reasons endorsed for carrying out self-mutilating behaviours were; “to control their mind when it is racing”, “to feel relaxed” and “to feel less depressed”. Two thirds of the women in this sample reported that they felt better immediately after self-harming. They concluded that the effectiveness of self-mutilation in relieving unbearable emotions can account for it becoming a repetitive behaviour.

This finding was confirmed using physiological and psychological measures of arousal in a prison sample (Haines et al., 1995). Subjects who had a history of self-harm were compared with those with no history, as well as with a non-prison control group. Using imagery scripts, those with a reported history of self-harming showed a reduction in physiological arousal at the point of imagined self-mutilation. Psychological measures of tension showed a time course lag behind the physiological measures, indicating the subsequent relief of an unbearable emotional state.

Self-harm appears, therefore, to be able to provide a self-soothing function in that it can bring about a reduction in tension and a change in emotional state and this provides the individual with a sense of control. A secure attachment allows the
development of internal emotion regulation following the experience of being supported in this by a caregiver early in development. This apparent deficit in ability to regulate emotions amongst people who self-harm may therefore be related to the proposed vulnerability of an insecure attachment style.

Self-harming behaviours inherently have an aggressive nature about them which is directed towards the self. In a study of inpatients, Osuch et al. (1999) reported that self-punishment was found to be one of the core motives for self-injury given by this group. Self-harm can serve the function of expressing anger towards others as discussed above. However, it can also direct aggression and punishment towards the self and in doing so serve to regulate emotions of anger, guilt and self-hatred.

Self-harm has also been reported to exert effects on dissociative states in that it can serve to either terminate or provoke this state in an individual. Osuch et al. (1999) found that self-stimulation was another core motive reported for self-injury. Van der Kolk et al. (1991) carried out a study of self-destructive behaviours in people diagnosed as having either bipolar disorder or borderline personality disorder. They followed these people over a period of 4 years and correlated these behaviours with histories of childhood abuse and neglect and dissociative experiences. It was found that when the occurrence of dissociative experiences was added to the regression, following history of neglect and abuse, further predictive power was only evident for self-cutting and not for other forms of self-injury or suicide attempts.
Dissociation can occur as a defence against unbearable and overwhelming emotional states. The individual may experience a sense of numbness, of internal disintegration and disconnection from others (Van der Kolk et al., 1991). This state in itself can then feel unbearable and the individual may use self-cutting in order to feel alive again (Allen, 2001; Feldman, 1988). Some people may also use self-harm to endure a dissociative state. As discussed, this can be used as a defence against experiencing overwhelming emotions that the individual does not have the capacity to regulate (Connors, 1996).

Finally, self-harm has also been said to serve a life-preserving function (Menninger, 1935). The individual is hypothesised to avoid complete destruction through death by channelling those destructive impulses in to the more focused act of self-harm (Firestone and Seiden, 1990). Again, this creates a sense of control over these feelings and impulses. This function of self-harm fits in with clinical observations that patients do not often report a wish to die as a motive for self-harming behaviours. This function is perhaps also effective via the effectiveness of other functions of self-harm. The experienced ability to regulate affect and mental states via these behaviours may make life more bearable and therefore attenuate any urge to die. This reflects the more optimistic state of mind of young people who self harm as opposed to those who wish to die.

Summary

Self-harming behaviours can therefore be seen to serve many different functions simultaneously (Suyemoto, 1998). While for the individual intrapersonal reasons
may be given as the primary reasons for self-harm, interpersonal effects are also present. Although these behaviours are often initially kept hidden from others, when they do come to the attention of other people, they may have a significant impact on the individual’s environment. The reactions of significant others and of the systems within which the person lives may then also serve the primary functions of, for example, affect regulation via an increase in support and concern.

Much of the literature regarding the functions of self-harming behaviours has been based on research carried out with those who self-cut and self-mutilate who are largely female and involved with psychiatric services, often as inpatients. As previously discussed, this represents only a small proportion of those people who engage in self-harming behaviours in the population. It may be that the functions served by self-harm in other populations are different or may have a different emphasis. For example, epidemiological studies have revealed that those who self-poison are more likely to present to hospital accident and emergency departments for treatment. This behaviour is therefore more socially conspicuous and it may therefore be that the primary functions of this behaviour are more interpersonal.

It appears in the literature that there is a stronger tradition amongst those authors with a background in psychoanalytic theory for researching and writing about self-cutting and self-mutilation. This theoretical tradition is concerned with understanding the functions that behaviours serve and the meaning behind them often drawing on evidence from single case studies or general clinical experience over time. It is
unclear why this work has not extended in to an examination of the functions of self-poisoning or other forms of self-harming behaviours.

However, although the research on risk factors for self-harming behaviours and functions for these behaviours appears to be largely based on two different populations, there are clear links between the two areas. Risk factors for self-harm include depression, anxiety and high levels of anger. These indicate possible fundamental difficulties in emotional regulation. This is further indicated by the increase in impulsivity in this group as well as difficulties in problem solving. Early trauma in the form of abuse and neglect is a risk factor for self-harm, and it has been found that children brought up in this kind of environment are more likely to experience dissociative states (Allen, 2001).

As previously discussed, difficulties within relationships is often a precipitant for acts of self-harm. Secondary gains can mobilise the support and concern of others and perhaps compensate for the perceived loss in the short term. However, the long term problems within relationships continue and this form of help seeking is dysfunctional. The young person therefore continues to be vulnerable to experiencing difficulties within relationships in the form of perceived criticisms and abandonments.

Risk factors of abusive and neglectful home environments combined with evidence that self-harm serves the function of regulating and expressing emotional distress and
difficulties in relationships, strongly indicates problems in early developmental processes.

**Attachment and the Development of Self-Harming Behaviours**

Development in the earliest years of life is important in terms of the later ability to form trusting relationships and the ability to regulate emotional states. These are two areas where research has highlighted that individuals who self-harm tend to have difficulties. These abilities develop within the context of the attachment relationship with main caregivers, usually the parents. Research in the field of attachment has recently expanded in to looking at how the attachment relationship interacts with other factors to produce risk or resilience in relation to varied courses of development. Authors are also considering the mechanisms underlying attachment development and different pathways that may lead from this.

Within this area, researchers have therefore begun examining pathways towards and mechanisms underlying self-harming and suicidal behaviours (Adam, 1994; Adam et al., 1994; Adam et al., 1996; Allen, 2001; Gallop, 2002; Suyemoto, 1998; West et al., 1999). Attachment theory and the measurement of attachment will first be outlined, followed by more recent developments within this field and finally research relating insecure attachment and the development of self-harming and suicidal behaviours.

**Attachment Theory**

Bowlby (1969) proposed the concept of an attachment behavioural system that regulates infant safety and provides opportunities to be comforted. He proposed that
this system is activated at times of stress, be that internally or externally triggered, and that certain characteristic behaviours are activated at these times. These are behaviours such as crying, clinging, proximity seeking, monitoring caregivers and smiling. Attachments are formed to only a few key caregivers, usually by about 7 months. From this time the infant exhibits clear preferences for these individuals and will exhibit distress on their departure and pleasure on their return.

Bowlby suggested that these early attachment relationships lead to the formation of internal working models through the course of development. These were proposed as internal representations of self, others, and self in relation to others and would guide and influence all later experiences of relationships. Bowlby was particularly influenced by object relations theories in the formation of his concept of attachment relationships and internal working models (Levy et al., 1998). There is therefore a great deal of overlap in these two theoretical models, particularly in terms of internal representations of self and others which develop within the context of key early caregiving relationships.

Ainsworth et al. (1978) expanded on the work of Bowlby by developing classifications of three different organised patterns of attachment behaviours that could be observed in infants. Most infants were classified as being securely attached, whilst others were classified as insecure-ambivalent or insecure-avoidant. She developed these classifications from yearlong observations of infant–mother dyads, in combination with observations of infant-mother dyads in the Strange Situation. She reported that each different type of attachment classification was associated with
different styles of interacting and caregiving from the mother on the four intercorrelated variables of sensitivity, acceptance, cooperation and psychological accessibility. It was particularly noted that these categories of behaviours from the mother and the infant were most readily observable at times of separation and reunion.

The Strange Situation has been used as a system for classifying the attachment status of infants. It consists of two brief separations from and reunions with the mother in a laboratory setting. During one of these separation-reunion sequences the infant is in the presence of a stranger, whilst in the other they are alone. The laboratory environment also contains some toys.

Most infants in the Strange Situation are classified as being secure. These infants show signs of missing their mother on separation from her and greet her on her return. They are then able to settle and return to play, using their mother as a secure base from which to explore their environment. Mothers of these infants during home observations were reported to be rated as high on all four variables of sensitivity, acceptance, cooperation and psychological accessibility.

Those infants classified as insecure-ambivalent in the Strange Situation are distressed on entering the laboratory room and spend little time exploring the environment. They are distressed on separation from their mother, but on reunion alternate between attempting to make contact with her and angry rejection of her and are
unable to be comforted by her. Mothers of these infants tend to be unresponsive or inconsistent to their child's distress and other signals.

Finally, those infants classified as insecure-avoidant direct their attention towards the toys throughout the assessment. They do not cry or show distress on separation from their mother, and during reunion they actively avoid and ignore her. Mothers of these infants were found to be rejecting and to provide little positive experience of physical contact.

A fourth attachment classification was later added because some infants could not be classified with the three existing attachment styles. They did not appear to have a clearly organised behavioural strategy in their attachment relationship during the Strange Situation. This classification was labelled insecure-disorganised (Main and Solomon, 1990). Infants classified as disorganised may appear confused and frightened of the parent and may freeze or exhibit stereotypies during the Strange Situation. There has been little direct observation of these dyads, however it is suggested that there is a link with patterns of dysfunctional interactions, including child maltreatment (Solomon and George, 1999).

More recently the study of attachment has investigated these relationships in adolescence and adulthood. George et al. (1996) developed a measure of adult attachment status called the Adult Attachment Interview (AAI) that classifies attachment into categories that correspond to those of the Strange Situation. This measure is a semi-structured interview in which the person is asked to describe their
childhood and attachment relationships and provide evidence for these descriptions. “State of mind with respect to attachment” is derived from discourse usage in the presentation of their childhood experiences and particularly from the coherence and collaboration of this discourse (Main et al., 1985). This assessment does not therefore focus on the facts, or facts presented, of the individual’s childhood experiences, rather it is how the person thinks about their experiences and attachment relationships now and how these have been processed and integrated. Someone may therefore have experienced an abusive childhood, but through the course of their development they may have come to a realistic evaluation of this and how it has affected them and may therefore be classified as being secure.

The main attachment classifications derived from the AAI are; secure-autonomous (corresponds to secure in the Strange Situation), dismissing (corresponds to avoidant in Strange Situation), preoccupied (corresponds to ambivalent in the Strange Situation) and unresolved-disorganised (corresponds to disorganised in the Strange Situation).

Longitudinal studies have been carried out that assessed infants in the Strange Situation and then at 17 or 21 years old using the AAI (Hamilton, 1995; Waters et al., 1995). In the Hamilton study, it was found that 77% of subjects had a corresponding attachment style in infancy and then later, in adolescence. These classifications were only in terms of secure versus insecure. Similarly, Waters et al. reported that 78% of their sample’s attachment classifications in early adulthood could be predicted from their classification in infancy. However, this was after
removing those who had experienced negative life events in the intervening time. When the full sample was examined the percentage that could be predicted dropped to 70%. Although these studies seem convincing evidence of continuity of attachment across time, Main (1996) points out that they cannot be interpreted in this way. The responses required for a secure attachment classification in the Strange Situation are not similar to those required in the AAI to receive the same classification. Therefore, the conclusion that can be drawn from these results is that early patterns of interactions with a primary caregiver are predictive of later discourse usage in life history narratives. This interpretation does fit with Bowlby’s earlier model of attachment in infancy affecting internal working models of relationships and therefore experiences in later relationships and personality. These internal working models are said to be not impervious to, but resistant to change (Bowlby, 1988).

It has been proposed, therefore, that attachment style is a relatively stable factor from infancy through childhood and adolescence and into adulthood. However, studies have shown that attachment style can change over time. Change can occur between attachment styles in response to life events, but only to the extent that those life events disrupt the care received by the child in terms of attachment relationships.

The types of behaviours exhibited by mother’s of infants with different attachment styles in Ainsworth’s original studies was previously briefly outlined. Fonagy et al. (2002) have more recently further theorised about what is important in the mother-
infant interaction in developing the attachment relationship and why these aspects are important.

