

**THE PSYCHOLOGICAL, PSYCHIATRIC AND
PSYCHOPHYSIOLOGICAL CORRELATES
OF SELF-MUTILATION I**

**THE PSYCHOLOGICAL, PSYCHIATRIC AND
PSYCHOPHYSIOLOGICAL CORRELATES
OF SELF-MUTILATION**

by

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For

**Douglas Glenn HAINES
1925-1971**

My father, who, I am told, believed me to be the most capable
but the one least likely to achieve because I lacked confidence.

Florence Mary Isabel HAINES

My mother, whose job it became to ensure that
this prediction did not come true.

I certify that this thesis contains no material which has been accepted for the award of any other higher degree or graduate diploma in any university, and that to the best of my knowledge and belief the thesis contains no copy or paraphrase of material previously published or written by another person, except where due reference is made in the text of the thesis.

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12th September, 1994

ABSTRACT

Type III self-mutilation is defined as deliberately inflicted and often repetitive low lethality self-injurious behaviour, of a socially unacceptable nature, performed in the absence of conscious suicidal intent and at a time of psychological crisis. It includes such behaviours as self-cutting, self-burning, skin-abrading, self-hitting and wound excoriation. The behaviour is believed to reflect severe psychopathology and alteration or extinction of the behaviour is problematic.

This investigation examined aspects of self-mutilative behaviour in a male incarcerated population. Comparisons were made with two control groups: a group of male prisoners with no history of self-mutilation and a normal control group with no history of self-mutilation or criminal incarceration. Three studies were conducted.

The first study examined those variables reported in the literature to be concomitants of self-mutilative behaviour. As stated, self-mutilation is said to reflect excessive psychopathology. However, incarceration also is associated with elevated symptom levels. It was necessary to determine if a pattern of psychopathology existed that effectively distinguished the self-mutilators from non-mutilating prisoners as well as individuals with no history of self-mutilation or incarceration.

A distinctive pattern of symptomatology emerged. Self-mutilators evidenced a wide range of elevated scores on general measures of psychological/psychiatric symptoms, particularly depression and hostility. Aspects of hostility that distinguished self-mutilators from other groups

included the urge to act out hostile feelings, critical feelings towards others, paranoid feelings of hostility and guilt. Self-mutilators demonstrated substantial problems with substance abuse, particularly alcohol. A pattern of passive-aggressive, schizoid and avoidant personality styles distinguished self-mutilators from other groups.

Consideration also was made to some factors which may have led to these elevated scores and have been associated with self-mutilation in the literature. Generally, the family backgrounds of self-mutilators were unremarkable. Although a history of sexual abuse did not differentiate the groups, there was some evidence that the self-mutilators experienced more severe physical punishment during childhood than control groups. The patterns of these factors differed substantially from results reported in the literature. It was concluded that the occurrence of self-mutilative behaviour be viewed as the primary consideration in understanding the behaviour with differing patterns of psychopathology being understood as secondary and treated symptomatically. As a consequence of this conclusion, the following question needed to be addressed. If self-mutilative behaviour is not necessarily a symptom of a disorder, then what is it?

The second study was based on the notion that the act of self-mutilation is an effective, although maladaptive, strategy for coping with stress. It was hypothesised that self-mutilators would have deficient skills in coping and problem-solving. These deficits would leave self-mutilators vulnerable to the adoption of self-mutilative behaviour as a coping strategy.

Examination of the inherent resources which enable an individual to cope adequately and effectively with stress demonstrated a depressed score

for self-mutilators on the scale measuring self-worth, a positive approach to others and a general optimism about life. In addition, assessment of the strategies used to cope with real problems demonstrated that self-mutilators engaged in more problem avoidance behaviours. Self-mutilators also recorded less perceived control over problem-solving options. Consideration also was given to a range of attitudes or beliefs that predispose an individual to distress. Self-mutilators endorsed a range of irrational beliefs that indicated they generally experienced feelings of little control over life events and a desire to avoid problem situations. However, while these deficits existed for this sample, many aspects of their coping and problem-solving repertoires were adequate. The results suggested that there was a property of self-mutilation that recommended its use to those who engaged in the behaviour. The consistent theme in the literature suggested that this property was tension reduction.

There is much agreement in the literature with regard to the consequences of the behaviour. Self-mutilation is used as a means of alleviating unpleasant psychological states. In brief, the phenomenology of an episode of self-cutting, for example, involves increasing tension and distress as a result of a precipitating factor such as an adverse life event. Negative affect escalates until a state of depersonalisation is experienced. At this point the individual will engage in painless cutting. On the sight of blood, repersonalisation occurs and tension is reduced. Clinical reports of this process resulted in the development of the tension reduction model of self-mutilation. The model postulates that self-mutilation operates as a drive reduction mechanism. The reduction of tension following an act of

self-mutilation is reinforcing, increasing the likelihood that when experiencing a similar negative psychological state, the self-mutilator will repeat the behaviour to gain relief.

The third study tested the tension reduction model of self-mutilation to determine if the behaviour was being maintained by its reinforcing qualities. Self-mutilators' psychophysiological and subjective responses during a visualised self-mutilative act were investigated. Arousal to three imaged control events (neutral, accidental injury and aggression) were examined for differences between self-mutilating prisoner, prisoner control and normal control groups. Imagery scripts were presented in four stages: scene setting, approach, incident, and consequence. Results demonstrated a decrease in psychophysiological and subjective response during imagery of the act of self-mutilation. A lag between psychophysiological and psychological response to the self-mutilative act was demonstrated. Patterns of response elicited during self-mutilation imagery were markedly different to those during control imagery. Results were consistent with reports indicating that self-mutilative behaviour is maintained by the reinforcing tension reducing qualities of the act. The implications of the results of this research to the management of self-mutilative behaviour are discussed.

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CHAPTER ONE
INTRODUCTION TO THE INVESTIGATION

1. INTRODUCTION TO THE INVESTIGATION

1.1 Definition of the problem

Self-mutilation is the self-effected alteration of physical form. The degree to which this type of behaviour is accepted within a society is a function of the cultural context in which the behaviour occurs (Favazza, 1989a; Favazza & Favazza, 1987). What makes this type of behaviour acceptable is the perception that the resultant disfigurement is symbolically meaningful or attractive given the mores of the society or subculture that fosters such behaviour (Walsh & Rosen, 1988). For example, in western culture, tattooing among sailors can provide symbolism for peers. The piercing of earlobes is perceived to be beauty enhancing. However, other types of self-alteration of physical form, such as the insertion of animal bones under the skin of the face, would be less well tolerated in this society (Favazza & Favazza, 1987).

There has been increasing interest in forms of bodily alteration that fall outside the context of ritual or societal convention (Favazza, 1989a, 1989b, 1989c; Walsh & Rosen, 1988). In these cases, the behaviour may range from skin-cutting (Feldman, 1988a; Fruensgaard & Flindt Hansen, 1988; Ross & McKay, 1979) and self-burning (Favazza, 1989a; Fruensgaard & Flindt Hansen, 1988; Rosenthal, Rinzler, Wallsh & Klausner, 1972; Ross & McKay, 1979; Schwartz, Cohen, Hoffman & Meeks, 1989) to removal of an eye (Ananth, Kaplan & Lin, 1984; Favazza, 1989a; MacLean & Robertson, 1976) or a limb (Coons, Ascher-Svanum & Bellis, 1986; Mintz, 1964; Stewart & Lowrey, 1980). These deviant behaviours are not fostered by societal custom, are

socially unacceptable, and are performed as a function of psychological maladjustment (Favazza, 1989c; Favazza & Favazza, 1987).

This type of behaviour could be dismissed as an aberrant act if the incidence of the behaviour was low and restricted to individuals who were perceived to be "insane". However, such is not the case. There has been increasing recognition that pathological self-mutilative behaviour is not restricted only to individuals with psychosis (Walsh & Rosen, 1988). Nor is it solely restricted to institutional settings (Feldman, 1988a). Indeed, many self-mutilators function in a productive manner (Favazza & Conterio, 1989; Grunebaum & Klerman, 1967) and have never sought treatment for their behaviour (Favazza & Conterio, 1989).

Nonetheless, self-mutilation is an inappropriate response to stress, either psychological or environmental. The behaviour carries with it unacceptable risks to the wellbeing of the mutilator. At one extreme, the self-mutilator faces stigmatisation and ostracism from family, peers and professionals (Walsh & Rosen, 1988) leading to serious disruption of support systems. In addition, the commonly reported repetition of the behaviour can result in a desensitising effect, leading to greater risks being taken with subsequent episodes of self-mutilative behaviour. Therefore, at the other extreme, accidental death can occur as the behaviour escalates to the point where the mutilator no longer has complete control of the consequences of his or her behaviour (Bancroft & Marsack, 1977).

There is a plethora of explanations for the behaviour. However, few of these theories have been adequately examined. Indeed, the multi-determinants of some theories make direct testing problematic (Bennun,

1984). Nevertheless, the theoretical positions of many authors have contributed to the understanding of deviant self-mutilative behaviour although no one theory can account for all aspects of the behaviour or all cases. In all likelihood, the aetiology of self-mutilative behaviour may involve different determinants for the onset and maintenance of the behaviour.

The understanding of self-mutilation further is hampered by disagreement regarding the categorisation and definition of the behaviour. Firstly, there is much disagreement in the literature regarding the nature of self-mutilative behaviour. In general, those investigating suicidal behaviour define self-mutilative behaviour as attempted suicide (e.g., Bancroft & Marsack, 1977; Hawton & Blackstock, 1976). Those who investigate self-mutilative behaviour alone cite evidence to suggest that suicidal behaviour and self-mutilative behaviour are distinct and can be distinguished by a range of factors (Daldin, 1988; Gold Jr, 1987; Simpson, 1975; Walsh & Rosen, 1988). Self-mutilators have been reported to be able to distinguish their self-mutilative from their suicidal behaviours (Schwartz et al., 1989; Simpson, 1981). However, it is not always clear that this is the case. The range of behaviours associated with self-mutilation and the self-destructive nature of these behaviours indicates that there is some overlap between suicidal and self-mutilative acts.

The second difficulty in the literature relates to the categorisation or classification of self-mutilative behaviour. It is evident that self-mutilative behaviours differ greatly in terms of medical seriousness and severity of wound (Favazza & Conterio, 1989; Harris & Rai, 1976; Raine, 1982; Rosenthal et al., 1972; Takeuchi, Koizumi, Kotsuki, Shimazaki, Miyamoto & Sumazaki,

1986). It would be difficult to sustain an argument, for example, that superficial skin scratching and eye enucleation were of the same class of behaviours. Obviously, some form of classification is necessary. Early attempts at this were not without merit (e.g., Menninger, 1935; Pao, 1969). However, increasing understanding of the nature of the behaviour has resulted in refinement of the classification systems available (Favazza, 1992; Favazza & Rosenthal, 1990, 1993; Tantam & Whittaker, 1992; Walsh & Rosen, 1988). When conducting any research, it is necessary to adopt a classification system that adequately defines the target behaviour. This calls for an examination of the systems available and identification of the one system that provides a most comprehensive account of all factors needed to categorise behaviours and leads to a useful definition of the behaviour that is the target for study. Of course, this task is made more difficult by the lack of agreement regarding terminology (Ross & McKay, 1979).

There is little consensus regarding any of the above mentioned factors. While the extent of the literature is large, it has little structure. It is necessary to clearly identify the area of study. As a consequence, it is important to review the literature to apply some structure to the available information regarding self-mutilative behaviour. This allows for a decision to be made as to the definition of the behaviour that is the target for study.

Given the amount of research that has been conducted, it is surprising that relatively little is known about the factors that maintain such a behaviour. While self-mutilation is a complex behaviour, there is nothing about the nature of self-mutilative behaviour that could hold appeal for the majority of people. Some aspect of the behaviour must recommend it to those who

engage in the behaviour. There is a theme in the literature that this factor is the reduction of negative affect that occurs following the commission of a self-mutilative act (Gold Jr, 1987; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). While clinical and phenomenological reports have supported this notion, no empirical test of this proposition has been conducted.

There is no treatment method that consistently and effectively combats the symptom of self-mutilation (Feldman, 1988a; Simpson, 1976; Thorburn, 1984). Of course, treatment successes have been reported (e.g., Cautela & Baron, 1973; Cox & Klinge, 1976; Kaminer & Shahar, 1987; Roback, Frayn, Gunby & Tutters, 1972; Rosen & Thomas, 1984) although the limitations of this literature make generalisation of results difficult. As self-mutilative behaviour represents a significant clinical problem (Maloney, Shah & Ferguson, 1987; Walsh & Rosen, 1988), it is important to fully understand the behaviour so that the impediments to the success of therapy ultimately may be eliminated.

1.2 An overview of the investigation

Initially, it was necessary to determine if self-mutilative behaviour was a symptom of a disorder. This was necessary from a treatment viewpoint because it would determine whether the target for treatment should be self-mutilative behaviour itself, or a disorder of which self-mutilative behaviour was a symptom. There was evidence in the literature that self-mutilative

behaviour generally was understood to be a symptom of borderline personality disorder (Favazza & Conterio, 1989; Fruensgaard & Flindt Hansen, 1988; Lion & Conn, 1982; Nelson & Grunebaum, 1971; Schaffer, Carroll & Abramowitz, 1982; Simpson, 1976; van Moffaert, 1990) although many other types of symptomatology have been related to the occurrence of self-mutilative behaviour. To some extent, this could provide a reason for the lack of consistent therapeutic success when treating self-mutilative behaviour. If self-mutilation is linked with borderline personality traits, then the elimination of the behaviour would be problematic. It is fairly well established that modification of pathological personality traits is exceedingly difficult (Phares, 1988).

Apart from personality traits, elevated levels of symptomatology may be recorded in conjunction with self-mutilative behaviour. Indeed, depressive symptoms (Bennum, 1983; Darche, 1990; Kaplan & Fik, 1977; Rosenthal et al., 1972; van Moffart, 1990), anxiety (Bennum, 1983; Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simeon, Stanley, Frances, Mann, Winchel & Stanley, 1992; Simpson, 1975, 1976), hostility (Bennum, 1983; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Pao, 1969; Robinson & Duffy, 1989; Yesavage, 1983) and substance abuse (Gossop, Cobb & Connell, 1975; Lion & Conn, 1982; Novotny, 1972; Rosenthal et al., 1972; Simpson, 1976) all have been associated with self-mutilative behaviour. However, whether these symptoms are a precipitant to or consequence of self-mutilative behaviour has not received much attention and certainly cannot be determined in a cross-sectional study. The focus of the literature generally

does not seem to be to identify self-mutilative behaviour as a symptom of these types of disorder but merely to report the association.

The results of the first study of this investigation did not support the notion that self-mutilative behaviour is a symptom of a specific disorder. A distinctive pattern of personality characteristics for the self-mutilators was evident but this pattern was not in accord with that reported in the literature. Certainly, elevated levels of symptomatology were evidenced, particularly depression, anxiety, hostility and substance abuse but this study did not clarify if these symptoms were precipitants or the consequence of self-mutilative behaviour.

An alternative view taken in the literature is that self-mutilative behaviour is the product of a disturbed background. Disrupted family background (Carroll, Schaffer, Spensley & Abramowitz, 1980, 1981; Favazza & Conterio, 1989; Grunebaum & Klerman, 1967; Simpson, 1975, 1976; Walsh & Rosen, 1988) and histories of physical and sexual abuse (Carroll et al., 1980, 1981; Favazza & Conterio, 1989; Goodwin, Simms & Bergman, 1979; Green, 1978; Robinson & Duffy, 1989; van der Kolk, Perry & Herman, 1991) have been reported to precipitate the development of self-mutilative behaviour. These factors were examined and the results suggested that, in this sample, they were more related to incarceration than to self-mutilation. The backgrounds of this sample of self-mutilators were largely unremarkable.

This does not suggest that the sample of self-mutilators in this study was a biased one, at least no more biased than any other selected sample of self-mutilators. The problem of sample bias will be addressed. The results support the proposition that self-mutilative behaviour is a distinct entity.

Although often reported in conjunction with a range of disorders and particularly in conjunction with borderline personality disorder, to understand and control the behaviour it is necessary to focus on that behaviour. A broad range of factors could influence the nature of the psychopathology of any one group of self-mutilators. Treating the symptoms of a separate psychological disorder in an attempt to eliminate self-mutilative behaviour is not recommended from the results of this study.

If self-mutilative behaviour is not a symptom of a particular disorder and does not necessarily reflect a dysfunctional background, then the behaviour must reflect some other form of dysfunction. It was postulated that the behaviour was the result of irrational thinking and was the result of deficits in coping and problem-solving. Although there is little research reported in the literature relating to these factors, general opinion holds that these deficits are evident among self-mutilators. Self-mutilative behaviour has been described as a maladaptive coping strategy that is employed because the individual lacks alternative means of coping and is unable to successfully problem-solve (see Walsh & Rosen, 1988).

The results of the second study in this investigation indicated that some deficits in coping and problem-solving were evident. These deficits distinguished the self-mutilators from control groups although there was no consistent indication of a pattern of irrational thinking that could account for the behaviour and the extent of the deficits in coping and problem-solving was not great. Although previously not empirically tested, these results are contrary to the theme in the literature that individuals engage in self-mutilative behaviour because of deficits in these areas.

Of course, these results do not preclude self-mutilative behaviour from being a coping strategy. Indeed, in all likelihood it is. However, if self-mutilators do have alternative coping strategies available, strategies that do not carry with them the negative consequences of self-mutilation such as scarring and interpersonal conflict, then there must be some aspect of self-mutilative behaviour that makes it the preferred alternative.

As mentioned, a common thread in the literature relates to the description of the consequences of an act of self-mutilation. Clinical and phenomenological reports support a reduction in negative affect with the execution of the act (Gold Jr, 1987; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). This decrease in emotional distress has been reported by investigators from quite diverse disciplines, such as psychodynamics and learning theory. There also is some indication in the literature that the reduction of negative affect is accompanied by a reduction in arousal or tension (Bennun, 1984). If these reports are correct, then it is possible that the behaviour is difficult to eliminate because of a strong reinforcement mechanism. The positive consequences of an act of self-mutilation will reinforce the behaviour (Bennun, 1984; Favazza & Favazza, 1987; Feldman, 1988a; Ross & McKay, 1979). This proposition has led to the development of the tension reduction model of self-mutilative behaviour (Bennun, 1984)

It was necessary to establish a methodology that could tap these processes. Clearly, it was not possible to evaluate the responses of an individual at the time of a self-mutilative act. There is a sound research base that supports

the use of guided imagery in eliciting a realistic reaction to the memory of an actual event (Acosta & Vila, 1990; Bauer & Craighead, 1979; Borkovec & Hu, 1990; Contrada, Hilton & Glass, 1991; Hirota & Hirai, 1986; Lang, 1979; Lang, Kozak, Miller, Levin & McLean, 1980; Miller, Levin, Kozak, Cook, McLean & Lang, 1987; Pitman, Orr, Forgue, Altman & de Jong, 1987). However, when evaluating the response to self-mutilative behaviour it was necessary to record the reaction over time; the reported escalation of tension prior to the act and the reported reduction of tension as a consequence of the behaviour. The imagery methodologies available did not allow for this sequence to be examined.

One methodology had been developed that examined the process over time of punitive interactions between parents and children (R.v. Horton, 1986; Williams, Wilson, Montgomery & Batik, 1989). Behaviours were divided into stages, corresponding imagery scripts were administered and psychophysiological recordings were made. This stage methodology allowed for the gradual and realistic build-up of an arousal response.

This methodology was modified and applied to the process of actual episodes of self-mutilative behaviour. Results supported the proposition of the tension reduction model, in that there is an immediate and significant reduction in psychophysiological arousal with the act of self-mutilation. Interestingly, there was a lag between the reduction of psychophysiological arousal and the reduction of negative affect. The results indicated that the decrease in psychophysiological arousal was the component of the process that was reinforcing the self-mutilative behaviour. These results were discussed in terms of their implications for management of self-mutilative behaviour.

CHAPTER TWO
TYPES OF SELF-MUTILATIVE BEHAVIOUR

2. TYPES OF SELF-MUTILATION

Prior to any investigation of self-mutilation, it is essential to define the behaviour that is the target for study. On the surface this is a relatively simple task. However, the scope of deliberately inflicted self-harm means that, before this can be done, certain aspects of the behaviour need to be examined. It is necessary to identify the nature of the behaviours that are subsumed under the title self-mutilation. Following from this, it is important to examine how self-mutilative behaviours differ from behaviours directed at ending life so that the determinants of one type of behaviour are not confused with the determinants of the other. To further approach the target behaviour, the classification of self-mutilation should be examined to determine which particular form of self-mutilation is to be studied. From this, a precise definition of the target behaviour should be supplied. The following three chapters are an attempt to meet these needs.