Fonagy et al. (2002) propose that attachment relationships have a key role in the development of the capacity to envision mental states in self and others. They argue that this capacity is in turn a key determinant of self-organisation and affect regulation. The attachment relationship provides the context for the development of reflective functioning, through the process of representational mapping. This is the process of co-ordinating representations of self and other.

The caregiver in this relationship has the task of sensitively perceiving mental states in the infant. The caregiver interprets their behaviour as though he/she had specific intentions and goals in mind and then reflects back this mental state to the infant in a way that is both accurate, but also implies coping. This discrepancy between the infant's experience of emotions and the caregiver's reflection of their emotion allows for the development of symbolic representations of the infant's own affect which can be mapped on to it's representation of it's self-state. These symbolic representations can be used to distance the self from the original intense and overwhelming experience and so to develop ways of regulating emotions. The infant's representation of the caregiver's reaction to it's emotional display leads to the development of an understanding of others' mental states also.

Ainsworth et al. (1978) emphasised the importance of sensitive caregiving in order for a child to develop a secure attachment. Fonagy et al. (2002) have proposed a
model of which aspects of a caregiver’s behaviour may require to be sensitive, and how this then translates in to what is measured as a secure attachment and later correlates of this.

Adam’s (1994) developmental model of suicidal behaviour argues that these behaviours may be viewed as extreme attachment behaviours. Although Adam locates his model within ‘suicidal behaviour’, he does not define what he means by this term. Studies exploring this model (Adam et al., 1994; Adam et al., 1996; West et al., 1999) also fail to provide a clear definition of ‘suicidal behaviours’. However, it is reported in these studies that a validated measure of suicidal ideation and behaviour is used to classify subjects and that subjects would be considered as having attempted suicide “however minor” the behaviour. It seems likely therefore that the population he refers to may include those people who self-harm with a low lethality. Further, on the basis of the research on both self-harm and on attachment, the model proposed seems particularly relevant for this group.

It has been found that incidents of self-harm are often precipitated by an interpersonal event where the individual concerned believes that they have been rejected or suffered a loss. However, it has been found that these interpersonal problems are not usually single events, rather they are part of a pattern of longstanding interpersonal problems (Farmer and Creed, 1986).

Adam et al. (1982a) carried out a study of suicidal ideation and behaviours in two groups of university students. One group had experienced parental loss, through
death or permanent separation, before the age of 17 and the other group were from intact homes. In a semi-structured interview subjects were asked about loss events. The stability of family relationships prior to the loss as well as the availability and quality of caretaking soon after the loss and in the longer term. It was found that 14 out of the 17 subjects who reported a suicide attempt were in the parental loss group. This was a highly statistically significant finding.

Transcripts of the interviews were then studied to examine what differentiated suicidal from non-suicidal subjects within the parental loss group. It was found that those subjects who reported suicidal ideation or behaviours described the time around the loss, and following it in the long term, to be characterised by more disorganisation. It appeared that the care of the children had been jeopardised by the loss event in this group. In contrast the non-suicidal group spoke with more warmth and understanding about their parents, and responsive caretakers had been more readily available to them following the loss.

These findings were replicated in a further study (Adam et al., 1982b) in a group of people who had been hospitalised following a suicide attempt and a group of community GP patients with no history of suicide attempts. However, this study also assigned a global rating of family life (stable, unstable or chaotic) for all subjects. This revealed that 92% of suicidal subjects received a rating of an unstable or chaotic early family life compared to 40% of controls. Adam (1994) concludes from these studies that an early loss event is only a risk factor for later suicidal behaviour if it is preceded by family instability and where families have been unable to respond to the
loss constructively in terms of family reorganisation. He suggests that the event per se is not necessarily a risk factor for the development of suicidal behaviour, but rather a wide range of events and circumstances can lead to a vulnerability if they result in the unavailability of adequate caregiving. It is also concluded that such family disturbances are frequently evident very early on in life and that they continue throughout childhood and adolescence.

Both of these studies however base much on subjects’ recall of early family life within the context of a semi-structured interview. This introduces the likelihood of biased recall which may be effected by subsequent events in the individual’s childhood or adolescence or by their present suicidal state of mind. Further, Adam (1994) concludes that family disturbances are present very early in life and continue. It is unlikely that memories from infancy would be reliable. These may be biased, as described above, or be based on the reported memories of a third party, whose memories would also be open to biased recall. However, it is relevant that the reported memories are of a time of disorganisation and lack of care. This may be reflective of fact or of internalised structures that have affected the experience and processing of the events. Those structures may develop a biased interpretation due to earlier experiences, the experiences at the time of loss or due to subsequent experiences. Either explanation may reflect a vulnerability to later self-harm.

However, with these points in mind, it appears that what Adam et al. (1982a and b) are reporting in their findings is in fact the quality of the attachment relationship. He discusses that care requires to be sensitive and reliable and that if disrupted this may
lead to the development of later suicidal behaviours. He also points to the persistence of these disruptions in attachment relationships from infancy throughout childhood and adolescence. This fits with the findings of the relative stability of attachment types.

On the basis of these findings and research on patterns of behaviours in infancy when separated for long periods from their attachment figures, Adam (1994) proposes the following model for understanding suicidal behaviours. It is proposed that early experiences of parenting lead to the formation of a secure or insecure attachment style. These early experiences are only relevant in so far as they are internalised and structured and so can influence the experience of later events. Within attachment relationships the internalisation is of mental state of self and of other. Adam (1994) proposes that among the consequences of developing an insecure attachment are difficulties in sense of self-worth, affect regulation and the capacity to form and maintain relationships. Because of these difficulties, the individual with an insecure attachment style is said to be vulnerable to later attachment stress such as perceived loss, rejection or disappointment within close relationships. At these times such individuals are likely to respond with immobilising anxiety, destructive anger, hopelessness, ego decompensation and suicidal behaviour.

In this model “contributing factors”, or moderating variables, also influence both predisposing factors, such as early parenting experiences, and precipitating factors, such as how an individual may react at times of attachment stress. These may have indirect effects, in that they increase the likelihood of exposure to predisposing or
precipitating factors. For example, living in an area of low socioeconomic status and high social stress may increase the likelihood of parental stress or family break up, leading to inadequate parenting experiences. Alternatively, their effects may be more direct. The consumption of alcohol or drugs may effect the individual’s internal controls and ability to regulate affect. The experience of also having a major mental health problem may influence these factors in several different ways, for example via effects on relationships, judgement or impulse control.

In keeping with previously discussed research regarding the possibility of attachment styles changing over time should a change in circumstances occur, the model also incorporates the effect of protective factors that may influence vulnerability or resilience.

Adam (1994) explores, in the development of this model, the similarities between the emotional responses of suicidal individuals at times of attachment stress and of infants when separated for prolonged periods from an attachment figure. Infant separation responses were originally documented by Bowlby (1969), who described the typical protest, despair and detachment pattern at such times. Following a prolonged separation from the attachment figure, when the infant is reunited with this person they are typically initially unresponsive, but upon recognition of the parent, feelings of intense ambivalence and anger are expressed. Further, studies of infant-mother interactions have demonstrated the angry and aggressive responses of children following actual or threatened rejection by the mother (Main and Goldwyn, 1984).
Adam (1994) presents case examples of adults who have presented to a crisis intervention service following suicide attempts. These demonstrate the similarities between the pattern of infant separation responses and the responses of adults with a history of insecure attachment to loss or rejection from current attachment figures.

Although the term “suicidal behaviour” is used in this model, it seems that the model is also relevant to self-harming behaviours. Previously cited studies of pointed to the tension reduction function provided by self-harm. Anger is often an emotion experienced directly prior to self-harm. Those who engage in these behaviours have described how this may be directed at the self either as a form of self-punishment, or as a safer expression of anger felt towards a significant other. Therefore, although it is unclear exactly which behaviours are considered to be “suicidal behaviours” in this model, it is proposed that it fits very well with what is known about self-harming behaviours both in terms of predisposing and precipitating factors.

A series of studies, though perhaps all on the same sample of adolescents, has been carried out to explore the proposed model (Adam et al., 1994; Adam et al., 1996; West et al., 1999). Each study reports on two groups of 12 – 19 year olds. Both groups were currently receiving psychiatric treatment, one group having a reported history of suicidal behaviour. Each study uses a different measure to examine the concept of attachment. The most well validated measure used is the AAI. Adam et al. (1996) reported that classification of a preoccupied attachment style on the AAI combined with unresolved – disorganised classification increased the likelihood of
membership in the suicidal behaviour group. A dismissing attachment style was found to decrease the likelihood of membership to this group. The unresolved – disorganised classification specifically looks at the coherence of discourse in relation to attachment trauma such as physical or sexual abuse, death of a parent or severe separation experiences. It was reported that there was no difference between the two groups in terms of having experienced such events, but that they differed significantly in terms of lack of resolution of these traumatic experiences.

This study suggests that cognitive disorganisation around traumatic experiences may be an important variable mediating the link between early trauma and loss and later suicidal behaviour. This relates to early attachment relationships in that they are an organisational structure for interpreting mental states of self and others. Indications of cognitive disorganisation in discussing attachment experiences indicates that the process of forming such structures has been disrupted during development.

Adam et al. (1994), in a study using the same type of case and control group (and perhaps the same subjects), used the Parental Bonding Instrument (PBI) to explore the relationship between perceptions of quality of parenting and suicidal behaviour and ideation. It was reported that higher “affectionless control”, as defined by lower care and higher overprotection scores on the PBI, differentiated between suicidal and non-suicidal subjects. For females this was true for both parents, whilst for males this was only true for mothers. The overprotection scale of the PBI looks at perceptions of the parent as controlling, intrusive, infantalising and likely to interfere with the autonomy of the child. These parental behaviours would not be expected to correlate
with a secure attachment style. Although the PBI is not a measure of attachment, parental behaviours are important in the development of the attachment relationship. This study therefore lends further support to a developmental model of suicidal behaviours.

This developmental model of suicidal behaviour therefore emphasises the important role of both early and current attachment relationships. Research has also examined the link between perceived social support and attachment style. Given the high prevalence of longstanding relationship problems amongst those who self-harm and of relationship crises as precipitants to episodes of self-harm, it seems sensible to investigate the role of perceived social support in the development of self-harm.

**Perceived Social Support**

Different authors present varied views on how social support, attachment style and coping may be related. This appears to depend on the measures used for both attachment style and social support and the theoretical stance of the author.

Ognibene and Collins (1998) reported that attachment style is related to perceived social support and to patterns of coping. They broke down the concept of attachment in to model of self and model of others. In doing so they found that those with positive models of self and others were more confident that friends would be available when needed. Those individuals with positive models of others (secure and preoccupied attachment styles) were found to be more likely to seek social support. However, a mediational link of perceived social support between attachment style
and social support seeking was only found for those with a secure attachment style and not for those with a preoccupied attachment. It was proposed that this difference was due to underlying differences in the expectations of the individual seeking support. This author therefore proposed that attachment style has a direct effect on support seeking behaviour and other coping strategies. Further, secure individuals perceive more support to be available to them and this mediates the link between secure attachment and support seeking. Correlations between attachment style and perceived social support were only found for secure and fearful individuals.

This study used a social support measure that only assessed reported level of social support rather than satisfaction with this support. It may have been more meaningful to assess satisfaction. Correlations may have been found between different attachment styles and satisfaction with support. For example, dismissing individuals may have been found to be content with a low level of social support, while preoccupied individuals may have been found to require high levels of support and believe that what they have falls short of this.

Larose and Bernier (2001) looked at the links between attachment state of mind (preoccupied and dismissing styles), social support processes and personal adjustment (loneliness and withdrawal). They reported that social support processes, specifically stress, distrust and help-seeking, mediate the link between preoccupied attachment and loneliness. They assessed attachment style using the AAI and perceived social support using a measure that assesses primary appraisal of events related to late adolescence and college transition, in terms of level of stress.
experienced, and secondary appraisal of perceptions of support in relation to these events. Preoccupied individuals reported higher levels of stress, distrust in support providers and difficulty in seeking help.

However, these factors can be considered to be part of the preoccupied attachment style. Individuals with this attachment style would be expected to have a distrust of others and to have raised levels of stress. The social support measure specifically asked about levels of stress in relation to late adolescence and college transition. It is likely that many of these events may have been related to events within relationships and preoccupied individuals would be expected to be particularly vulnerable to experiencing stress at these times. It seems that these factors may not therefore mediate the proposed link, but rather they are parts of one of the factors in the link.