Self-mutilation is most simply categorised by behaviour type and this approach has been adopted as a method of classification (Ross & McKay, 1979). As a classification system it bypasses the difficulties of conflicting theoretical positions but ignores the psychological or cultural determinants of the behaviour and does not differentiate behaviours of differing severity (Walsh & Rosen, 1988). Examination of the types of self-mutilation more properly belongs in the realm of education. The advantage of examining the acts of self-mutilators by type is to bring structure to an extensive array of behaviours. It should be noted that no discussion of self-mutilation could possibly incorporate all the mutilative behaviours of people who

deliberately harm themselves. Nevertheless, certain more common behaviours can be drawn together under specific titles.

2.1 Self-cutting

The most commonly reported form of self-mutilation entails cutting of the skin (Feldman, 1988a; Fruensgaard & Flindt Hansen, 1988; Ross & McKay, 1979). The severity of self-cutting ranges from the most superficial consisting of slight incisions associated with minimal bleeding, to the most severe lacerations where nerves and tendons are severed (Favazza & Conterio, 1989; Harris & Rai, 1976; Raine, 1982; Rosenthal et al., 1972; Takeuchi et al., 1986). Although attempts to desensitise or anaesthetise the skin prior to injury are rare, cutting is typically painless (Feldman, 1988a; Ross & McKay, 1979; Walsh & Rosen, 1988). This aspect of self-mutilation will be discussed in detail in subsequent chapters.

While instances of bizarre self-cutting by psychotic individuals and life-threatening cutting by suicidal individuals have been reported (Simpson, 1976), the majority of skin-cutters engage in more moderate injury that carries with it little risk of death (Favazza, 1989a; Ross & McKay, 1979; Simpson, 1976). A study of completed suicide in Tasmania over a twenty year period demonstrated only 15 deaths by cutting out of a total of 1,051 suicides (1.4%). The majority of these deaths were caused by cutting of the carotid artery (Haines, Hart, Davidson, Slaghuis & Williams, 1989). Lethal self-inflicted knife wounds are commonly the result of stabbing (Vanezis & West, 1983). Therefore, while wrist-cutting is often recognised as a suicide

attempt or suicide gesture (Walsh & Rosen, 1988), the lethality of the behaviour is commonly low.

The wrist and forearm are the most common sites of injury although these sites are not exclusive (Feldman, 1988a; Gardner & Gardner, 1975; Lion & Conn, 1982; Notovny, 1972; Schwartz et al., 1989; Simpson, 1976). Reports of cutting of the legs (Feldman, 1988a; Notovny, 1972; Rosenthal et al., 1972; Takeuchi et al., 1986), feet (Feldman, 1988a), abdomen and stomach (Notovny, 1972; Rosenthal et al., 1972), face (Feldman, 1988a; Notovny, 1972; Raine, 1982; Rosenthal et al., 1972; Schwartz et al., 1989), hands (Feldman, 1988a; Rosenthal et al., 1972), neck (Novotny, 1972; Rosenthal et al., 1972; Schwartz et al., 1989) and chest or breasts (Feldman, 1988a; Muluka & Dhadphale, 1986; Rosenthal et al., 1972; Schwartz et al., 1989) are frequent. Indeed, there are few sites on the body that have escaped injury (Ross & McKay, 1979).

Reports of the wrist and forearm as the most commonly damaged sites largely reflects injury of convenience (Raine, 1982; Simpson, 1976). Cutting most commonly occurs on the arm opposite the dominant hand, reinforcing the wrist and forearm as sites of convenience (Harris & Rai, 1976; Takeuchi et al., 1986). These locations are easily accessible and have the advantage of allowing controlled exposure of the consequences of cutting (Feldman, 1988a; Ross & McKay, 1979).

Multiple injury sites have been documented (Rosenthal et al., 1972). The mutilator may change sites with subsequent cutting episodes. In addition, while a single laceration may occur, within a typical cutting episode, the mutilator more commonly produces multiple wounds ranging from quite

superficial scratching that heals without scarring, to more substantial injury (Simpson, 1976).

The razor blade is the most frequently reported instrument of skin-cutting (Feldman, 1988a; Harris & Rai, 1976; Notovny, 1972; Raine, 1982; Rosenthal et al., 1972; Schwartz et al., 1989; Takeuchi et al., 1986), although any tool will suffice. Reports have included the use of knives (Harris & Rai, 1976; Takeuchi et al., 1986) including plastic knives (Rosenthal et al., 1972), scissors (Takeuchi et al., 1986), pins (Rosenthal et al., 1972; Takeuchi et al., 1986), food bones (Feldman, 1988a), broken glass (Notovny, 1972; Rosenthal et al., 1972; Schwartz et al., 1989; Simpson, 1976), phonograph records (Rosenthal et al., 1972) and fingernails (Schwartz et al., 1989). Even strands of hair can be sawn across the skin to draw blood (Ross & McKay, 1979). Indeed, the range and variety of instruments used to inflict injury testifies to the resourcefulness of the self-mutilator (Feldman, 1988a). In institutional settings, there is a reported preference for instruments that are obtained and hidden by breaking rules (Notovny, 1972; Raine, 1982; Simpson, 1976). However, it is interesting to note that there is no escalation of self-cutting in institutions where instruments such as razor blades are freely available (Raine, 1982).

The term skin-cutting can be used to encompass a wide variety of behaviours. Skin-carving can be subsumed under this category (Rosenthal et al., 1972; Schwartz et al., 1989). For example, one third of a large sample of female self-mutilators reported having carved words or symbols on their skin (Favazza & Conterio, 1989). Female skin-carvers in a drug rehabilitation programme were reported to have carved on their skin initials, the Christian

cross, and other designs such as satanic symbols and symbols associated with popular music groups. The resulting scars from these types of injuries have been reported to be quite severe (Schwartz et al., 1989). The term can also be used to indicate the quite disparate behaviours of skin-scratching and self-stabbing (Favazza, 1989a; Ross & McKay, 1979). Quite substantial lesions can be produced on the skin by repetitive scratching with fingernails (Gupta, Gupta & Haberman, 1986). The advantage of the term skin-cutting is that it integrates a multitude of behaviours under a single category while distinguishing these behaviours from similar but distinct actions such as skin-abrading and the insertion under the skin of foreign objects (Ross & McKay, 1979).

2.2 Self-burning

Total self-immolation is a rare and lethal phenomenon (O'Sullivan & Kelleher, 1989; Ross & McKay, 1979). Only 7 deaths from the total of 1,051 completed suicides (0.7%) were the result of immolation (Haines et al., 1989). Much more common are reports of self-inflicted burns to circumscribed areas of the body (Favazza, 1989a; Fruensgaard & Flindt Hansen, 1988; Rosenthal et al., 1972; Ross & McKay, 1979; Schwartz et al., 1989). As with cutting, most areas of the body have been subjected to relatively superficial burning (Ross & McKay, 1979).

Lighted cigarettes, matches and cigarette lighters are the most common instruments of injury (Raine, 1982; Rosenthal et al., 1972). In their review of the literature, Ross and McKay (1979) also identified various alternative

methods of inducing burns. These included: sitting on hot radiators, drinking boiling fluids such as soup, the application of caustic substances to open lacerations of the limbs, and the application of nitric acid to the skin. They also identified deliberate electric shock as a means of achieving a skin burn. Another study reported burning with an iron to inflict injury (Rosenthal et al., 1972). A burning equivalent of skin-carving has been reported, with words being burned into the skin (Walsh & Rosen, 1988). It is generally accepted that the treatment received for the burn produces more pain than initial injury (Raine, 1982; Ross & McKay, 1979).

For the self-mutilator, deliberate skin burning has the advantage of being able to be performed quickly and impulsively. The disadvantage for the mutilator is that the result of the action may lead to an injury out of proportion to the intent. Once initiated, burning may not easily be controlled. Clothing ignites or flammable liquid can be spilled leading to severe burns or death (Ross & McKay, 1979).

Although the majority of mutilators injure themselves by cutting, self-burning often is a secondary method of mutilation. For example, almost half of a sample of female skin-carvers had also engaged in deliberate burning of the skin (Schwartz et al., 1989). Indeed, many self-mutilators engage in more than one form of injury (Rosenthal et al., 1972).

2.3 Skin-abrading

Self-mutilators have been isolated and all potential instruments of harm have been removed as a means of controlling the behaviour. These measures

have been remarkably ineffective in preventing self-mutilation (Ross & McKay, 1989). An abrasive wound can be achieved by rubbing parts of the body against solid objects or against other parts of the body (Fruensgaard & Flindt Hansen, 1988). The results can be quite severe. Continual irritation of the skin by the mouth, licking and sucking, can lead to open wounds. In addition, there have been reports of shattered glass being rubbed into the face (Rosenthal et al., 1972).

2.4 Hitting

Reports of head-banging by intellectually disabled and autistic children are common. Although often viewed as self-stimulatory, this behaviour is classified as self-mutilative due to the potential damage, ranging from bruising to blindness from retinal detachment. However, this behaviour is by no means limited to disordered and disabled children. Quite normal, healthy children may engage in rocking and head-banging behaviours (de Lissovoy, 1962). What makes this form of self-mutilation pathological is the quantitative difference rather than the qualitative (Ross & McKay, 1979).

Hitting behaviours are also found in adults. They may take the form of hitting parts of the body against solid objects (e.g., head banging against a wall or punching windows or walls), hitting portable objects against the body (e.g., hitting oneself with a bat), or hitting part of the body with another part of the body (e.g., self-kicking or punching the head or body with a closed fist). All of these behaviours can cause considerable bodily injury (Fruensgaard & Flindt Hansen, 1988; Ross & McKay, 1979). However, the nature of the

injury is different from, for example, self-cutting or self-burning. The injury may not be immediately apparent and damage is not as frightening or abhorrent for the observer (Ross & McKay, 1979). However, it would be incorrect to say that all hitting as a form of self-mutilation results in physical damage that is not readily apparent. For example, punching windows causing the glass to break is a common behaviour resulting in cuts and lacerations (McKerracher, Loughnane & Watson, 1968). Hitting behaviours can be so severe as to cause broken bones (Feldman, 1988a).

In addition to these behaviours, the determined self-mutilator may also cause physical damage by failing to protect the body when falling or deliberately falling from heights where the consequence is almost certain to be injury but not death (Ross & McKay, 1979). The factor all these hitting behaviours have in common is that bodily injury can be effected in the absence of any instrument commonly associated with self-inflicted harm.

2.5 Self-biting

Another form of self-mutilation that can be effected despite a lack of instrument is self-biting. Nail biting is a common form of self-biting but it would be incorrect to say that all individuals who bite their fingernails are self-mutilators. However, severe nail biting, drawing blood and resulting in significant damage to the cuticles and nail bed, and causing permanent disfigurement may be included as a self-mutilative behaviour (Ross & McKay, 1979).

Not all reports of self-biting are as mild. Ross and McKay (1979) reviewed instances of biting causing damage to lips, tongue and the inside of the mouth. A case report was presented of a 16 year old Kenyan female who had bitten off one third of her tongue (Muluka & Dhadphale, 1986). Severe damage has been caused by biting of the fingers. Tissue and skin have been bitten from arms and hands (Ross & McKay, 1979). A middle aged schizophrenic female was reported to have caused substantial injury by biting the skin and tissue from her shoulders and arms (Betts, 1964). The term autocannibalism has been used to describe these types of behaviours (Betts, 1964; Mintz, 1964).

2.6 Inserting objects

The insertion of foreign objects under the skin is a well documented form of self-mutilation. Most commonly reported include needles, pins, glass and other sharp objects such as paper clips although insertion is not restricted to this type of implement (Ross & McKay, 1979).

The impulsivity usually associated with acts of self-mutilation is often absent in cases of insertion of foreign objects under the skin. Careful planning and execution of the act have been reported. An example of this is provided in the case of the prisoner who carefully sewed buttons onto his body (Yaroshevsky, 1975). Of course, impulsive insertion is not unknown.

Foreign objects can also be introduced into body cavities with the deliberate intention of self-injury. These behaviours should be distinguished from the exploratory behaviours of children and the self-stimulatory

behaviours of adults (Ross & McKay, 1979). A case was reported of a 55 year old man who had, on three occasions, inserted a knitting needle in the urethra because of a persistent belief of urethral stricture despite medical evidence to the contrary (Walter, 1991). This can be contrasted to the reported case of a 40 year old serviceman who inserted 25cm of rubber tubing into the urethra while intoxicated (Jameson, 1965). In this case there was no evidence of psychopathology and the intention of the act was most probably self-stimulatory.

2.7 Ingesting solid objects

Ingestion of solid objects is another example of an action where the intention may be self-injury but the result may be death (Ross & McKay, 1979). While most objects will eventually pass through the body, ingestion of needles and glass, for example, can result in intestinal damage leading to peritonitis with a fatal outcome.

A review of the literature demonstrated the range of objects that have been ingested (Ross & McKay, 1979). These included drawing pins, tap handles, razor blades, nails, spoons, thermometers and pieces of wire or springs.

2.8 Amputation

Self-mutilation frequently leads to permanent scarring and disfigurement. At the extreme are those cases where the mutilator amputates or severs a part of their body (Ross & McKay, 1979). A case was reported of a

37 year old psychotic male, who amputated, cooked and subsequently ate his own index finger (Mintz, 1964). Although instances of self-castration and eye-enucleation could be adequately discussed here, the nature of these behaviours warrants separate examination.

Amputation of fingers and limbs have been reported along with removal of the tongue, amputation of the ear, partial disembowelment and auto-craniotomy (Favazza, 1989a; Lion & Conn, 1982). A case report was presented of a female amputating her right breast (Coons et al., 1986).

This behaviour is more commonly reported to have been performed by schizophrenic individuals, although schizophrenia is not a necessary condition for amputation to occur. Cases of amputation occurring in individuals with psychotic depression have been reported (Stewart & Lowrey, 1980). The reported case of breast amputation occurred in a woman with some psychotic symptomatology but who also had a history of drug and alcohol abuse, interpersonal rejections and rape (Coons et al., 1986).

2.9 Genital self-mutilation

The injuries to the genitalia performed by self-mutilators are varied but usually quite extreme. The most severe form entails complete amputation of the penis and/or testicles in males (Favazza, 1989a; Feldman, 1988a; Hemphill, 1951; Schweitzer, 1990). While usually understood as a psychotic behaviour (Greilsheimer & Groves, 1979; Lion & Conn, 1982; Muluka & Dhadphale, 1986; Novello, 1990; Pabis, Mirza & Tozman, 1980; Raine, 1982; Schweitzer, 1990), instances of self-castration in nonpsychotic males have

been reported such as personality disordered individuals (Conacher & Westwood, 1987; Pabis et al., 1980) or transsexual men preempting sex reassignment surgery (Haberman & Michael, 1979).

The term "Klingsor's syndrome" (Ames, 1987) has been suggested to describe self-castration accompanied by religious delusions (Culliford, 1987). Literal interpretation of biblical passages has been reported (Waugh, 1986). "For there are some eunuchs, which were so born from their mother's womb: and there are some eunuchs, which were made eunuchs of men: and there be eunuchs, which have made themselves eunuchs for the kingdom of heaven's sake. He that is able to receive it, let him receive it." (Matthew 19:12, The Holy Bible, 1941 edition). However, comparison of the self-mutilative behaviour and history of psychotic self-mutilators with and without religious delusions demonstrated few differences. Therefore, restriction of the syndrome to only those with religious delusions may be too limiting (Schweitzer, 1990).

Female genital self-mutilation is even rarer than male genital self-mutilation (Feldman, 1988a; French & Nelson, 1972; Goldney & Simpson, 1975; Raine, 1982; Simpson, 1973), although it has been suggested that the incidence is underreported (Feldman, 1988b). The sex differences in genital self-mutilation were considered noteworthy because of the higher incidence of self-mutilative behaviour in general among females (French & Nelson, 1972). However, while male genital self-mutilation appears most commonly to occur as a result of psychosis, this does not appear to be the case with female genital self-mutilation (Wise, Dietrich & Segall, 1989). It would appear that the motive for female genital self-mutilation is similar to other forms

of low lethality behaviours such as self-cutting of the wrists and self-burning. This motive has been reported to be related to a decrease of negative affect, that is, tension reduction (Greilsheimer & Groves, 1979).

2.10 Ocular self-mutilation

Ocular self-mutilation encompasses a wide range of behaviours. These types of injury are reported much less frequently (about in the same numbers as genital self-mutilation) than, for example, self-cutting and self-burning (Eisenhauser, 1985; Feldman, 1988a; MacLean & Robertson, 1976; Rogers & Pullen, 1987; Shore, 1979). In a review of the literature, Feldman (1988a) identified a variety of forms of this behaviour including voluntary eversion of the eyelids, pulling out eyelashes, pressing on the eye, and scratching of the eyelids, cornea or conjunctiva resulting in abscesses and permanent scarring. These behaviours are infrequently performed (Mansour, Marouf & Reinecke, 1984; Shore, 1979; Stinnett & Hollender, 1970).

Ocular self-injury, such as eye banging, has been reported as a compulsive behaviour (Oren & Laor, 1987; Rogers & Pullen, 1987). By far the most extreme form of ocular self-mutilation entails complete removal of the eye by the mutilator, self-enucleation (Ananth et al., 1984; Favazza, 1989a; MacLean & Robertson, 1976). While self-enucleation is usually understood to be a psychotic behaviour (Ananth et al., 1984; MacLean & Robertson, 1976; Shore, 1979; Stannard, Leonard, Holder & Shilling, 1984), this is not necessarily so (Carson & Lewis, 1971; Rogers & Pullen, 1987; Rosen & Hoffman, 1972).

2.11 Interfering with wound healing

Another form of self-mutilation involves the interference by the mutilator in the healing of wounds or in the medical treatment applied by physicians. Again, subsumed under this category are behaviours as mild as picking at the scabs of healing lacerations (Schwartz et al., 1989) to severe behaviours such as refracturing of limbs (Rosenthal et al., 1972).

Four cases were reported of young females preventing a wound from healing by excoriating and/or inoculating the wounds. In all cases the wounds were caused by injury other than self-mutilation. The problematic wounds were all located on left extremities. Wounds on the right extremities healed without interference. Fecal contamination was suspect in 3 of the 4 cases. In all cases, interference was initially denied although three did eventually admit to excoriation and inoculation (Herzberg, 1977).

2.12 Summary

The review of the literature in the chapter demonstrates the diversity of self-mutilative behaviour. There is a wide variety of behaviours incorporated under the term 'self-mutilation', the most common of which is skin-cutting. The severity of injury may be mild, moderate or severe. The severity of injury generally is unrelated to the type of self-mutilative behaviour, although more serious forms such as eye-enucleation without exception cause severe injury. Cutting, however, ranges from superficial scratching of the skin to deep lacerations, severing tendons and arteries.

Many self-mutilators engage in a combination of mutilative acts during the period of their self-injury. While one behaviour may be predominant, for example skin cutting, other behaviours are often employed.

The interesting point about many of these behaviours is that they are often or generally assumed to be suicidal in nature. For example, the wrist cut popularly is held to be a suicidal gesture (Walsh & Rosen, 1988). It is necessary to examine the factors that differentiate self-mutilative behaviour from suicidal behaviour. The following chapter addresses this point.

CHAPTER THREE
SELF-MUTILATION AND ATTEMPTED SUICIDE

3. SELF-MUTILATION AND ATTEMPTED SUICIDE

From the previous chapter an understanding can be gained of the extensive range of behaviours considered to be self-mutilative. These behaviours range from mildly damaging and presenting little permanent risk to the individual, to severely damaging behaviours that seriously threaten the physical integrity of the mutilator. For the lay person, acceptance of these behaviours as suicidal gestures is common (Walsh & Rosen, 1988). Indeed, the distinction between self-mutilation and attempted suicide is not clear cut for many professionals (Daldin, 1988).

Many investigators equate self-mutilative behaviour with attempted suicide (Favazza, 1989b). Studies of samples that include both self-poisoners and self-injurers are common (e.g., Bancroft & Marsack, 1977; Hawton & Blackstock, 1976). Life-threatening behaviours such as hanging have been included in discussions of self-injurious behaviours that hold little risk to life such as wrist cutting (e.g., Johnson, Frankel, Ferrence, Jarvis & Whitehead, 1975; van Praag & Plutchik, 1985). In addition, there are instances where discussions of behaviours associated with self-mutilation have been labelled as attempted suicide (e.g., Grunebaum & Klerman, 1967).

It generally is accepted that self-mutilation is not a suicidal gesture (Daldin, 1988; Gold Jr, 1987; Simpson, 1975) and that self-mutilative behaviour differs from suicidal behaviour in terms of intent, precipitants of the act and the consequent emotional state (Carroll et al., 1981). There is evidence to support this notion. However, before this evidence can be reviewed, three points need clarification: (1) self-mutilation does represent a risk to life; (2)

self-mutilators do make serious suicide attempts; and (3) it is not clear that self-mutilators are universally able to differentiate their self-mutilative and suicidal behaviours. Each of these points will be discussed in turn.