Moreira et al. (2003) looked at the role of attachment style and social support as predictors of psychological distress. They reported that perceived social support, particularly intimate support, is a by-product of attachment style and that attachment style moderates the impact of support. They proposed attachment style to be a moderating variable because they consider it to be the more stable variable and therefore more likely to exert an effect over the less stable variable of social support. While this interpretation seems reasonable, it is also known that relationship experiences can exert an effect on attachment style. Further, the social support measure used in this study has scales that are likely to relate very closely to the self-report attachment measure used. For example the measure includes scales of attachment, reliable alliance and opportunity for nurturance. The authors did do a
factor analysis however and found only two factors; intimate support and casual support. The scales previously mentioned were all found to be part of the intimate support factor.

In terms of how perceived social support may influence self-harming behaviour, Adam’s (1994) model suggests that it may be considered a mediating factor in that it develops as a result of insecure attachment and contributes directly towards vulnerability for suicidal behaviour triggered by an attachment crisis. While experiences in relationships can also modify attachment style, it is likely that this would happen over the longer term, and the model suggests routes are possible from insecurity to security and vice versa. For example, the experience of having a positive relationship with caring foster parents over an extended period may have an effect on a child who had a fearful attachment style in infancy. Self-report measures of perceived support look at current experiences of support and in Adam’s model would relate to a current attachment crisis and resultant distress and self-harm.
Aim

The present study sets out to explore the applicability of the developmental model of suicidal behaviour, proposed by Adam (1994), to self-harming behaviour in adolescents. The sample is drawn from a clinical population and will measure level of depressive symptomatology, attachment style, satisfaction with level of perceived social support and frequency of self-harming behaviour. The study encompasses all types of self-harm and will measure it in terms of frequency over the past year and past week, perceived lethality of individual behaviours, events precipitating self-harm, emotions precipitating self-harm and reported reasons for self-harm.
Hypotheses

1. There will be a significant association between specific attachment styles and underlying dimensions of attachment with frequency of self-harming behaviours.

2. Dissatisfaction with perceived social support will have a significant association with frequency of self-harming behaviour after controlling for level of depression.

3. Dissatisfaction with perceived social support will be a mediating factor between attachment variables and frequency of self-harming behaviours.

Operationalising of Hypotheses

In order to test the above hypotheses, the variables will be operationalised in the following ways. Attachment is operationalised firstly as the two dimensions underlying attachment styles (model of self and model of other) and, in a separate analysis, the four styles of attachment (secure, fearful, preoccupied and dismissing). Each subject will have a score on each of these independent variables of attachment.

Frequency of self-harm is operationalised as the total frequency of all self-harming behaviours over the past week. This measure of self-harm looks at the same time period as the other measures being used. This will allow clarification of the temporal relationship between variables.
Dissatisfaction with perceived social support is operationalised as the total of the discrepancy between ideal and actual social support in the domains of practical and emotional support. By combining the discrepancy in these two domains of social support, there will be fewer variables and this will increase the power of the study. Further, the study is concerned with satisfaction with social support in general rather than in specific domains.

Depression is operationalised as the level of self-reported depressive symptomatology.
Methodology

Design
The dependent variable in the study was frequency of self-harm over the past week. Level of depression was controlled for and independent variables of discrepancy in social support, continuous measures of attachment style and dimensions of attachment were hypothesised to be significant predictors of the dependent variable. The present study has been approved by the relevant Ethics Committee in Lothian Primary Care NHS Trust.

Subjects
Subjects for the present study were drawn from young people who attended for assessment appointments at the Young People’s Unit (YPU) in Edinburgh between 7th April and 4th July 2003. Young people who had a learning disability, a history of or an acute psychotic illness or a serious head injury were not eligible to be included in the study. The YPU is a mental health service for young people aged between 14 – 18 years. Clinicians conducting assessment appointments were asked to tell the young people they assessed about the study, to give them and their parents information sheets about the study and to ask them for permission for the principal researcher to contact them to discuss the information further.

A total of 127 young people (83 female (65%) and 44 male) attended assessment appointments over this period and were suitable to take part in the study. However, only 29 young people (15 female (51%) and 14 male) were asked if they would take
part in the study. Of these, 20 young people (12 female (60%) and 8 male) agreed to take part and completed the questionnaires. This therefore gives a rate of referral to the study of 22% and a participation rate of 15%.

It is likely that the sample obtained is not representative of the population being studied. Clinicians referring young people frequently reported that they forgot to tell their patients about the study. It may be that clinicians were more likely to remember if self-harm was discussed in the assessment session. Further, it may also have been the case that clinicians did not refer young people who they believed to be particularly vulnerable or distressed. The proportion of male versus female subjects appears to be comparable to that of the population studied, however, the age range is smaller in the sample obtained. The population age range is 14 – 18 years, compared with the sample in the study of 14 – 16 years. There was no other information available about those subjects who were not asked to take part in the study.

The mean age of subjects included in the study was 14.9 years (s.d. = 0.85, n = 20). The mean age of those subjects who declined to take part in the study was 15 years (s.d. = 1.15, n = 10). Two subjects were not engaged in full time education, 7 subjects having received learning support at school. 11 subjects reported that they lived with both of their natural parents. 11 subjects reported that they had experienced at least one separation from either or both parents of at least one month duration. 4 subjects reported that they used street drugs at least once a month and 11 subjects reported that they regularly drank alcohol.
Of the 20 subjects included in the study it was found that 12 had self-harmed at some point over the past year. Eight of these subjects had self-harmed over the past week. Table 1 presents some demographic data about each of these groups.

Table 1
Table showing demographic data for three groups of subjects within the total sample (total n = 20).

<table>
<thead>
<tr>
<th>Variable</th>
<th>No self-harm over past year</th>
<th>Self-harm in past year only</th>
<th>Self-harm in past week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of subjects</td>
<td>8</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Gender</td>
<td>m = 6, f = 2</td>
<td>m = 1, f = 3</td>
<td>m = 1, f = 7</td>
</tr>
<tr>
<td>Mean age (s.d.)</td>
<td>14.62 (.74)</td>
<td>15.24 (.96)</td>
<td>15 (.93)</td>
</tr>
<tr>
<td>N in full-time education</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>N ever received learning support</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>N living with both natural parents</td>
<td>6</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>N experienced separation(s) from parents</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>N report using street drugs</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>N report drinking alcohol each week</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>
Measures

Demographic Information

Subjects were asked demographic questions as well as whether they had any learning support at school, had any physical health problems, information about any significant separations from their parents and their alcohol and street drug use (see Appendix 1).

Beck Depression Inventory

The Beck Depression Inventory - II (BDI-II) is a 21 item measure used to assess severity of depression (Beck et al., 1996). This measure assesses affective, behavioural, cognitive and somatic symptoms of depression (see Appendix 2). Subjects are required to choose one from a choice of four possible responses for each item reflecting on how they have felt over the past two weeks. Scores range from 0 – 63. The BDI-II has been found to have significant discriminant function between depressed and non-depressed adolescents in psychiatric populations (Carter and Dacey, 1996; Kauth and Zettle, 1990; Marton et al., 1991).

Significant Others Scale

The short form of the Significant Others Scale (SOS) was used in the present study (Power et al, 1988). This is a measure of actual, ideal and discrepancy (ideal – actual) in social support (see Appendix 3). Subjects are asked to nominate seven individuals who are important to them. They are then asked about the support provided by each individual across the two functions of emotional and practical support. Scores derived are averages of responses. Power et al. (1988) found that the
SOS had satisfactory test retest reliability and criterion validity in a study of female mature students.

This measure was chosen for the present study in order to provide a measure of satisfaction with social support. Scores for discrepancy in support can range from 0 – 6, with higher scores indicating greater dissatisfaction with support.

**Relationship Questionnaire**

The Relationship Questionnaire (RQ) was developed by Bartholomew and Horowitz (1991), based on Hazan and Shaver’s (1987) original three attachment type, categorical, forced choice measure. The RQ consists of four brief paragraphs describing secure, fearful, preoccupied and dismissing attachment styles (see Appendix 4). Subjects are asked to rate each attachment style on a seven point scale according to how well it describes them in their close relationships. This measure is reported to have a moderate test retest stability over an eight month period (Scharfe and Bartholomew, 1994).

The RQ was used in the present study to form a composite continuous measure, with the Relationship Scales Questionnaire (RSQ) (Griffin and Bartholomew, 1994), of attachment styles and the underlying dimensions of models of self and other.

**Relationship Scales Questionnaire**

The RSQ is a 30 item scale based on the attachment descriptions in the RQ and items from the Adult Attachment Scale (Collins and Read, 1990). Subjects are asked to rate
each item on a five point scale, again, according to how well it describes them in their close relationships (see Appendix 5). This scale provides continuous scores for each of four attachment styles. Test-retest reliability has been found to be more than .70 over a three week period (Griffin and Bartholomew, 1994).

Composite Attachment Measure

Scores from the RQ and RSQ were combined to provide composite measures of each attachment style and the two underlying dimensions of model of self and of other, following procedures outlined by Griffin and Bartholomew (1994). Conceptually, each attachment style comprises of either a positive or negative model of self and a positive or negative model of other. Therefore each style is located in a two dimensional space. A secure attachment comprises of positive models of both self and other. A fearful attachment style comprises of negative models of both self and other. Preoccupied attachment comprises of a negative model of self and a positive model of other, and dismissing attachment comprises of a positive model of self and a negative model of other.

Therefore, in order to derive composite attachment scores for each subject, first of all z-scores were computed for each paragraph rating from the RQ and each scale from the RSQ. These were then added together to give four attachment style scores for each subject. Scores for model of self and model of other were computed for each subject using these attachment style scores (model of self = (secure + dismissing) – (fearful + preoccupied) and model of other = (secure + preoccupied) – (fearful + dismissing)). It is recognised that from these computations subjects may have similar
scores for model of self or model of other, but have arrived at these scores through quite different routes. However, each subject also has scores for each attachment style that describe the relative attachment styles in more detail. Also, research in to attachment measures has found that measures are more related at the level of these underlying dimensions and that these may be a more accurate measure therefore of current attachment style (Bartholomew and Shaver, 1998).

Self-harm Questionnaire

This questionnaire was developed by Moor et al. (2000) for use with adolescents. The questionnaire asks young people about whether and how often they have engaged in different kinds of self-harm over the past year and week. Subjects are then asked to give an estimation of how many times they have carried out each behaviour. If subjects identify self-harming behaviour they are then asked to rate the lethality of each behaviour on a six point scale. Those young people who report they have engaged in self-harm are then asked a further series of questions. They are asked to rate, on visual analogue scales, how often they experience various triggering events before harming themselves, various possible emotional states prior to self-harm, levels of control over and planning of self-harm and the functions that these behaviours serve.

Procedure

Young People (and their parent(s) if under 16 years) attending assessment appointments at the YPU between 7th April and 4th July were informed, both verbally and with written information, about the study by the clinician seeing them towards
the end of their appointment (see Appendix 7). At this point they were asked if they would agree to the principal researcher contacting them about taking part in the study. If they agreed, young people were then contacted by phone by the researcher, and any questions about the study were answered. Subjects were given the choice of attending the YPU to take part in the research, or of the researcher visiting them at home.

The research appointment was a one off session and lasted 30 – 45 minutes. Subjects were first of all asked to give their written consent to take part in the study. The above questionnaires were then completed in the form of a structured interview carried out by the principal researcher.
Results

Description of Self-Harming Behaviours

The data analysis began by examining the types of self-harming behaviour, frequency and lethality of these behaviours, triggers, emotions and perceived control associated with these behaviours and reasons given for self-harming. Mean ratings will be presented for these variables for all subjects who reported that they had self-harmed over the past year. Means were also examined only for those who reported self-harming over the past week, however these were similar to those for the entire group (see Appendix 6). Means will be presented, however, for subjects who self-harmed over the past week for type, frequency and lethality of self-harm. This will inform the interpretation of subsequent analyses in terms of generalisation to other samples.