Firstly, although self-mutilation may not be performed with the aim of ending life, it would be incorrect to say that all acts of self-mutilation are not life-threatening. Certainly in the case of extreme self-mutilative behaviour such as self-castration, self-enucleation and the amputation of limbs, the threat to the physical wellbeing of the individual is extreme if medical attention is not sought. Severing of arteries can lead to exsanguination. The likelihood of serious post-injury infection is increased with the severity of physical damage. However, even more moderate self-mutilative behaviour, such as self-cutting, carries with it a risk to life. It is generally understood that mild to moderate self-mutilation is typically habitual (Bancroft & Marsack, 1977; Walsh & Rosen, 1988). The chronic repetition of any behaviour may have a desensitising effect. In the case of self-mutilation, the behaviour can escalate out of control with greater risks being taken with each subsequent episode (Bancroft & Marsack, 1977). The result may be accidental death. A significant association has been demonstrated between habitual skin-carving, defined as more than 10 carving episodes, and multiple episodes of deep laceration of the wrists requiring urgent medical attention (Schwartz et al., 1989).

Secondly, self-mutilators do make serious suicide attempts that can be distinguished from their self-mutilative behaviour. This is well documented (Favazza & Conterio, 1989; Feldman, 1988a; Grunebaum & Klerman, 1967; Langbehn & Pfohl, 1993; Schwartz et al., 1989; Simpson, 1975). In fact, the

majority of self-mutilators in study samples have been reported to have made suicide attempts, most commonly by self-poisoning (Fruensgaard & Flindt Hansen, 1988; Rosenthal et al., 1972; Schwartz et al., 1989). Multiple suicide attempts have been reported (Fruensgaard & Flindt Hansen, 1988; Schwartz et al., 1989) with suicidal behaviours occurring both prior to the onset of self-mutilative behaviour (Schwartz et al., 1989) and pre- and post-treatment for self-mutilative behaviour (Fruensgaard & Flindt Hansen, 1988). Looking at it from the other perspective, almost 80% of suicidal patients presenting at an emergency room also had a history of self-mutilation (Bongar, Peterson, Golann & Hardiman, 1990).

Finally, although it has been reported that self-mutilators are well able to distinguish their self-mutilative behaviour from suicidal gestures (Schwartz et al., 1989; Simpson, 1981), there is some evidence that this is not the case for all self-mutilators. Reports have described self-mutilators presenting with minor lacerations at emergency rooms and discussing their behaviour in terms of attempted suicide. This has been interpreted as the self-mutilator attempting either to gain sympathy or to avoid the stigmatisation and possible punitive responses from professionals as well as family and friends when they are faced with individuals who have deliberately injured themselves (Walsh & Rosen, 1988). Indeed, 56% of surveyed female self-mutilators reported that they had described their behaviour to others as a suicide attempt despite the fact that they were aware that the intention of their behaviour was not suicide (Favazza & Conterio, 1989). Of a sample of self-cutters and individuals who had inflicted non-fatal gunshot wounds, 35.3% stated that their behaviour was not suicidal in intent (Mayfield &

Montgomery, 1972). It is unknown what proportion of these were self-cutters. The report discussed the behaviour of the subjects as "attempted suicide". This rejection of death as a motive for their behaviour was deemed to be denial on their part. However, it has also been noted that self-mutilators often are unable to provide explanations for their own behaviour (Walsh & Rosen, 1988). While this has been interpreted as stubbornness or manipulation, it is possible and probable that self-mutilators do not have a full understanding of their own behaviour. This point will be addressed in later chapters.

3.1 Variables distinguishing self-mutilation from attempted suicide

Given the above points, it is important to determine a means of distinguishing self-mutilative from suicidal behaviour. Four variables have been suggested that may be useful in achieving this distinction. These are: the intention behind the act; the degree of physical injury sustained; the chronicity of the behaviour; and the methods used to inflict injury (Walsh & Rosen, 1988).

The intention of the individual in performing an act of self-harm is obviously important to determine if a distinction between self-mutilation and attempted suicide is to be made. It would seem a relatively simple matter to ask the mutilator what he or she intended to achieve by the deliberate self-injury. However, two issues make the determination of intent problematic (Walsh & Rosen, 1988). Firstly, although the complex factors associated with an act of self-mutilation are experienced only by the mutilator,

the recall and interpretation of these factors is subject to distortions, for example, of time and social desirability. Secondly, as mentioned, self-mutilators often are unaware of the motivation for their behaviour. In the absence of a self-awareness, the mutilator may adopt the explanations provided by others resulting in the original intention being lost.

If self-mutilation is not suicidal in intent, then some other factor must precipitate the behaviour. The underlying theme in the literature, despite the theoretical orientation of the author, is that self-mutilators engage in the behaviour to terminate or reduce unpleasant emotional states (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). However, suicidal ideation often is associated with self-mutilative behaviour (Favazza & Conterio, 1989). Therefore, it is not a simple matter to distinguish self-mutilative behaviour from suicidal behaviour by examining the intention of the self-mutilator (Walsh & Rosen, 1988).

The degree of physical damage and the related variables of risk to life, lethality of the act and extent of medical treatment required following injury have all been used to differentiate self-mutilation from self-destructive behaviours. The advantage of these factors is that they can be objectively measured (Walsh & Rosen, 1988). Comparisons of wrist-cutters with suicide attempters have demonstrated substantially lower medical seriousness of injury for the self-mutilators with fewer self-mutilators than suicide attempters requiring medical or surgical hospitalisation (Clendenin & Murphy, 1971; Weissman, 1975). In one study of adolescent self-mutilators, 86.4% of the 500 separate episodes of self-mutilation did not warrant medical

intervention and were not life threatening (Ross & McKay, 1979). One case was reported of a man who had, over a period of time, cut his wrists, forearms, abdomen and left eye. Although the wounds to the forearms and abdomen were more severe, none of these injuries was life-threatening (Griffin, Webb & Parker, 1982).

Self-mutilators are much more likely to develop a chronic or habitual pattern of self-injury than suicide attempters (Walsh & Rosen, 1988). For example, while more than half (52%) of self-injurers had repeated the behaviour, only 24% of the comparison group of self-poisoners had done so (Robinson & Duffy, 1989).

Self-mutilators tend to use multiple methods of injury. To the same extent this is not the case with suicide attempters (Walsh & Rosen, 1988). From a study of self-poisoners and self-injurers, only 5% of injurers were method-specific (e.g., only cut themselves) compared with 19% of self-poisoners (Robinson & Duffy, 1989). Three-quarters of a large sample of female self-mutilators had used multiple methods to inflict injury. Self-cutting was the most commonly reported method of self-mutilation with 72% of the sample having used this method. Other methods included self-burning (35%), self-hitting (30%), wound interference (22%), skin-scratching (22%), hair pulling (10%), and breaking bones (8%) (Favazza & Conterio, 1989).

To examine these variables, 52 adolescent self-mutilators were studied at an inpatient facility (Walsh & Rosen, 1988). During the course of the investigation, the 52 self-mutilators engaged in 293 self-mutilative episodes; a mean of 5.6 per subject. The self-mutilative behaviour of these subjects consistently presented little risk to life and only two subjects sustained a

marked degree of physical damage. With chronicity defined as five or more episodes of self-mutilation, 60% of subjects were chronic self-mutilators. One half of the sample used multiple methods of injury, most commonly wrist-cutting and self-hitting. Other methods included cigarette burns, wound excoriation, head banging and hitting walls or shattering glass. Only 13% of this sample equated their self-mutilative behaviour with suicidal intent. Staff ratings of suicide potential identified only one percent as being suicidal at the time of self-mutilation.

While these factors have some utility in distinguishing self-mutilators from suicide attempters, they are insufficient. No clear identification of a single case of self-mutilation could be made from these variables because of the overlap between the two groups and the absence of one or more of the distinguishing variables from any one case or any one group of self-mutilators. Further factors need to be examined that identify self-mutilation as a more distinct entity.

3.2 Common characteristics

Shneidman (1985) discussed suicidal behaviour in terms of ten common characteristics shared by all suicidal individuals. These characteristics were what linked individuals who performed self-destructive acts and who experienced a wide variety of precipitants. Walsh and Rosen (1988) examined these characteristics and compared them with the factors that bound together self-mutilators and self-mutilative behaviour. While a comprehensive discussion of these characteristics is provided by Walsh and Rosen, it is worth summarising here the factors common to self-mutilators with reference

to the support available in the literature.

Shneidman believed that all suicides shared a common stimulus: *unendurable psychological pain*. Walsh and Rosen saw the common stimulus for self-mutilators to be *escalating, intermittent psychological pain*. Self-mutilators describe cycles of escalating tension which is relieved by the act of self-mutilation and followed by periods of emotional calm (Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). These periods of normality may be quite extended. Rather than the pain being unavoidable, as is the case with suicides, self-mutilators have the means to end distress without ending life (Walsh & Rosen, 1988).

The nature of the stressor that precipitates self-destructive behaviour is common to all suicides: *frustrated psychological needs*. The common stressor for self-mutilators to be *deferred psychological needs*. The tension that escalates to the point where self-mutilation is used as a means of ending that tension (Feldman, 1988a; van Moffaert, 1990) is largely caused by low frustration tolerance (Walsh & Rosen, 1988). Even a few hours or days of delay are sufficient to cause a repeat of the cycle of increasing distress and cessation of that distress by an act of self-harm.

The common purpose of all suicides has been identified as *the need to seek a solution*. The common purpose for self-mutilators is *achieving short-term alleviation*. An act of self-mutilation is not the final solution but a means of quickly ending distress (Favazza & Conterio, 1989). The behaviour is available to the self-mutilators when and if required.

The common goal for all suicides is the *cessation of consciousness* or death. The common goal for self-mutilators is *an alteration of consciousness*. They do not seek death but wish to dramatically alter the way they are feeling. Many self-mutilators report feelings of depersonalisation immediately preceding the act of self-harm (Feldman, 1988a; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1975; Winchel & Stanley, 1991). Self-mutilation is a means of ending this unpleasant state.

Suicidal individuals share a common emotion: *hopelessness-helplessness*. The common emotion for self-mutilators is *alienation*. Escalating tension leads to feelings of alienation, both from themselves and from their support networks (Feldman, 1988a; Grunebaum & Klerman, 1967; Novotny, 1972; Rosenthal et al., 1972; Simpson, 1975, 1976). Reversal of these feelings is quickly achieved by the act of self-mutilation (Walsh & Rosen, 1988). Self-mutilators are aware that they have the means to end these feelings so hopelessness and helplessness are absent.

The common internal attitude for suicidal individuals is *ambivalence*. The common internal attitude for self-mutilators is *resignation*. As the behavioural cycle of escalating tension, followed by an act of self-harm and subsequent emotional quiescence develops (Grunebaum & Klerman, 1967), self-mutilators become resigned to the fact that episodes of self-mutilation are the answer to their problems (Walsh & Rosen, 1988).

The common cognitive state of all suicidal individuals is one of *constriction*. The common cognitive state of self-mutilators is *fragmentation*. Firstly, in the face of distress and depersonalisation (Feldman, 1988a; Simpson, 1976; Winchel & Stanley, 1991), thinking for the self-mutilator becomes

disorganised or fragmented (Walsh & Rosen, 1988). Secondly, decision-making about a means of ending this distress is often fragmented. A variety of impulsive behaviours are used as a means to solve their problems, such as aggressive behaviour towards others (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Pao, 1969; Yesavage, 1983), substance abuse (Gossop et al., 1975; Lion & Conn, 1982; Novotny, 1972; Rosenthal et al., 1972; Simpson, 1976) and simply running away (Schwartz et al., 1989), as well as self-mutilation.

Suicides share a common interpersonal act: *communication of intention*. The common interpersonal act for self-mutilators is *coercion*. Self-mutilators are keenly aware that their behaviour can be used to influence the behaviour of others. Self-mutilation can be used to elicit a response from others, for example, nurturance and sympathy, or to terminate a response, for example, criticism and punishment. While the primary motivation for self-mutilation may be to end an unpleasant internal state (Feldman, 1988a; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1975; Winchel & Stanley, 1991), the secondary gain of altering the behaviour of others toward the self-mutilator is rewarding (Walsh & Rosen, 1988).

The common action of all suicides is *egression* or escape. The common action for self-mutilation is *reintegration*. By ending distress and alienation with an act of self-harm, self-mutilators are able to successfully reintegrate or reinvolve themselves in life (Favazza & Conterio, 1989; Walsh & Rosen, 1988).

Finally, all suicides are reported to share a common consistency, that is, *lifelong coping patterns*. The common consistency of self-mutilators are *lifelong adaptive coping patterns*. In the final analysis, self-mutilation is

life-sustaining. It ends undesirable cognitive and emotional states before they reach a point where suicide may be seen as the final solution (Simpson, 1976; Walsh & Rosen, 1988).

From this analysis it is evident that suicide and self-mutilation are similar only in a most general way (Walsh & Rosen, 1988). They are both the consequence of unmet needs and represent lifelong coping patterns. However, even at this most basic level, differences emerge. Self-mutilators must delay the meeting of their needs only in the short-term. Their behaviour is ultimately adaptive in sustaining life. They desire reinvolved in life and relief from feelings of alienation. They do not experience hopelessness and helplessness because they have at their disposal the means to end their discomfort and they are resigned to the fact that self-mutilation is this means to an end. None of this is true for suicidal individuals.

3.3 Summary

It is not a simple matter to differentiate self-mutilative from suicidal behaviour. There is confusion in the literature over this point. Many samples have a combination of suicidal and self-mutilative subjects. Other studies include behaviours of vastly different levels of lethality such as gunshot and wrist cutting. Indeed, many professionals label self-mutilative behaviour as suicidal and discuss it in those terms.

It generally is accepted that self-mutilative behaviour is not suicidal in intention. However, self-mutilative behaviour is not a benign action; it carries with it a significant risk to life. Self-mutilators, along with any other clinical group, do make serious suicide attempts and while the self-mutilative and suicidal behaviours of these individuals are generally distinguishable,

there is some overlap. It was believed that self-mutilators could adequately distinguish their mutilative from their suicidal behaviour. However, there is some indication that this is not so.

This chapter has reviewed the variables that have proven useful in distinguishing self-mutilative behaviour from suicidal behaviour and has summarised a comprehensive examination of the common characteristics of self-mutilators and their behaviours that are distinguishable from the common characteristics of suicides and suicidal behaviour.

There is evidence that self-mutilative and suicidal behaviours are distinct, identifiable human actions. However, the investigator is still left with a vast array of behaviours that can properly be called self-mutilative. It is necessary to achieve some order in an attempt to identify the target behaviour to be studied. The following chapter reviews a range of classification systems that have been applied to self-mutilative behaviour.

CHAPTER FOUR CLASSIFICATION AND DEFINITION

"The urge to classify combines an economizing principle of the intellect with an inner demand for order. In scientific investigation, where operational classification is fundamental to the study of any phenomenon, this urge reaches its most sophisticated expression."

(Cohen, 1969, p.64)

4. CLASSIFICATION AND DEFINITION

4.1 Classification of self-mutilative behaviour

As mentioned, the behavioural-descriptive approach to the classification of self-mutilative behaviour (Ross & McKay, 1979) has limitations. It is insufficient to simply categorise self-mutilative behaviour by the type of action involved. As demonstrated, there is a wide range of behaviours that can be termed self-mutilation. Some of these behaviours generally pose little risk to life while others are more readily seen as life-threatening. Some forms of self-mutilative behaviour are generally associated with certain populations, for example, severe forms of the behaviour are commonly associated with psychosis. It is necessary to classify these behaviours into coherent and widely applicable subtypes. As the determinants of the varieties of self-mutilative behaviour are probably quite different, it is necessary to target a specific form of self-mutilation prior to any investigation. A review of a selection of attempts at classification follows.

4.1.1 Menninger's classification system

The earliest attempt to classify self-mutilative behaviour was provided by Menninger (1935). This classification system is historically important because it was the first extensive discussion that recognised self-mutilative behaviour as separate from attempted suicide. Menninger understood self-mutilative behaviour to be a means of averting suicide; a demonstration by the individual of self-destructive feelings that did not have a fatal outcome.

Menninger classified self-mutilation in terms of six categories which are outlined in Table 1 along with examples of the behaviours subsumed under each category.

Table 1: Menninger's (1935) classification of self-mutilative behaviour.

Category	Examples of the associated behaviour
Neurotic self-mutilations	Nail biting Skin picking Disfiguring hair removal Obtaining of unnecessary surgery
Religious self-mutilations	Self-flagellation Genital self-mutilation
Puberty rites	Hymen removal Clitoral alteration Circumcision
Self-mutilation associated with psychosis	Self-enucleation Ear removal Genital self-mutilation Extremity amputation
Self-mutilation associated with organic diseases	Encephalitis - intentional fracturing of fingers and self-enucleation
Self-mutilation of normal people: customary and conventional forms	Nail clipping Trimming of hair Shaving of beards

"Neurotic self-mutilations" included a wide variety of behaviours ranging from common, relatively accepted behaviours such as nail biting, to the quite extreme behaviour usually associated with Munchausen's syndrome, the obtaining of unnecessary surgery.

"Religious self-mutilations" incorporated behaviours associated with the atonement of sin, for example, self-flagellation, and behaviours performed to achieve a higher understanding of the spiritual self such as genital self-mutilation. Self-castration was performed by early sects of accepted religions such as Christianity and Judaism (Favazza & Favazza, 1987). Again, the severity of the behaviours incorporated in this category were quite diverse.

"Puberty rites" encompassed behaviours associated with acceptance into the adult world. While some of these behaviours would be seen as deviant in western society, for example hymen removal and clitoral alteration, they are acceptable within the context of the cultural norms of the society in which they are performed. Circumcision is an accepted form of bodily alteration in western society but is rarely experienced as a puberty rite. It is most commonly performed at birth and cannot be understood as self-mutilation as personal consent was not obtained.

"Self-mutilation associated with psychosis" comprised the extreme behaviours carried out in response to disordered thought. This phenomenon is well documented and the categorisation of these types of behaviours as "psychotic" remains to this date.

Over recent years there has been increasing identification of self-mutilative behaviour associated with a variety of organic diseases or disorders. The form of these mutilations is apparently specific to the disease type and, as such, can be recognised as physical symptoms of the disease and not performed as a psychological reaction to that disease.

The final category suggested by Menninger included "customary and conventional forms" of the behaviour. While he included nail clipping,

trimming of hair and shaving of beards, in modern times a number of other alterations of physical form could well be included, for example, body and ear piercing, collagen implants, liposuction and forms of plastic surgery.

This attempt at classification had a number of positive features. The formulation was multidimensional, incorporating four factors. The system attempted to identify the psychological or the physiological dysfunction associated with the behaviour. Here Menninger differentiated "neurotic", "psychotic" and "organic" self-mutilations. Cultural factors were considered by separating "puberty rites" and "customary and conventional forms" from other types of mutilation. The degree of physical injury and the site of damage were addressed. Furthermore, attempts were made to understand the determinants of the behaviour.

However, a number of difficulties are evident with this classification system. The most obvious is the inclusion of grooming behaviours as self-mutilation. The term "mutilation" suggests a degree of physical alteration out of keeping with these behaviours. It suggests permanent disfigurement at the most extreme and at least physical harm.

The categories postulated by Menninger are not mutually exclusive in two ways. Firstly, the categories themselves overlap. Puberty rites often are performed in terms of the moral and religious beliefs of the culture in question. In addition, it has been suggested that the mutilative behaviour associated with psychosis is best understood within a moral and religious framework (Ananth et al., 1984; Rogers & Pullen, 1987). This type of behaviour can be seen as a literal interpretation of religious doctrines that are more generally interpreted symbolically or metaphorically. Secondly, the form of

mutilation overlaps categories. For example, genital mutilation is included in the categories of "religious self-mutilations", "puberty rites" and "self-mutilation associated with psychosis".

Therefore, while the classification system has historical value, it does not adequately categorise self-mutilative behaviours so that the form of the self-injury takes can be identified as belonging to a specific category. The need for improvement is evident.

4.1.2 Classification by population

Self-mutilation may be classified by the population who engages in the behaviour and the clinical context in which it occurs. This occurs frequently in the literature, often without direct reference to classification.

Extreme forms of self-mutilative behaviour such as self-enucleation, self-castration and the severing of extremities most commonly are understood to be psychotic behaviours (Ananth et al., 1984; Favazza, 1989c; Feldman, 1988a; Lion & Conn, 1982; Sweeny & Zamecnik, 1981). Bizarre but less severe forms of self-mutilation also have been associated with psychosis (Muluka & Dhadphale, 1986).

The behaviours are understood in terms of the disordered thinking and the disorders of perception associated with psychotic illnesses (Lion & Conn, 1982; Weiser, Levy & Neuman, 1993). However, self-mutilative behaviours associated with psychosis are relatively rare phenomena (Favazza, 1989c). While 40% of female self-mutilators surveyed reported the self-mutilation resulted from a need to atone for sins and may have reflected a desire for self-punishment not associated with psychosis, only 20% reported

that self-mutilative behaviour was influenced by auditory hallucinations and 12% reported delusional influences such as the behaviour being directed by evil spirits (Favazza & Conterio, 1989). The behaviour is more typically a single episode of extreme bodily alteration rather than the repetitive behaviour associated with self-mutilation in other populations (Lion & Conn, 1982).