Types, Frequency and Lethality of Self-harming Behaviours

All subjects who self-harmed over the past year (n = 12)

As can be seen from Table 2, self-cutting (n = 12), scratching (n = 12) and interfering with a wound healing (n = 6) were the three most commonly reported types of self-harm. The mean frequency of each of these types were also high, although all extended across the full range of possible frequencies, from 1 to 25, indicating a high degree of variation between subjects. All self-harming behaviours reported were found to be carried out on average more frequently than once. Using poison or a caustic substance as a method of self-harm was not endorsed by any of the subjects. Lethality was rated on a six-point scale from low to severe. Mean self-rated lethality
of self-harm ranged from 2.5 – 4.2 (low to high on the rating scale) (mean = 3.05, s.d. = .64, moderate on rating scale).

The young people who reported having self-harmed in the present study therefore mostly engaged in self-injurious behaviours as opposed to self-poisoning. The behaviours were found to be repetitive and of moderate lethality.

Table 2
Table showing number of subjects who have self-harmed over the past year engaging in each type of behaviour and mean frequency and self-rated lethality for subjects reporting each behaviour. n = 12

<table>
<thead>
<tr>
<th>Type of self-harm</th>
<th>% Ss engaging in behaviour (n)</th>
<th>Mean frequency of behaviour (SD)</th>
<th>Mean lethality of behaviour (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol overdose</td>
<td>25 (3)</td>
<td>4.67 (4.73)</td>
<td>3.67 (0.58)</td>
</tr>
<tr>
<td>Drug overdose</td>
<td>41.7(5)</td>
<td>3.2 (1.79)</td>
<td>4.20 (1.30)</td>
</tr>
<tr>
<td>Poisoned</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Burned</td>
<td>16.7 (2)</td>
<td>3.0 (0)</td>
<td>2.5 (0.71)</td>
</tr>
<tr>
<td>Cut</td>
<td>100 (12)</td>
<td>13.17 (11.33)</td>
<td>3.42 (0.90)</td>
</tr>
<tr>
<td>Carved words</td>
<td>33.3 (4)</td>
<td>8.0 (8.16)</td>
<td>2.25 (0.5)</td>
</tr>
<tr>
<td>Scratched</td>
<td>100 (12)</td>
<td>9.08 (8.25)</td>
<td>2.42 (1.31)</td>
</tr>
<tr>
<td>Stabbed</td>
<td>16.7 (2)</td>
<td>5.0 (0)</td>
<td>3.0 (1.41)</td>
</tr>
<tr>
<td>Hit</td>
<td>41.7 (5)</td>
<td>13.40 (10.97)</td>
<td>3.0 (1.22)</td>
</tr>
<tr>
<td>Interfered with wound</td>
<td>50 (6)</td>
<td>12.17 (10.89)</td>
<td>2.5 (0.84)</td>
</tr>
<tr>
<td>Bitten</td>
<td>33.3 (4)</td>
<td>11.0 (11.20)</td>
<td>3.5 (1)</td>
</tr>
</tbody>
</table>
Subjects who self-harmed over the past week (n = 8)

The same descriptive statistics were looked at for those subjects who reported self-harming over the past week. These are reported in Table 3.

Table 3

Table showing number of subjects who have self-harmed over the past week engaging in each type of behaviour and mean frequency and self-rated lethality for subjects reporting each behaviour. n = 8

<table>
<thead>
<tr>
<th>Type of self-harm</th>
<th>Number of Ss engaging in behaviour</th>
<th>Mean frequency of behaviour (SD)</th>
<th>Mean lethality of behaviour (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol overdose</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug overdose</td>
<td>1</td>
<td>2 (0)</td>
<td>2 (0)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poisoned</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burned</td>
<td>1</td>
<td>2 (0)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cut</td>
<td>5</td>
<td>6.4 (10.41)</td>
<td>2.6 (1.34)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Carved words</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scratched</td>
<td>5</td>
<td>3.8 (3.83)</td>
<td>2 (0)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Stabbed</td>
<td>1</td>
<td>1 (0)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hit</td>
<td>2</td>
<td>6 (5.66)</td>
<td>3.5 (2.12)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Interfered with wound</td>
<td>3</td>
<td>11 (12.29)</td>
<td>1 (0)</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>Bitten</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
The most common type of behaviours in this group were also self-cutting and scratching (n = 5 for both). All behaviours, apart from stabbing, had mean frequencies higher than 1, indicating that they were repeated behaviours. However, each has small numbers and large ranges indicating a high variation in reported frequency. Lethality ratings range from 1 - 3.5 (very low to moderate on the rating scale) for this group (mean = 1.87, s.d. = .96, low on rating scale).

Similarly to the description of self-harming behaviour reported over the past year, this sample largely comprises of young people who reported self-injury rather than self-poisoning. The behaviours reported are repetitive and of low lethality.

**Triggers of Self-harming Behaviours**

The following description of the data collected on self-harm refers to all subjects who reported self-harm over the past year (n = 12). Means and standard deviations for possible triggers of self-harm are presented in Table 4. Triggers were split in to two groups, social (S) and internal (I), as indicated in Table 4. Parametric assumptions were satisfied for the data and so a paired samples t-test was carried out to find if the means differed significantly. It was found that social factors (mean = 5.16, s.d. = 2.16) were rated as significantly more often triggering self-harm than internal factors (mean = 2.66, s.d. = 1.72), t = 3.36, p = .006.
Table 4
Table showing mean rating of frequency of events as a trigger for self-harm for subjects reporting self-harm over the past year. n = 12

<table>
<thead>
<tr>
<th>Triggering Event</th>
<th>Mean rating of frequency of event as trigger for self-harm (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) Too much to drink</td>
<td>3.46 (3.77)</td>
</tr>
<tr>
<td>(I) Taken street drugs</td>
<td>1.33 (3.05)</td>
</tr>
<tr>
<td>(S) Argument with someone close to you</td>
<td>7.29 (1.56)</td>
</tr>
<tr>
<td>(S) Argument with boy/girlfriend</td>
<td>2.96 (3.74)</td>
</tr>
<tr>
<td>(S) Argument with friends</td>
<td>4.12 (3.81)</td>
</tr>
<tr>
<td>(I) Worries about sexual identity</td>
<td>0.62 (2.01)</td>
</tr>
<tr>
<td>(I) Worries about own physical health</td>
<td>1.46 (1.66)</td>
</tr>
<tr>
<td>(I) Worries about others’ physical health</td>
<td>4.33 (3.37)</td>
</tr>
<tr>
<td>(I) Worries about school work</td>
<td>3.37 (3.64)</td>
</tr>
<tr>
<td>(S) Felt isolated or lonely</td>
<td>6.25 (3.39)</td>
</tr>
<tr>
<td>(I) Troubled by flashbacks / old memories</td>
<td>4.79 (3.96)</td>
</tr>
</tbody>
</table>
Emotions Associated with Self-harming Behaviours

As can be seen from Table 5, all emotions asked about were rated as occurring fairly often before engaging in self-harming behaviours (minimum = 5.67, maximum = 9.5).

Table 5

Table showing mean rating of frequency of experiencing certain emotions before self-harming in subjects who reported self-harm over the past year. n = 12

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Mean rating of frequency of experiencing emotion before self-harming (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irresistible urge to harm self</td>
<td>6.75 (3.15)</td>
</tr>
<tr>
<td>Anxiety / panic</td>
<td>6.17 (3.38)</td>
</tr>
<tr>
<td>Anger / frustration</td>
<td>8.21 (2.86)</td>
</tr>
<tr>
<td>Stuck and helpless</td>
<td>6.67 (2.46)</td>
</tr>
<tr>
<td>Sad and depressed</td>
<td>9.50 (0.98)</td>
</tr>
<tr>
<td>Hopeless about the future</td>
<td>6.62 (3.23)</td>
</tr>
<tr>
<td>Numb or cut off from reality</td>
<td>6.25 (3.29)</td>
</tr>
<tr>
<td>Unsupported</td>
<td>5.67 (3.43)</td>
</tr>
</tbody>
</table>

Perceived Control Over Self-Harm

Mean ratings suggest that subjects feel somewhat in control of what they are doing whilst they are harming themselves (mean = 6.96, s.d. = 3.14), although there seems to be some variation in response to this. Subjects can find it difficult to stop (mean = 5.46, s.d. = 3.39), although, again responses seem to be varied on this item. Planning
self-harm seems to be fairly infrequent in this sample of young people (mean = 3.08, s.d. = 3.05). See Table 6.

**Table 6**

Table showing mean ratings of frequency of experience of control and planning in relation to self-harm in subjects who reported self-harm over the past year. n = 12

<table>
<thead>
<tr>
<th>Control Item</th>
<th>Mean rating of frequency of experience in relation to self-harm (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'm in control of what I'm doing</td>
<td>6.96 (3.14)</td>
</tr>
<tr>
<td>I find it difficult to stop</td>
<td>5.46 (3.39)</td>
</tr>
<tr>
<td>I plan it for a while beforehand</td>
<td>3.08 (3.05)</td>
</tr>
</tbody>
</table>

**Functions of Self-harming Behaviour**

Means and standard deviations for functions of self-harming are presented in Table 7. These functions were split in to two groups, interpersonal (inter) and intrapersonal (intra), as indicated in Table 7. Because the data for interpersonal triggers were significantly positively skewed and did not therefore meet parametric assumptions, a Wilcoxon signed ranks test was used to find if differences between these two variables were significant. It was found that intrapersonal functions (mean = 4.53, s.d. = 1.96) were rated as significantly more often being a reason for self-harm than interpersonal functions (mean = .35, s.d. = .83), T = 0, p = .002.
Table 7

Table showing mean ratings of frequency of having each reason for self-harm in subjects who reported self-harm over the past year. n = 12

<table>
<thead>
<tr>
<th>Reason for Self-harm</th>
<th>Mean rating of frequency of having this reason for self-harm (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(intra) Control my mind when it is racing</td>
<td>6.21 (3.47)</td>
</tr>
<tr>
<td>(intra) Feel more relaxed</td>
<td>5.17 (3.71)</td>
</tr>
<tr>
<td>(intra) Feel less depressed</td>
<td>4.75 (3.88)</td>
</tr>
<tr>
<td>(intra) Feel real or awake again</td>
<td>3.54 (3.18)</td>
</tr>
<tr>
<td>(intra) Feel in control</td>
<td>4.67 (3.61)</td>
</tr>
<tr>
<td>(intra) Get a ‘buzz’</td>
<td>3.50 (4.01)</td>
</tr>
<tr>
<td>(intra) Distraction from feelings</td>
<td>7.33 (3.22)</td>
</tr>
<tr>
<td>(intra) Stop me doing something worse</td>
<td>7.04 (3.80)</td>
</tr>
<tr>
<td>(intra) Enjoy the pain</td>
<td>3.67 (3.63)</td>
</tr>
<tr>
<td>(intra) Like seeing my blood</td>
<td>2.29 (3.61)</td>
</tr>
<tr>
<td>(intra) Enjoy caring for wounds</td>
<td>1.54 (2.15)</td>
</tr>
<tr>
<td>(intra) I deserve to be punished</td>
<td>5.67 (3.32)</td>
</tr>
<tr>
<td>(intra) I need to pay for my sins</td>
<td>3.54 (3.56)</td>
</tr>
<tr>
<td>(inter) Other people were doing it</td>
<td>0.08 (0.29)</td>
</tr>
<tr>
<td>(inter) To fit in and belong</td>
<td>0.17 (0.58)</td>
</tr>
<tr>
<td>(inter) I want someone to notice</td>
<td>0.62 (1.49)</td>
</tr>
<tr>
<td>(inter) Like being cared for afterwards</td>
<td>0.54 (1.27)</td>
</tr>
</tbody>
</table>
Descriptive Statistics

The remaining data were explored to ensure that parametric assumptions were satisfied. Frequency of self-harm over the past week was found to be positively skewed and was therefore transformed using a double log transformation (log10+1). This variable remained slightly positively skewed following transformation (index of skew = 1.129). However, this was within limits suggested for acceptable departures from normality to ensure robustness of parametric tests (Clark-Carter, 1997) and so analysis proceeded using parametric tests.

Mean scores on the BDI-II, SOS and RQ and RSQ composite variables were then explored (see Table 8) and t-tests were carried out to establish whether significant differences existed between those who reported they had self-harmed over the past week and those who reported they had not. The alpha level for the t-tests was adjusted to $p = 0.003$ as recommended by Clark-Carter (1997) in order to avoid false positives due to the number of t-tests carried out. This adjustment was appropriate because these exploratory statistics were not testing the study’s hypotheses.
Table 8

Table showing means (and standard deviations), t-values and p-values for questionnaire scores for self-harmers (n = 8) and non self-harmers (n = 12)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Self-harmers</th>
<th>Non Self-harmers</th>
<th>t-values</th>
<th>p-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total BDI-II score</td>
<td>42.00 (10.57)</td>
<td>17.58 (13.85)</td>
<td>4.22</td>
<td>.001</td>
</tr>
<tr>
<td>Total discrepancy in social support</td>
<td>2.62 (1.17)</td>
<td>1.42 (0.72)</td>
<td>2.86</td>
<td>.01</td>
</tr>
<tr>
<td>z-score secure</td>
<td>-0.61 (2.17)</td>
<td>0.41 (1.53)</td>
<td>1.23</td>
<td>.23</td>
</tr>
<tr>
<td>z-score fearful</td>
<td>1.00 (1.70)</td>
<td>-0.66 (1.60)</td>
<td>2.23</td>
<td>.04</td>
</tr>
<tr>
<td>z-score preoccupied</td>
<td>-0.002 (2.09)</td>
<td>-0.004 (1.76)</td>
<td>0.01</td>
<td>.99</td>
</tr>
<tr>
<td>z-score dismissing</td>
<td>0.27 (1.84)</td>
<td>-0.18 (1.46)</td>
<td>0.60</td>
<td>.56</td>
</tr>
<tr>
<td>Model of self</td>
<td>-1.34 (2.61)</td>
<td>0.89 (3.20)</td>
<td>1.64</td>
<td>.12</td>
</tr>
<tr>
<td>Model of other</td>
<td>-1.88 (4.82)</td>
<td>1.24 (3.80)</td>
<td>1.62</td>
<td>.12</td>
</tr>
<tr>
<td>Units of alcohol / week</td>
<td>34 (27.84)</td>
<td>4 (9.23)</td>
<td>2.94</td>
<td>.02</td>
</tr>
<tr>
<td>Age</td>
<td>14.62 (0.74)</td>
<td>15.08 (0.90)</td>
<td>0.42</td>
<td>.68</td>
</tr>
</tbody>
</table>

At the adjusted alpha level, it was found that a significant difference between means existed only for total BDI-II score (t = 4.22, df = 18, p = .001). Differences between means for total discrepancy in social support, z-score for fearful attachment and units of alcohol consumed per week were found to be approaching significance. It can be seen that while both self-harmers and non self-harmers have BDI-II scores indicative of clinical depression (cut-off score = 11), those who report having self-harmed over the past week have significantly higher levels of depression.

Some of the demographic data collected were categorical. These data were explored to see if significant differences existed between subjects in different categories in terms of frequency of self-harm over the past week. t-tests were carried out for gender, full time education (or other occupation), learning support (or none), physical health problems (or none), living with both natural parents (or other living
situation) and separation(s) from parents (or none). No significant differences between means for frequency of self-harm over the past week were found.

**Hypothesis Testing**

It was decided that several multiple regressions would be used to build up an observed variable path model which would test the proposed hypotheses. This technique reveals whether independent variables significantly predict variance in the dependent variable (frequency of self-harm over the past week) and tests for indirect effects in the interactions between relevant factors. Conditions were satisfied for homogeneity of variance and for normality, following transformation of the self-harm variable as previously described. However, in order to reach the recommended statistical power of 0.8 (Cohen, 1988) using this technique, the present study would have required 50–80 subjects.

First of all the attachment variables were entered as independent variables in a sequential multiple regression. This would determine their direct relationship with frequency of self-harm. Then, both level of depression and discrepancy in social support became dependent variables in two separate stepwise multiple regressions to determine whether attachment variables significantly predicted their variance. Next with frequency of self-harm as the dependent variable again, level of depression and then discrepancy in social support were entered in a stepwise multiple regression. This would determine the relationship of social support with self-harm after controlling for depression. Finally, level of depression, followed by discrepancy in social support and then the attachment variables were entered in a stepwise multiple
regression with frequency of self-harm as the dependent variable. If social support was a mediating variable, then it was expected that the path co-efficients of the attachment variables would reduce in this regression.

However, this technique of building up an observed variable path model using multiple regressions has limitations. Because the variables in the model are correlated, there is some overlap in the variance of the dependent variable that they account for in each regression. Because several regressions are carried out to build up the model, the path co-efficients are produced without this covariance being taken in to account. This means that the contribution of the independent variables is likely to be over-estimated.

Structural equation modelling is a statistical technique that combines multiple regression analyses with confirmatory factor analysis. It allows models to be tested that have been hypothesised based on previous research and theory. This technique produces a model which is an estimated covariance matrix which is compared with the observed covariance matrix of the data set. The covariance of observed and latent variables is therefore taken in to account in a complex model. Structural equation modelling can therefore test more accurately the strength of the relationships between variables and whether a variable mediates the effect of another variable. It can also assess the reliability and internal consistency of measured variables.

This technique would therefore be more appropriate for testing the hypotheses of the present study. However, the number of subjects in the present sample does not permit
the use of these statistical techniques. Ullman (1996) suggests that at least 200 subjects are likely to be required for small to medium sized models.

As previously outlined, frequency of self-harm over the past week will be used as the dependent variable in the testing of hypotheses. This sample largely comprises of young people who reported self-cutting, scratching, hitting and interfering with infected wounds. Only one person reported any kind of self-poisoning and this was in the category of drug or medication overdose. The behaviours reported are repetitive and of low lethality.

**Multiple Regression Analyses**

Pearson correlations were carried out to determine which variables would be entered into regressions. It was found that frequency of self-harm over the past week was significantly correlated with BDI-II score \((r = .68)\) and total discrepancy of social support \((r = .61)\). In turn, BDI-II score was found to be correlated with units of alcohol consumed per week \((r = .55)\), model of self \((r = -.54)\) and the continuous index of fearful attachment style \((r = .45)\). Discrepancy in social support was found to be significantly correlated with model of other and the continuous index of fearful attachment.

The variables that were found to be significant in the above correlations were then used in the multiple regression analyses. An exception to this was all of the continuous indexes of attachment style as well as the variables of model of self and model of other. These were included despite finding that some of these variables did
not correlate with either the proposed dependent variable (frequency of self-harm over the past week) or the proposed mediating variables (BDI-II score and discrepancy in social support). They were included in order to explore the hypothesised mediatational effect of social support discrepancy between attachment style and frequency of self-harm. It was recognised prior to analysis that no direct significant effect of attachment variables on frequency of self-harm would be found.

Analysis thus proceeded with separate hypothesis testing using model of self and other as the attachment variables in the first analysis, and then using continuous indexes of secure, fearful, preoccupied and dismissing styles of attachment in the second analysis.

**Analysis Using Model of Self and Model of Other**

The first step of this analysis was a sequential regression using frequency of self-harm over the past week as the dependent variable and model of self and model of other as independent variables, in order to establish any direct effect of attachment on self-harm. As expected, these variables were not found to be significant predictors of frequency of self-harm over the past week, together accounting for only 12% of the variance, $F(2, 17) = 1.18, p = .33$ (see Figure 2). Although the predicted relationship was found between frequency of self-harm and model of self and model of other, they were not significant. Hypothesis 1 (c), that there would be a direct relationship between attachment variables and self-harm, specifically that a lower score on model of self would predict a higher frequency of self-harm over the past
week, was therefore not supported. Hypothesis 1 (d), that this relationship would also exist between model of other and frequency of self-harm, was also not supported.

The next step was to carry out a stepwise multiple regression with the same dependent variable, but with BDI-II score (entered in to the regression first in order to control for level of depression) and discrepancy in social support (proposed mediating variable) as independent variables, F (2, 17) = 13.17, p < .001, R² = .61 (see Figure 2). Both discrepancy in social support and BDI-II score were found to significantly add to the prediction of self-harm frequency (β = .417, p = .02 and β = .525, p = .001, respectively). Hypothesis 2 (a) was therefore supported.

In the next step a stepwise multiple regression was carried out with total discrepancy of social support as the dependent variable and model of self and model of other as independent variables, F (1, 18) = 11.40, p = .003, R² = .39 (see Figure 2). It was predicted that this variable would mediate an association between attachment style and frequency of self-harm. It was therefore expected that attachment style would be correlated with total discrepancy of social support in this analysis. However, only model of other was found to significantly add to this prediction (β = -.623, p = .003).

A stepwise multiple regression was then carried out changing the dependent variable to BDI-II score and using the same independent variables, but with the addition of units of alcohol consumed per week F (2, 17) = 10.59, p = .001, R² = .55 (see Figure 2). It was found that only model of self (β = -.501, p = .007) and units of alcohol consumed per week (β = .514, p = .012) were significant predictors of BDI-II score.
The final step was to carry out a stepwise multiple regression with frequency of self-harm as the dependent variable and with BDI-II score entered in the first stage, discrepancy in social support added in the second stage and model of self and model of other added in the third stage, \( F(2, 17) = 13.17, p < .001, R^2 = .61 \) (see Figure 2). This final step allowed the exploration of whether there may be a mediating effect of discrepancy in social support between model of self or model of other and frequency of self-harm in the past week. If this were the case then it would be expected that the initial direct association of these variables would reduce in this final regression.

Again, although both times the associations were found to be non-significant, model of other did decrease. This effect was not found however for model of self. Hypothesis 3, that discrepancy in social support would mediate the effect of attachment style on self-harm, was therefore not supported when model of self and model of other were used as attachment variables.

It was noted that the partial correlation plots for both model of self and model of other were not representative of a linear relationship with frequency of self-harm over the past week (see Graphs 1 and 2).

A power analysis was carried out for the multiple regression looking at the direct relationship between the attachment variables and frequency of self-harm using Cohen’s (1988) statistical power tables. With a 0.12 effect size it was found that the power of this regression was between 0.21 and 0.28. Cohen (1988) recommends a power of 0.8. In this analysis there was therefore a 72 - 79% chance of making a
type II error. In order to have reached power of 0.8, approximately 80 subjects would be necessary.

Graph 1  Graph showing partial regression scatterplot for model of self and (transformed) frequency of self-harm in the past week.

Graph 2  Graph showing partial regression scatterplot for model of other and (transformed) frequency of self-harm in the past week.
**Figure 2**  Figure showing model produced from multiple regression analyses using attachment styles

Dotted lines represent non-significant relationships ($p = .05$). Beta co-efficients are shown for relationships. Those in brackets are the beta co-efficients for the direct relationships between attachment variables and self-harm without level of depression and satisfaction with social support in the model.
**Analysis Using Continuous Variables of Attachment Style**

The same procedure was carried out for the continuous variables of attachment style as was used above with model of self and model of other. Therefore, this analysis also began by establishing whether any direct effect existed of attachment style on frequency of self-harm over the past week using a sequential multiple regression. As expected, it was found that no significant variance in frequency of self-harm (the dependent variable) was accounted for by any of the attachment style variables (the independent variables), $F(4, 15) = 1.09, \ p = .40, \ R^2 = .22$ (see Figure 3). The predicted relationship between attachment style and frequency of self-harm was only found for secure and fearful styles. Hypothesis 1 (a), that there would be a direct relationship between attachment style and self-harm, specifically that higher scores on insecure attachment variables would predict a higher frequency of self-harm over the past week, was therefore not supported. Hypothesis 1 (b), that this relationship would be strongest for preoccupied attachment, was also not supported.

Next, the independent variables were changed to BDI-II score and discrepancy in social support. A stepwise multiple regression was used, entering BDI-II score first in order to control for its effect, followed by discrepancy in social support (proposed mediating variable). These results have already been reported above (see Figure 3).

In order to establish the association between attachment style and discrepancy in social support, a statistical regression was carried out with social support as the dependent variable and attachment styles as the independent variables, $F (1, 18) = 12.54, \ p = .002, \ R^2 = .41$ (see Figure 3). Because it was hypothesised that
discrepancy in social support would mediate a link between attachment style and self-harm, it was expected that attachment styles would each predict variance in discrepancy in social support. However, this was only found to be the case for fearful attachment ($\beta = .641, p = .002$).

Next, the dependent variable was changed to BDI-II score to control for any mediating effect this may have in the model between attachment style and self-harm. Units of alcohol consumed per week was added as an independent variable in the first step in order to control for this correlation, $F (1, 18) = 7.91, p = .012, R^2 = .30$ (see Figure 3). Only units of alcohol consumed per week was found to be a significant predictor of BDI-II score ($\beta = .553, p = .002$). However, it was noted that fearful attachment style was approaching significance in this regression ($\beta = .353, p = .078$).