Intellectually disabled populations also engage in behaviour that is better understood as self-mutilative rather than self-stimulatory because of the degree of damage inflicted (Ross & McKay, 1979). Behaviours commonly associated with profound intellectual disability include head banging, self-hitting, self-biting, abrasion, hair-pulling and skin-scratching (Ballinger, 1971; Favazza, 1989a; van Moffaert, 1990) and are milder than the behaviour associated with psychosis (Lion & Conn, 1982). Certain behaviours are peculiar to specific disorders. For example, compulsive forms of lip, tongue and finger biting are associated with Lesch-Nyhan syndrome and less commonly Cornelia de Lange syndrome (Favazza, 1989a).

While the self-mutilative behaviour of profoundly intellectually disabled populations can be the direct result of organic cerebral defects, the behaviour has also been associated with poor communication skills and understimulating environments (de Catanzaro, 1981). The behaviour in mild to moderately disabled populations is more commonly associated with environmental factors (Favazza, 1989a). A relationship has been found between the degree of mental retardation and the extent of self-mutilative behaviour with lower IQ being associated with higher rates of self-injury (Ballinger, 1971).

A number of neurological disorders have been reported to be associated with self-mutilative behaviour. Body-slapping and tongue-pulling have been identified to occur in the presence of Gilles de la Tourette syndrome (Eisenhauer & Woody, 1987; Favazza, 1989a; Lion & Conn, 1982) as well as tooth autoextraction (Dickenson, 1993). Temporal lobe epilepsy has resulted in impulsive self-mutilative behaviour (Lion & Conn, 1982). Skin-gouging has been noted in patients with Addison's disease, a degenerative dementia-related disorder (Favazza, 1989a). While accidental injury in patients with congenital sensory neuropathy is common, deliberately inflicted wounds have also been reported (Dubovsky, 1978). A case was presented of a female engaging in self-mutilative behaviour (self-cutting and skin-scratching) which was temporally related to the presence of benign intracranial hypertension. Self-mutilative behaviour was preceded by feelings of increased tension and a feeling of explosive pressure in her head (Ballard, 1989).

Self-mutilation is most common in non-psychotic psychiatric conditions. It is most frequently associated with personality disorders, especially borderline personality disorder (Favazza & Conterio, 1989; Fruensgaard & Flindt Hansen, 1988; Lion & Conn, 1982; Nelson & Grunebaum, 1971; Schaffer, Carroll & Abramowitz, 1982; Simpson, 1976; van Moffaert, 1990). The nature of psychopathology in this population will be discussed in subsequent chapters. These individuals engage in mild to moderate self-mutilative behaviour such as skin-cutting, self-burning, self-hitting and inserting foreign objects. The behaviour presents little risk to life (Clendenin & Murphy, 1971; Griffin et al., 1982; Ross & McKay, 1979; Walsh & Rosen, 1988; Weissman, 1975) and is usually performed in the presence of an

uncomfortable internal state (Walsh & Rosen, 1988).

While it seems relatively simple to classify self-mutilative behaviour by population, this type of categorisation presents problems. There are many self-mutilators who do not fit into any category or who could be placed in multiple categories. For example, severe self-mutilation is not necessarily solely the domain of psychotic individuals (Yang, Brown & Magargai, 1981).

One survey of self-mutilative behaviour identified a substantial number of individuals engaging in self-mutilative behaviour who had never sought treatment for their behaviour (Favazza & Conterio, 1989). Although their behaviour was identical to that found in non-psychotic psychiatric populations, they could not be classified as psychiatric self-mutilators as they had never had contact with psychiatric services. The utility of having a separate category for these individuals is limited. In addition, many psychotic individuals and mildly intellectually disabled individuals also engage in behaviours identical to the non-psychotic psychiatric group. There is also no reason why people with neurological disorders would not engage in self-mutilative behaviour that is not a symptom of a disorder but is a reflection of their inability to cope with other aspects of their life. Finally, self-mutilation is common in incarcerated criminals, many of whom may well have a psychiatric condition or, for that matter, an intellectual disability. If a category was provided for every combination of factors, the classification system would become unworkable.

4.1.3 Wrist cutting as a separate syndrome

During the 1960s, literature emerged that suggested that a specific form of self-injury, wrist-cutting, could be classified as a distinct syndrome, separate from other forms of self-harm. The impetus for this hypothesis was the large number of clients in inpatient psychiatric settings who repeatedly cut or slashed their wrists (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Pao, 1969).

Examination of the characteristics of these self-mutilators led investigators to believe that they could identify the typical wrist-cutter. This profile was described by Graff and Mallin (1967):

In summary, the cutter is an attractive, intelligent, unmarried young woman, who is either promiscuous or overly afraid of sex, easily addicted, and unable to relate successfully to others. She is an older one in a group of siblings with a cold, domineering mother and a withdrawn, passive, hypercritical father. She slashes her wrists indiscriminately and repeatedly at the slightest provocation, but she does not commit suicide. She feels relief with the commission of her act. (p.38)

Research efforts were directed towards the understanding of this syndrome. Agreement with this description was reported by other investigators (e.g., Grunebaum & Klerman, 1967; Nelson & Grunebaum, 1971; Pao, 1969; Rosenthal et al., 1972) who also described the typical wrist-cutter as a young, intelligent female who came from a dysfunctional family and shared a similar psychological profile. It generally was agreed that wrist-cutting occurred in response to increased distress and that the performance of the act reduced that tension.

Pao (1969) further classified these cutters by describing the nature of their injuries. He claimed that wrist-cutters could be identified by the pattern of delicate incision made. Slashers who engaged in coarse cutting were obviously suicidal and could not be included in the same group as the delicate wrist-cutters. The characteristics of delicate cutters fit with the previous notion of the wrist-cutter.

However, the syndrome of the wrist-cutter was seriously challenged by an investigation conducted in St. Louis (Clendenin & Murphy, 1971). Over a two year period, they examined police records of all reported suicide attempts and made a comparison of those who had harmed themselves by wrist-cutting with those who had used other methods. Their findings did not support the "typical" profile of the wrist-cutter. Indeed, 40% of their sample were male, only one third were unmarried, and the age range of subjects was extensive. They criticised earlier studies for sample bias stating that it was hardly unexpected to have a disproportionate number of well-educated, unmarried young women, given the sample source - private psychiatric hospitals.

While one study could be ignored, the St. Louis findings were replicated in New Haven, Connecticut (Weissman, 1975). Rather than private psychiatric hospitals or police reports of suicide attempts, this investigation was based on a sample from a local medical complex. The findings of this study were virtually identical to the St. Louis results.

After the publication of the Weissman report, no continued effort was made to substantiate the syndrome, although Pao's differentiation on the basis of degree of damage continued. For example, wrist-cutters in military

service were divided on the basis of delicate and coarse cutting (Kaplan & Fik, 1977).

The problems of sample bias still exist and, to a large extent, always will. Studies of selected populations have benefits. However, epidemiologically sound studies initially must be conducted to determine to what extent the selected populations differ from the norm.

There is sufficient evidence to suggest that self-mutilators more often engage in more than one type of behaviour although skin-cutting is the most common form of self-mutilation (Feldman, 1988a; Fruensgaard & Flindt Hansen, 1988; Ross & McKay, 1979). As mentioned, the wrist as a site of injury merely reflects convenience (Raine, 1982; Simpson, 1976; Takeuchi et al., 1986). It is easily accessible, it can be readily observed and the resultant damage can be hidden when desired.

The distinction between delicate and coarse cutting also warrants criticism. The extent of damage caused by cutting can range from the most superficial to the most extreme (Favazza & Conterio, 1989; Harris & Rai, 1976; Raine, 1982; Rosenthal et al., 1972; Takeuchi et al., 1986). This can be evident within groups of self-mutilators sharing the same characteristics and within the behaviour of single mutilators. The escalation of the behaviour with repeated episodes mentioned previously (Bancroft & Marsack, 1977) makes a distinction between delicate and coarse cutting questionable.

4.1.4 Walsh and Rosen's formulation

Walsh and Rosen (1988) provided a classification system that avoided the restrictions evident in a behavioural-descriptive formulation and the

speculation of Menninger. They categorised the self-alteration of physical form into four types, only two of which they considered to be self-mutilation. An outline of their formulation is provided in Table 2.

They classified the self-alteration of physical form on the related dimensions of severity of physical damage, the psychological state at the time of the behaviour, and the social acceptability of the action. For the term self-mutilation to be applied, all these dimensions must be deviant in some way.

Table 2: Walsh and Rosen's classification system.

Type	Examples of behaviour	Degree of physical damage	Psychological state	Social acceptability
I	Ear piercing Nail biting Small, professionally applied tattoos Cosmetic plastic surgery	Superficial to mild	Benign	Acceptable in all or most social groups
II	Punk rock piercings Saber scars among 19th century Prussian students Ritualistic scarring among Polynesian and African clans Large tattoos among sailors and motor cycle gangs	Mild to moderate	Benign to agitated	Acceptable only within a specific subculture
III	Wrist and body cutting Self-inflicted cigarette burns Self-inflicted tattoos Wound excoriation	Mild to moderate	Psychic crisis	Generally unacceptable in all social groups; may be acceptable with a few like-minded peers
IV	Autocastration Self-enucleation Amputation	Severe	Psychotic decompensation	Entirely unacceptable with all peers and in all social groups

(from Walsh & Rosen, 1988)

Type I is the alteration of physical form in its most common manifestation. It cannot be classified as self-mutilation because the physical damage involved is limited, it does not entail psychological distress, and it is culturally accepted by most members of society.

Type II also is not self-mutilation. Although the physical damage is more severe than Type I, and the psychological state at the time of the act may range from benign to agitated, the behaviour is still acceptable within the subcultural context in which it occurs.

Type III may properly be called self-mutilation. It entails significant physical damage, is associated with psychological distress, and is generally socially unacceptable. However, Walsh and Rosen do recognise that this type of alteration of physical form may be seen as acceptable by individuals who also engage in the behaviour.

Type IV behaviours are quite obviously self-mutilative. These behaviours entail severe physical damage, are usually performed in a psychotic state and are entirely socially unacceptable.

The advantage of this classification system is that it categorises behaviours in a systematic way without categorising individuals. Behaviours may change over time and across situations (Mischel, 1968; Mischel & Peake, 1982). Therefore, a variety of behaviours of a single individual can be classified separately and dealt with appropriately according to the nature of those behaviours.