Finally, a stepwise multiple regression was carried out with frequency of self-harm over the past week as the dependent variable. In the first step BDI-II score was entered. This was followed by discrepancy in social support and then the attachment styles, $F (2, 17) = 13.17, p < .001, R^2 = .61$ (see Figure 3). This regression would explore whether there was any mediating effect of discrepancy in social support evident. Again, if there were then $\beta$ co-efficients for attachment style variables would be expected to reduce. Although in both regressions attachment styles were found to be non-significant predictors, $\beta$ co-efficients did reduce for secure, fearful and dismissing styles. However, hypothesis 3, that discrepancy in social support would
mediate the effect of attachment style on self-harm, was not supported using continuous variables of attachment styles.

Again, it was noted that the partial correlation plot for fearful attachment was not indicative of a linear relationship (see Graph 3).

Again, a power analysis was carried out for the multiple regression looking at the direct relationship between the attachment variables and frequency of self-harm using Cohen's (1988) statistical power tables. With a 0.22 effect size, it was found that the power of this regression was between 0.30 and 0.39. This is also below Cohen's (1988) recommended level of power of 0.8. In this analysis there was therefore a 61 – 70% chance of making a type II error. In order to have reached power of 0.8, 50 subjects would be necessary.

**Graph 3**  
Graph showing partial regression scatterplot for fearful attachment style and (transformed) frequency of self-harm in the past week.
Dotted lines represent non-significant relationships (p = .05). Beta co-efficients are shown for relationships. Those in brackets are the beta co-efficients for the direct relationships between attachment style and self-harm without level of depression and satisfaction with social support in the model.
Discussion

The present study set out with the aim of exploring Adam’s (1994) model of suicidal behaviour in terms of its applicability to self-harming behaviours in an adolescent population. Specifically, the study investigated whether attachment styles or their underlying dimensions accounted directly for the variance in frequency of self-harm and whether this link was mediated by level of satisfaction with social support. This discussion will summarise the findings as they relate to the hypotheses tested. The findings will then be discussed in terms of how they relate to previous research in the area. Next, the limitations of the study will be discussed and this will lead on to a consideration of how future research might progress and finally, what conclusions can be drawn from the study.

Summary of Results

The present study looked at a population of adolescents referred to an out patient mental health service. The rate of referral to the study from the potential population of subjects was low (22%). The results may therefore not be representative of this population. The sample studied included 8 subjects who had never self-harmed, 4 subjects who had only self-harmed at some point in the past year, and 8 subjects who had also self-harmed over the past week. Subjects who had self-harmed over the past week will be referred to as the self-harming group in the following descriptions.

The self-harmers studied in this sample did not differ from the non self-harmers on any of the demographic measures. They were, however, found to be significantly
more depressed. The self-harming behaviours reported were mostly self-injurious rather than ingesting substances. The behaviours in the present sample were repetitive and of a low lethality. This pattern is in keeping with that found in the self-harm syndrome and does not suggest that these behaviours would be considered to be suicide attempts.

Self-harming behaviours were most often triggered by social factors rather than by internal factors. Subjects indicated that the full range of emotions that were suggested occurred prior to self-harm at least some of the time. The functions of self-harming behaviours endorsed fits with individuals attempting to regulate these emotional experiences in some way, in that self-harm was more often reported to serve intrapersonal functions rather than interpersonal functions.

The results indicated that there was no significant direct contribution of any reported attachment styles or their underlying dimensions in the prediction of frequency of self-harm over the past week. It was noted, however, that these non-significant relationships of model of self, model of other and fearful attachment style with frequency of self-harm appeared to be non-linear. Both level of depression and level of satisfaction with social support were found to significantly predict the variance in frequency of self-harm over the past week. Fearful attachment style was found to significantly predict variance in both level of depression and satisfaction with social support. In terms of the underlying dimensions of attachment, model of self was found to be a significant predictor of level of depression and model of other was found to be a significant predictor of level of satisfaction with social support.
Prevalence of Self-harm

In the present study it was found that 60% of the young people who took part had self-harmed over the past year. This is comparable to the prevalence of 54% reported by West et al. (1999) in a study of 12 – 19 year olds referred to both in patient and out patient psychiatric services in Canada. The present study found that self-harm was more prevalent in females than in males in this sample. This difference has also been found in community studies (Hawton et al., 2002; Patton et al., 1997). However, the present results are unlikely to be representative of the population sampled. It is likely that there was a bias among clinicians in the young people referred to the study. Because the study was looking at self-harm, it is probable that clinicians were primed to ask young people to take part in the study who explicitly presented with this difficulty. Further, the population under study ranges in age from 14 to 18 years. However, only 14 to 16 year olds were referred to the study.

The present study found that self-injury (for example self-cutting and self-scratching) were more commonly reported than self-poisoning (including alcohol, street drug, medication and poison). This has also been found in community samples (Hawton et al., 2002).

Functions of Self-harm

The present study found that young people reported intrapersonal functions to more frequently be served by self-harming behaviours than interpersonal functions. This mirrors the literature that suggests that although there may be interpersonal effects of self-harm, this is not the primary function for the individual using this behaviour.
Further, the results suggest regulation of negative emotional states as perhaps being a prominent general reason for self-harm given the high frequencies with which negative emotions were reported to be experienced prior to engaging in the behaviour. Had the present study been specifically investigating functions of self-harm, it would have been interesting for young people to have rated their experiences of negative emotions before and after harming themselves. It would be expected that these emotions would be experienced as being strong prior to self-harm and reducing following the behaviour.

The results also suggest that these negative emotions experienced prior to self-harm may more commonly be associated with interpersonal rather than intrapersonal events. Further, it was found in the present study that satisfaction with social support significantly predicted the variation in frequency of self-harm. This also suggests that current problems within social relationships may be linked to self-harming behaviours. This suggests a sequence, therefore, where a difficult social situation, such as an argument with someone the young person is close to, develops within the context of current problems within relationships and leads to strong negative emotions. These are then managed through self-harm and this leads to a range of more positive intrapersonal experiences, such as reduced negative emotions or feeling more in control of racing thoughts. This supports Adam’s model (1994) of suicidal behaviours and further suggests that it may also be applicable to self-harming behaviours. It should be emphasised, however that this model of individual incidents of self-harm is inferred from the results and was not directly tested.
In the course of carrying out the research some young people gave explanations in their own words as to why they harmed themselves and these demonstrate the proposed sequence described above.

"I get angry at other people and don’t want to take it out on them, so I take it out on myself. I feel happy and hyper afterwards so that keeps it going (the self-harm)."

"It makes me feel better. I’d rather take it (anger) out on myself than others"

"I get sad or angry at myself, friends or family."

"I do it (harm self) after arguments."

"I get really down about things. Sometimes the pain stops me being upset."

The comments by these young people and the data collected about emotions prior to self-harm and functions of self-harm suggest a self-soothing function as described by Gallop (2002). This suggests that the ability to self-soothe in more adaptive ways has not developed appropriately. This ability usually develops within the context of an attachment relationship where the child is able to identify their internal emotional
experience in the reactions of their caregiver in a way that is accurate, but also suggests coping (Fonagy et al., 2001).

**Development of Self-harm**

Despite the support in the present study for how individual episodes of self-harm may occur, there was no support for the developmental model of self-harming behaviour proposed. Neither attachment styles nor their underlying dimensions significantly predicted the variance in self-harm. It was also noted that there may not be a linear relationship between frequency of self-harm and the underlying dimensions of attachment, model of self and model of other.

However, a higher level of fearful attachment and lower level for model of other were both significant predictors of a reduced satisfaction with level of social support. The fearful attachment style is composed of reduced ratings for model of self and model of other. However, the findings suggest that the strongest predictor within this style is model of other. This means that if an individual’s internal working model is more negative, then they are more likely to be dissatisfied with the support they receive from other people in their life. This is likely to impact on the young person’s ability to regulate their affect. There is an association between poor regulation of negative affect and social competency and peer acceptance (Eisenberg et al., 1997). It is likely that this association reflects a transactional process (Rudolph and Asher, 2000). It terms of the continuing development of affect regulation, it is likely that this will be further compromised due to the perceptions held of other people.
Fearful attachment style was also a significant predictor of level of depression. However, this time model of self was the only attachment dimension found to be a significant predictor. Again, this may suggest that in depression the key factor within the attachment relationship is a negative internal working model of self.

From the present results then, it appears that model of other and fearful attachment style conform to the hypothesised relationships and although neither has a significant direct effect on self-harm, there effects were mediated by level of satisfaction with social support.

Previous research looking at the development of suicidal behaviour in young people has measured attachment in various ways. West et al. (1999) used the Adolescent Attachment Questionnaire. This self-report questionnaire measures attachment in three scales of angry distress, availability and goal-corrected partnership. This study found that the perceived unavailability of parents was predictive of suicidal behaviour. It was also found that older adolescents who were suicidal had higher levels of angry distress.

In another study the Parental Bonding Instrument (PBI) was used to explore the concept of attachment in suicidal adolescents (Adam et al., 1994). The PBI is a self-report questionnaire that asks about parental behaviours in the first 16 years of life in two scales; care and overprotection. In suicidal adolescents the pattern of “affectionless control” was found in relation to mothers, but only for females in
relation to fathers. “Affectionless control” is comprised of reports of lower care and higher overprotection.

Adam et al. (1996) assessed attachment in suicidal adolescents using the Adult Attachment Interview (AAI). Using this assessment procedure, it was found that preoccupied attachment style combined with an unresolved-disorganised style in relation to early trauma was associated with suicidality.

It appears that each of these measures of attachment, including those used in the present study, may be looking at quite different aspects of experiences within different relationships. The RSQ and RQ, which were used in the present study, ask the young person to reflect on how they are within their close relationships. The AAQ looks at a single attachment figure (defined as “the person who mostly took care of you from the time you were born to age five”), and the PBI asks about behaviours of both parents, but on separate scales. The AAI is a structured interview and assesses “state of mind with respect to attachment”.

It has been found that there are only moderate sized associations between self-report measures of attachment and the AAI (Shaver et al., 2000; Bartholomew and Shaver, 1998). However, it has been reported that where various measures, self-report and interview based, are related, it is at the level of underlying dimensions. These have been variously described as model of self and model of other (Griffin and Bartholomew, 1994), anxiety and avoidance (Brennan et al., 1998), and comfort having others rely on you and comfort relying on others (Shaver et al., 2000). It has
therefore been suggested that studies using self-report measures of attachment should focus on scores on these dimensions in order to produce the strongest results.

The PBI and AAQ have not been considered in terms of these underlying dimensions of attachment. However, the results from the AAI suggest that a pattern of lower model of self and higher model of other is associated with suicidal behaviour. The current study is only able to comment on the current self-perceived and self-reported relationship style and cannot make comment on the developmental pathway that has lead to that style. Although attachment is said to be relatively stable over time, the measures used in the present study have not been tested in terms of their ability to predict adult attachment from infant attachment styles. In an expanded study the AAI could provide additional information about early trauma events and whether these had been resolved as well as unconscious information about the individuals attachment organisation. Further, the AAI has been found to be able to predict state of mind with respect to attachment in adulthood from infant attachment styles as assessed in the Strange Situation. The AAI could therefore allow more scope to comment on the possible developmental pathways involved. Unfortunately, because of the training involved in carrying out the AAI, this was not a realistic option in the present study. However, only a longitudinal study would truly be able to look at the developmental pathway to self-harming behaviour.

The present study found no significant relationship between attachment variables and frequency of self-harm in a sample of 14 – 16 year old attending a mental health service as out patients. Other literature regarding self-harm is however suggestive of
attachment style playing a role in the development of this behaviour. It may be that this role becomes more evident in those people who continue to self-harm beyond mid-adolescence and in to adulthood. Self-harming behaviours are more prevalent in adolescence than at any other point in the life span. Some of this maladaptive behaviour may reflect young people struggling to cope with the developmental tasks of adolescence and using self-harm as a temporary coping strategy for a number of reasons. However, those who continue to self-harm as a longer term coping strategy may have experienced more disorganised attachment relationships.

This possibility is demonstrated in theories regarding the development of borderline personality disorder, a population in which patterns of unstable relationships and self-harming behaviours are highly prevalent. Fonagy discuss how this personality type may develop from early attachment relationships (Fonagy et al., 2000 and Fonagy et al., 2002). It is proposed that reflective functioning has not developed appropriately due to failures in the caregiving relationship to accurately perceive, interpret and reflect back the child’s internal experiences. The child continues to be unable to integrate real external and internal experiences with those experiences that are completely symbolic and have no ‘real life’ implications. In normal development these two modes of functioning would become integrated and therefore allow the understanding that thoughts and emotions can be similar to, but not the same as real physical experiences. It also allows the exploration, therefore, of alternative ways of thinking and feeling about reality, both within one’s self and within others. It is proposed that those with borderline personality have not achieved this and therefore experience thoughts and feelings as being the same as physical reality.
For people with borderline personality Fonagy et al. (2002) propose therefore that thoughts and feelings are too frightening to allow themselves to experience. The body and their relationships are therefore used to reflect their internal experiences and provide a symbolisation of their emotions and allow them to organise and cope with these experiences. The experience, or threat, of losing an important other person means the threat of not having that relationship in which to reflect their unbearable emotional experiences. This cannot be expressed directly within the relationship through fear of further alienating the other person, and so the body is used to reflect these emotions. This may also represent an extreme attempt to re-establish the relationship through coercive physical action. They are unable to perceive behaviour in others as being intentional, which would imply that the other’s state of mind may be influenced rather than resorting to physical actions (Fonagy et al., 2000).

It may be, therefore, that individuals who continue to self-harm over a longer term period that extends beyond the boundaries of adolescence are more likely to have developmental problems as described. The sample in the present study may not represent such a population and there may be no direct developmental process behind the self-harming behaviours.

However, there was an indication of poor functioning within relationships in the present study, in terms of the reported level of dissatisfaction with social support, and this was related to self-harming behaviour. As described above, these relationship problems may further undermine the young person’s development of adaptive affect.
regulation and could lead to mental health problems in the future. It may be that the present sample is indeed representative of those who will continue to self-harm in to adulthood and that the results reflect their current developmental stage. The young people who took part in the study may have a poorer ability to reflect on how they function within relationships, as is required for completion of the attachment measures. This may in part be due to their general developmental stage as a group of young adolescents (14 – 16 years). However, this would also fit with the connection between insecure attachment and poorer reflective functioning (Fonagy et al., 2002).

Limitations of Study

The present study has some limitations that restrict the extent to which the findings can be generalised and effect the interpretation of the results. However, it can be considered to be a pilot study which can inform further larger scale exploration of a developmental model of self-harm in adolescence, as will be outlined below.

First of all, the study includes only 20 (15%) of the possible 127 young people that could have been included in the sample. This small number of subjects has resulted in the study being under power. In order to have reached power a total of 50 - 80 subjects would have to have been recruited (depending on which attachment variables were used). It is also possible that the sample is biased given the low rate of referral to the study. Information is not available regarding diagnosis of those young people referred or not. It is possible that clinicians remembered more often in those assessments where self-harm was explicitly spoken about. Also, it is possible that
clinicians did not remember in those assessments that were particularly challenging, perhaps where attachment and relationship issues were prominent.

A second limitation of this study is the attachment measure used. It would have been preferable to have used the AAI in this study, given that this measure has been shown to be related to attachment style in infancy. This would have been a better test of the developmental model proposed. However, as previously discussed, it was not possible to use the AAI due to time and training implications.

Another problem in measurement was with reported frequency of self-harm. It is likely to be difficult for a young person to give a true figure for frequency of self-harm where the act is repetitive. However, the estimations are likely to broadly reflect actual frequency of self-harm.

Finally, as previously outlined, there are problems with the statistics used in the analysis. It would have been preferable to use structural equation modelling. This technique of analysis looks at all relationships in the model at once and takes covariances into account. This technique could only have been used with a much larger sample size.

**Future Research**

In order to more effectively test the hypotheses of this study, it is proposed that the research could be expanded to include a larger sample size. This would allow the use of structural equation modelling which would more accurately test the hypotheses of
this study. Further, the study could improve its measurement of attachment by including measures that explicitly assessed attachment with parents and also with peers. For example, The AAQ assesses three factors relating to attachment style with parents. This measure has been found to demonstrate strong convergent validity with the AAI. The Inventory of Parent and Peer Attachment (Armsden and Greenberg, 1987) could also be used to assess attachment in these two sets of relationships. Structural equation modelling would allow these measures to be combined to form a single latent variable of attachment and may improve the accuracy of measurement of this variable.

Using several different measures of attachment within the one study would also mean that the scales could be assessed in terms of how they correlate with each other. This would inform the future investigation of attachment in adolescents.

It would be useful also to investigate the development of suicidal behaviour in comparison with self-harming behaviour. The present study suggests that self-harming behaviour has no relationship with current attachment style. It may be that there is no influence of attachment style or that the effect is smaller than is the case in suicidal behaviour. The description of self-harm in the present study suggests that the behaviours were not suicidal in nature, although this was not thoroughly assessed. Future research could usefully compare well defined groups of self-harming and suicidal young people on measures of attachment style to investigate any difference in effect.
Finally, it would be informative to look at attachment in adults who self-harm. As previously discussed, it may be that there is a stronger relationship between attachment relationships and self-harm in adulthood.

**Conclusion**

The present study set out to explore Adam’s (1994) model of suicidal behaviour in terms of it’s applicability to self-harming behaviours in adolescence. Previous research with a much larger sample of suicidal adolescents and using self-report and interview measures of attachment have reported indications of insecure attachment styles in these populations in comparison with psychiatric controls. However, the present study found that there was no direct significant effect of attachment style or of the underlying dimensions of attachment on frequency of self-harm. Significant effects of the attachment variables were however, found on level of depression and level of satisfaction with social support, and these factors are likely to have further developmental implications in terms of affect regulation. Suggestions have been presented for how this research may be taken forward in ways that would improve its power and ability to test developmental hypotheses.
References


<table>
<thead>
<tr>
<th>Appendix 1</th>
<th>Demographic information questions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Patient Details

1. Age:

2. Sex:

3. Current occupation:  
   - school  
   - university / college   
   - employed  
   - unemployed  
   - other ______________________

4. Have you ever received learning support at school or college?  
   - No  
   - Yes

5. Do you have any physical health problems?  
   - No  
   - Yes ______________________

6. Who do you currently live with?  
   - both natural parents  
   - One natural parent  
   - One natural and one step-parent  
   - Foster parents  
   - Adoptive parents  
   - Care home  
   - Extended family only  
   - Other ______________________

7. Have you ever experienced any significant separations from your parents or main caregivers?  
   - 1  
   - 2  
   - 3  
   - 4  
   - 5

   What age ______________________

   Length of separation ______________________
8. What was the reason for this / these separation(s)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>death of a parent</td>
<td></td>
</tr>
<tr>
<td>illness in child</td>
<td></td>
</tr>
<tr>
<td>School / work</td>
<td></td>
</tr>
<tr>
<td>illness in parent</td>
<td></td>
</tr>
<tr>
<td>divorce / separation</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
</tr>
</tbody>
</table>

9. How many units of alcohol do you drink each week?

__________________________

10. Do you use any ‘street drugs’?

   Number of different types used ________________
   Times per month ____________________________
Appendix 2  Beck Depression Inventory
Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

<table>
<thead>
<tr>
<th>1. Sadness</th>
<th>6. Punishment Feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel sad.</td>
<td>0 I don't feel I am being punished.</td>
</tr>
<tr>
<td>1 I feel sad much of the time.</td>
<td>1 I feel I may be punished.</td>
</tr>
<tr>
<td>2 I am sad all the time.</td>
<td>2 I expect to be punished.</td>
</tr>
<tr>
<td>3 I am so sad or unhappy that I can't stand it.</td>
<td>3 I feel I am being punished.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Pessimism</th>
<th>7. Self-Dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I am not discouraged about my future.</td>
<td>0 I feel the same about myself as ever.</td>
</tr>
<tr>
<td>1 I feel more discouraged about my future than I used to be.</td>
<td>1 I have lost confidence in myself.</td>
</tr>
<tr>
<td>2 I do not expect things to work out for me.</td>
<td>2 I am disappointed in myself.</td>
</tr>
<tr>
<td>3 I feel my future is hopeless and will only get worse.</td>
<td>3 I dislike myself.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Past Failure</th>
<th>8. Self-Criticalness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I do not feel like a failure.</td>
<td>0 I don't criticize or blame myself more than usual.</td>
</tr>
<tr>
<td>1 I have failed more than I should have.</td>
<td>1 I am more critical of myself than I used to be.</td>
</tr>
<tr>
<td>2 As I look back, I see a lot of failures.</td>
<td>2 I criticize myself for all my faults.</td>
</tr>
<tr>
<td>3 I feel I am a total failure as a person.</td>
<td>3 I blame myself for everything bad that happens.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Loss of Pleasure</th>
<th>9. Suicidal Thoughts or Wishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I get as much pleasure as I ever did from the things I enjoy.</td>
<td>0 I don't have any thoughts of killing myself.</td>
</tr>
<tr>
<td>1 I don't enjoy things as much as I used to.</td>
<td>1 I have thoughts of killing myself, but I would not carry them out.</td>
</tr>
<tr>
<td>2 I get very little pleasure from the things I used to enjoy.</td>
<td>2 I would like to kill myself.</td>
</tr>
<tr>
<td>3 I can't get any pleasure from the things I used to enjoy.</td>
<td>3 I would kill myself if I had the chance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Guilty Feelings</th>
<th>10. Crying</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 I don't feel particularly guilty.</td>
<td>0 I don't cry anymore than I used to.</td>
</tr>
<tr>
<td>1 I feel guilty over many things I have done or should have done.</td>
<td>1 I cry more than I used to.</td>
</tr>
<tr>
<td>2 I feel quite guilty most of the time.</td>
<td>2 I cry over every little thing.</td>
</tr>
<tr>
<td>3 I feel guilty all of the time.</td>
<td>3 I feel like crying, but I can't.</td>
</tr>
</tbody>
</table>

Subtotal Page 1

Continued on Back
11. Agitation
0  I am no more restless or wound up than usual.
1  I feel more restless or wound up than usual.
2  I am so restless or agitated that it’s hard to stay still.
3  I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
0  I have not lost interest in other people or activities.
1  I am less interested in other people or things than before.
2  I have lost most of my interest in other people or things.
3  It’s hard to get interested in anything.

13. Indecisiveness
0  I make decisions about as well as ever.
1  I find it more difficult to make decisions than usual.
2  I have much greater difficulty in making decisions than I used to.
3  I have trouble making any decisions.

14. Worthlessness
0  I do not feel I am worthless.
1  I don’t consider myself as worthwhile and useful as I used to.
2  I feel more worthless as compared to other people.
3  I feel utterly worthless.

15. Loss of Energy
0  I have as much energy as ever.
1  I have less energy than I used to have.
2  I don’t have enough energy to do very much.
3  I don’t have enough energy to do anything.

16. Changes in Sleeping Pattern
0  I have not experienced any change in my sleeping pattern.
1a  I sleep somewhat more than usual.
1b  I sleep somewhat less than usual.
2a  I sleep a lot more than usual.
2b  I sleep a lot less than usual.
3a  I sleep most of the day.
3b  I wake up 1-2 hours early and can’t get back to sleep.

17. Irritability
0  I am no more irritable than usual.
1  I am more irritable than usual.
2  I am much more irritable than usual.
3  I am irritable all the time.

18. Changes in Appetite
0  I have not experienced any change in my appetite.
1a  My appetite is somewhat less than usual.
1b  My appetite is somewhat greater than usual.
2a  My appetite is much less than before.
2b  My appetite is much greater than usual.
3a  I have no appetite at all.
3b  I crave food all the time.

19. Concentration Difficulty
0  I can concentrate as well as ever.
1  I can’t concentrate as well as usual.
2  It’s hard to keep my mind on anything for very long.
3  I find I can’t concentrate on anything.

20. Tiredness or Fatigue
0  I am no more tired or fatigued than usual.
1  I get more tired or fatigued more easily than usual.
2  I am too tired or fatigued to do a lot of the things I used to do.
3  I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
0  I have not noticed any recent change in my interest in sex.
1  I am less interested in sex than I used to be.
2  I am much less interested in sex now.
3  I have lost interest in sex completely.

Subtotal Page 2
Subtotal Page 1
Total Score
Appendix 3

Significant Others Scale
Significant Others Scale

First of all please tell me the names of seven people who are important in your life. These might be for example, parents, friends, brothers and sisters or boyfriends and girlfriends.

Person 1 ______________________________

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

2(a) Can you lean on and trust this person in times of difficulty? __
2(b) What rating would your ideal be? __

3(a) Does he/she give you practical help? __
3(b) What rating would your ideal be? __

4(a) Can you spend time with him/her socially __
4(b) What rating would your ideal be? __

Person 2 ______________________________

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

2(a) Can you lean on and trust this person in times of difficulty? __
2(b) What rating would your ideal be? __

3(a) Does he/she give you practical help? __
3(b) What rating would your ideal be? __

4(a) Can you spend time with him/her socially __
4(b) What rating would your ideal be? __

Person 3 ______________________________

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

4(a) Can you lean on and trust this person in times of difficulty? __
4(b) What rating would your ideal be? __

4(a) Does he/she give you practical help? __
4(b) What rating would your ideal be? __

4(a) Can you spend time with him/her socially __
4(b) What rating would your ideal be? __
Person 4

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

2(a) Can you lean on and trust this person in times of difficulty? __
2(b) What rating would your ideal be? __

3(a) Does he / she give you practical help? __
3(b) What rating would your ideal be? __

4(a) Can you spend time with him / her socially __
4(b) What rating would your ideal be? __

Person 5

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

2(a) Can you lean on and trust this person in times of difficulty? __
2(b) What rating would your ideal be? __

3(a) Does he / she give you practical help? __
3(b) What rating would your ideal be? __

4(a) Can you spend time with him / her socially __
4(b) What rating would your ideal be? __

Person 6

1(a) Can you trust, talk to frankly and share your feelings with this person? __
1(b) What rating would your ideal be? __

2(a) Can you lean on and trust this person in times of difficulty? __
2(b) What rating would your ideal be? __

3(a) Does he / she give you practical help? __
3(b) What rating would your ideal be? __

4(a) Can you spend time with him / her socially __
4(b) What rating would your ideal be? __
Person 7

<p>| | | | | | | | |</p>
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>1(a)</td>
<td>Can you trust, talk to frankly and share your feelings with this person?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1(b)</td>
<td>What rating would your ideal be?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2(a)</td>
<td>Can you lean on and trust this person in times of difficulty?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2(b)</td>
<td>What rating would your ideal be?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3(a)</td>
<td>Does he / she give you practical help?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3(b)</td>
<td>What rating would your ideal be?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4(a)</td>
<td>Can you spend time with him / her socially</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4(b)</td>
<td>What rating would your ideal be?</td>
<td></td>
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</tbody>
</table>
Appendix 4

Relationship Questionnaire
A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don’t value me as much as I value them.

D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Now please rate each of the relationship styles above to indicate how well or poorly each description corresponds to your general relationship style.
<table>
<thead>
<tr>
<th>Style</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral/Mixed</td>
<td>Agree Strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral/Mixed</td>
<td>Agree Strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral/Mixed</td>
<td>Agree Strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>Neutral/Mixed</td>
<td>Agree Strongly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 5

Relationship Scales Questionnaire
RSQ

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings about close relationships.

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>Not at all like me</th>
<th>Somewhat like me</th>
<th>Very much like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>1. I find it difficult to depend on other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>2. It is very important to me to feel independent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>3. I find it easy to get emotionally close to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td>4. I want to merge completely with another person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>5. I worry that I will be hurt if I allow myself to become too close to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>P</td>
<td>6. I am comfortable without close emotional relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>7. I am not sure that I can always depend on others to be there when I need them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>P</td>
<td>8. I want to be completely emotionally intimate with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>9. I worry about being alone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>10. I am comfortable depending on other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td>11. I often worry that romantic partners don't really love me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td>12. I find it difficult to trust others completely.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td>13. I worry about others getting too close to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>14. I want emotionally close relationships.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>P</td>
<td>15. I am comfortable having other people depend on me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>P</td>
<td>16. I worry that others don't value me as much as I value them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>S</td>
<td>17. People are never there when you need them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>18. My desire to merge completely sometimes scares people away.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>19. It is very important to me to feel self-</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

http://www.sfu.ca/psychology/groups/faculty/bartholomew/research/attachment/rsq.htm  25/02/03
20. I am nervous when anyone gets too close to me.  
21. I often worry that romantic partners won’t want to stay with me.  
22. I prefer not to have other people depend on me.  
23. I worry about being abandoned.  
24. I am somewhat uncomfortable being close to others.  
25. I find that others are reluctant to get as close as I would like.  
26. I prefer not to depend on others.  
27. I know that others will be there when I need them.  
28. I worry about having others not accept me.  
29. Romantic partners often want me to be closer than I feel comfortable being.  
30. I find it relatively easy to get close to others.

<table>
<thead>
<tr>
<th></th>
<th>Not at all like me</th>
<th>Somewhat like me</th>
<th>Very much like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
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SECTION A

I'm going to read out a number of things that you might have done to yourself on purpose in the last year. If any of these apply to you please say 'yes.' If you say 'yes' I will ask you about how often you did this and how serious it was.

1. Taken an alcohol overdose
2. Taken a drug/medication overdose
3. Taken poison or caustic substance
4. Burned or scalded yourself
5. Made cuts to your body
6. Carved words or symbols on your flesh
7. Made scratches to your skin
8. Stabbed/punctured yourself
9. Inflicted blows on yourself/hit yourself
10. Stopped or interfered with a wound healing
11. Bitten yourself
12. Other, describe:

Lethality: 1=very low, 2=low, 3=moderate, 4=high, 5=very high, 6=severe

SECTION B

If 'no' to all items, then stop here. If yes, carry on below.

Have you done any of these in the last week? If so, which of these? (only list ones that have already had a positive response).

1. Taken an alcohol overdose
2. Taken a drug/medication overdose
3. Taken poison or caustic substance
4. Burned or scalded yourself
5. Made cuts to your body
6. Carved words or symbols on your flesh
7. Made scratches to your skin
8. Stabbed/punctured yourself
9. Inflicted blows on yourself/hit yourself
1. Stopped or interfered with a wound healing
1. Bitten yourself
1. Other, describe: ______________________________
SECTION C

In the period before injuring yourself have any of the following happened?

1. You’ve drunk too much
2. Taken street drugs
3. Had an argument or upset with someone close to you
4. Had girlfriend/boyfriend argument or upset
5. Had an argument or upset with friends
6. Had worries about my sexual identity
7. Had worries about physical health
8. Had worries about health or well being of someone close to me
9. Had school work worries
10. Felt very isolated or lonely
11. Felt troubled by flashbacks or old memories
12. Something else, please describe

Can you describe in your own words why you self-harm?

__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________

SECTION D

Before injuring myself:
1. I have an irresistible urge to cut/harm myself
2. I have an increase in anxiety or panic
3. I have an increase in anger or frustration
4. I feel stuck and helpless
5. I feel sad and depressed
6. I feel hopeless about the future
7. I feel numb or cut off from reality
8. I feel unsupported
9. Other:
   describe
   __________________________________________
SECTION E

When injuring myself:
1. I'm in control of what I'm doing
2. I find it difficult to stop
3. I plan it for a while beforehand

SECTION F

Self injuring:
1. Helps me control my mind when it is racing
2. It helps me feel relaxed
3. It helps me feel less depressed
4. It helps me feel real or awake again
5. It helps me feel I am in control
6. I get a 'buzz' from doing it
7. It helps distract me from my feelings
8. It stops me from doing something worse
9. I enjoy the experience of pain
1. I like the sight of my blood
1. I enjoy taking care of my wounds
1. I do it because I deserve to be punished
1. I need to pay for my sins
1. Other people seemed to be doing it so I did it too
1. I do it so that I can fit in and belong
1. I want someone to notice what I am doing
1. I like being cared for after cutting/self harm
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SECTION A

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2. 0______________________________25  25+  □

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SECTION E

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SECTION F continued

17. never________________________always
Appendix 7
Information sheets for participants and their parents
Participant Information Sheet:

The Influence of Important Relationships on Ways of Coping With Distress

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

The study is being carried out in order to increase our understanding of why some young people harm themselves. In furthering our understanding, we hope to be in a better position to offer effective and appropriate help.

From previous research that has been carried out, we think that relationships with parents and friends might be important factors that influence the likelihood of a young person harming themselves. The aim of this study is therefore to find out if this is the case or not.

What will I have to do?

If you decide to take part, you will be asked to complete 4 questionnaires. The first will ask about symptoms of depression. The second and third will ask about your relationships with your family and friends. The final one will ask if you have ever deliberately physically harmed yourself, and if you have you will be asked a few more details about what you did, how long ago, etc. It will take approximately 30 minutes to take part in the study.

Why have I been asked to take part?

The study is running from March 2003 to July 2003. All young people referred to the Young People's Unit during this time are being asked to
take part. We would like to emphasise that participation in this study is entirely voluntary. If you decide not to take part, this will not affect your treatment here in any way. If you do decide to take part, you will always have the right to withdraw at any time and this will not influence your treatment in any way.

Will my participation be kept confidential?

All the information collected as part of the research will be kept strictly confidential. Any information will have your name removed so that you cannot be recognised from it. If participation in the study raises any issues for you, the researcher will be happy to discuss them with you and, with your consent, share any concerns with your therapist. If the researcher is concerned that you are at an immediate risk of causing harm to yourself, she will discuss this with you and your therapist.

Who is organising the research?

The research is being carried out by Claire Wallace (Trainee Clinical Psychologist) as part of the University of Edinburgh Clinical Psychology training course requirements. She is being supervised by Matthias Schwannauer (Clinical Psychologist) at the YPU. This study has been reviewed by the relevant research ethics committee in Lothian.

Local Independent Advisor

If required, you can contact Dr Paul Morris, Lecturer in Health Psychology, as an independent advisor, to discuss any questions you may have about the research. He can be contacted at the following address: Dr Paul Morris, Lecturer in Health Psychology, Kennedy Tower, Royal Edinburgh Hospital, Morningside, Edinburgh, EH10 5HF. Telephone (0131) 537 6279.

Thank you for reading this and for your consideration.
Parent Information Sheet:

The Influence of Important Relationships on Ways of Coping With Distress

Your son or daughter is being invited to take part in a research study. Before you both decide if he or she would like to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish your son or daughter to take part.

What is the purpose of the study?

The study is being carried out in order to increase our understanding of why some young people harm themselves. In furthering our understanding, we hope to be in a better position to offer effective and appropriate help.

From previous research that has been carried out, we think that relationships with family and friends might be important factors that influence whether or not a young person harms themselves. The aim of this study is therefore to find out if this is the case or not.

What will my son or daughter have to do?

If your child decides to take part, and if you give your consent for him/her to do so, he/she will be asked to complete 4 questionnaires. The first will ask about symptoms of depression. The second and third will ask about his/her relationships with his/her family and friends. The final one will ask if he/she has ever deliberately physically harmed themself, and if they have they will be asked a few more details about what they did, how long ago, etc. It will take approximately 30 minutes to take part in the study.
Why has my son or daughter been asked to take part?

The study is running from March 2003 to July 2003. All young people referred to the Young People's Unit during this time are being asked to take part. We would like to emphasise that participation in this study is entirely voluntary. If your child decides not to take part, this will not affect his/her treatment here in any way. If he/she does decide to take part, he/she will always have the right to withdraw at any time and this will not influence his/her treatment in any way.

Will my child's participation be kept confidential?

All the information collected as part of the research will be kept strictly confidential. Any information will have your child's name removed so that he/she cannot be recognised from it. If participation in the study raises any issues for your child, the researcher will be happy to discuss them with him/her and, with their consent, share any concerns with his/her therapist. If the researcher is concerned that he/she is at an immediate risk of causing harm to him/herself, she will discuss this with your child and his/her therapist.

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Thank you for reading this and for your consideration.
CONSENT FORM

Title of Project: The Influence of Important Relationships on Ways of Coping With Distress

Name of Researcher: Claire Wallace, Trainee Clinical Psychologist

Please initial

I confirm that I have read and understand the information sheet dated 14th March 2003 for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.

I understand that sections of any of my medical notes may be looked at by responsible individuals from regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records.

I understand that any information, disclosed during the course of the research, which is deemed important for my continuing care will be shared with my therapist.

I agree to take part in the above study.

Name of Patient ___________________________________________ Date __________ Signature __________

Name of Person taking consent (if different from researcher) ___________________________________________ Date __________ Signature __________

Researcher ___________________________________________ Date __________ Signature __________

1 for patient; 1 for researcher; 1 to be kept with hospital notes