4.2 Definition

From the above information a working definition of the target behaviour can be provided. However, one other point should be examined. Understanding of the behaviour is hampered by lack of consensus of terminology. The term "self-mutilation" has been adopted in this study and is widely used. Other terms such as self-damaging behaviour, self-harming behaviour, deliberate self-harm and attenuated suicide have limited acceptance or may lead to confusion with related but separate behaviours (see Ross & McKay, 1979 for a review).

To reach an acceptable definition of self-mutilation, a number of elements should be incorporated. Emphasis should be placed on the physical damage performed. This point includes the fact that the injury is deliberately inflicted but also incorporates the fact that the behaviour often becomes habitual (e.g., Bancroft & Marsack, 1977; Robinson & Duffy, 1989; Walsh & Rosen, 1988). The low threat to the physical integrity of the individual should also be stressed (Clendenin & Murphy, 1971; Griffin et al., 1982; Ross & McKay, 1979; Weissman, 1975). In addition, the fact that self-mutilative behaviour is of low lethality leads to the fact that it is not performed with the intention of death (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). Both points should be included in an accurate definition of the target behaviour. The social consequences of the act should be addressed as should the psychological state of the individual at the time of the act (Walsh & Rosen, 1988). Finally, it is generally accepted that self-mutilation is self-

inflicted. However, a small proportion of self-mutilators effect injury by other means. Injury caused by another person with the victim's permission (e.g., interfering with wound healing) also rightly may be classified as self-mutilative. For example, of 240 female self-mutilators, 12% had given permission for someone other than a doctor to inflict injury, 9% reported having obtained unnecessary surgery by means of trickery from doctors and dentists, and 4% reported that they had been given permission to inflict injury on another self-mutilator and had done so (Favazza & Conterio, 1989). Therefore, "deliberately inflicted" is a better term than "self-inflicted".

From this discussion and following Walsh & Rosen's (1988) Type III classification, for the purposes of this study self-mutilation is defined as: deliberately inflicted and often repetitive low lethality self-injurious behaviour, of a socially unacceptable nature, performed in the absence of conscious suicidal intent and at a time of psychological crisis.

4.3 Summary

At this point, following a review of the available classification systems, a framework has been accepted for identifying the target behaviour. The major advantage of the chosen system (Walsh & Rosen, 1988) is that it classifies behaviours but not individuals. This seems an important point if it is accepted that behaviour can change over time and across situations (Mischel, 1968; Mischel & Peake, 1982). Type III self-mutilative behaviour describes the behaviour that is the subject of this study. Using this classification system, and incorporating all the descriptive elements identified in the

literature as being of significance, a definition of the target behaviour has been formulated.

To this point this review has determined the nature of self-mutilative behaviour, it has discussed how self-mutilative behaviour and suicidal behaviour differ, and the classification of the behaviour has been addressed. It is now important to examine why individuals engage in this type of behaviour.

CHAPTER FIVE
THEORIES OF SELF-MUTILATIVE BEHAVIOUR

5. THEORIES OF SELF-MUTILATIVE BEHAVIOUR

There are a multitude of theories to explain the onset and maintenance of self-mutilative behaviour. In some cases, the preferred theory reflects the orientation of the investigator. However, in many cases there are multiple determinants of the behaviour. In this sense, many of the theories of self-mutilation (e.g., organic, operant, modelling and tension reduction) may explain aspects of the self-mutilative process.

Much of the investigation of the aetiology of self-mutilation has been conducted using intellectually disabled populations. Although this population generally does not fit with a classification of Type III self-mutilation, for a comprehensive coverage of the literature some of this research will be included in this discussion. Unless otherwise stated, it should be taken that the discussion of biological theories are based on investigations of the intellectually disabled.

5.1 Biological theories

Self-mutilation and other forms of self-injurious behaviour are found as symptoms in many physical and psychiatric conditions. From an organic point of view several syndromes involving a range of factors such as genetic mutation, chromosomal aberration, metabolic dysfunction, congenital malformation or damage, mental deficiency, and pharmacologically-induced changes have been linked to self-mutilation (Feldman, 1988a). Table 3 presents the organic correlates of self-mutilation. Despite the diversity of the disorders

associated with the behaviour, self-mutilation is sometimes presented as if it were a single behaviour. However, it would be a mistake to assume that self-mutilators are a homogeneous group (Gualtieri, 1989) and this review of the literature already has demonstrated the diversity of behaviours termed self-mutilation.

Table 3: The organic correlates of self-mutilation

Lesch-Nyhan syndrome
Cornelia de Lange syndrome
Rett syndrome
Familial dysautonomia
Chronic encephalitis
Neurosyphilis
Simple mental retardation
Mental retardation with pituitary hormone deficiencies
49XXXXY syndrome
47XYY syndrome
Congenital analgesia/agnosia
Sensory isolation (deaf-blind states)
Tourette's disorder
Temporal lobe epilepsy
Dementia
Adrenocortical insufficiency
Drugs: LSD, mescaline, amphetamines, cannabis, alcohol,
pemoline, caffeine

(from Feldman, 1988a)

It has been proposed, when investigating the determinants of self-mutilative behaviour, that consideration should first be given to environmental and medical circumstances that may induce the behaviour. If these factors can be identified, the appropriate diagnosis can be selected from either neurologic or psychiatric conditions. If the aetiology can be

narrowed to a general area, specific syndromes such as Lesch-Nyhan or Cornelia de Lange can be introduced. For those cases where no clear indication is present, alternative neurochemical hypotheses can be postulated (Gualtieri, 1989).

This is the argument for the organic or biological view of self-mutilative behaviour. Indeed, taken as a whole, the evidence indicates that self-mutilation is sometimes associated with a number of organic conditions. However, even if the organic condition is responsible for the onset of self-mutilation, the behaviour itself may be maintained by other variables (Feldman, 1988a). Consider, for example, the organic predisposition in Lesch-Nyhan syndrome. This is an X-linked recessive disorder involving a deficiency in purine metabolism. This syndrome is associated with mental retardation, cerebral palsy, hyperuricemia, and self-mutilative behaviour (Blakely & Polling, 1986) and seems to interact with environmental influences. The self-mutilation evokes attention from parents and nursing staff, and may be under some social control (Feldman, 1988a). In such a case, learning theory may better explain the maintenance of the disorder, although not its onset.

Self-mutilation also is associated with numerous psychiatric disorders. The psychiatric disturbances most commonly associated with self-mutilation are the personality disorders (Feldman, 1988a; Schaffer et al., 1982; Winchel & Stanley, 1991). The debate about the aetiology of the different personality disorders continues (Feldman, 1988a) and the evidence for a physiological basis of self-mutilation in personality disorder is not as strong as for the organic disorders.

Finally, a third group of individuals who self-mutilate are those experiencing chronic tension or anxiety. Little research has been conducted to determine the physiological basis of self-mutilation among these individuals. The tension reduction model (Bennun, 1984; Henderson & Williams, 1974), derived from learning theory, adequately explains the behaviour without reliance on organic factors. Having said this, it is likely that aspects of an act of self-mutilation, namely depersonalisation and the absence of painful sensation, may be influenced by biochemical changes in the self-mutilating individual.

5.1.1 The dopamine hypothesis

Individuals with Lesch-Nyhan syndrome almost invariably self-mutilate in the form of compulsive, repetitive biting of the tongue, lips and fingers (Carr, 1977). Because of the homogeneity of these symptoms of the syndrome across cases, it has been proposed that the self-mutilative behaviour is directly produced by a specific biochemical abnormality. It has been hypothesised that individuals with Lesch-Nyhan syndrome have a deficiency of dopamine similar in magnitude to that of Parkinson's disease (Breese, Criswell, Duncan & Mueller, 1989). The age at which dopaminergic neurons are disrupted is proposed to explain the differing symptoms observed in the two disorders.

To test this proposition, brain dopaminergic neurons in neonatal and adult rats were lesioned with 6-hydroxy-dopamine (6-OHDA) (Breese et al., 1989). Learning deficits only were evident in the rats lesioned as neonates, along with increased levels of serotonin in the striatum. Individuals with Lesch-Nyhan syndrome demonstrate the same abnormalities. Further, the

administration of L-Dopa produced self-mutilative behaviour in the neonatally lesioned rats but not in the adult lesioned rats.

Increased rates of self-mutilative behaviour in the neonatally lesioned rats was further demonstrated when muscimol was administered into the substantia nigra reticulata (Breese et al., 1989). The turning response to unilaterally administered muscimol or the behavioural responses to bilateral administration of the drug into the substantia nigra reticulata were measured to determine whether neurons containing gamma-aminobutyric acid (GABA) contributed to the behavioural differences between the neonatal and adult lesioned rats challenged with dopamine agonists. Data supported the view that lesions caused increased functional responsiveness of receptors and that self-mutilative behaviour in neonates was determined by neurons distal to the GABA receptor complex in the substantia nigra reticulata (Breese Hulebak, Napier & Baumeister, 1987).

The self-mutilative behaviour induced by L-Dopa is dependent upon activation of D1 dopamine receptors (Breese et al., 1989; Breese, Criswell, McQuade & Iorio, 1990). The D1 dopamine hypersensitivity model of self-mutilative behaviour leads to the hypothesis that the mixed D1/D2 dopamine antagonist fluphenazine may improve the self-mutilative symptoms of human subjects. This hypothesis was tested in a pilot study administering fluphenazine to a small sample of self-mutilators. Some degree of clinical improvement was observed in 11 of the 15 subjects (Gualtieri & Schroeder, 1989).

It was hypothesised that an adenosine deficiency in Lesch-Nyhan syndrome results in abnormal adenosine metabolism, which may affect the

regulation of dopamine receptors (Goldstein, 1986). The hypothesised interaction between purines and dopamine was investigated in adult rats that had received 6-OHDA to deplete dopamine levels either as neonates or as adults. The results indicated that the purine, adenosine, influenced dopaminergic mechanisms through post- and presynaptic actions. Adenosine agonists were found to antagonise self-mutilative behaviour. It was concluded that the self-mutilation characteristically found in Lesch-Nyhan syndrome is dependent on hypersensitive D1 dopamine receptors *and* reduced adenosine activity (Criswell, Mueller & Breese, 1988).

5.1.2 The serotonin hypothesis

A pharmacologic treatment should act to significantly decrease self-mutilative behaviour if the behaviour is biochemically induced (Primeau & Fontaine, 1987). Further, if an excess of serotonin is implicated (Breese et al., 1989), the administration of a drug that breaks down serotonin precursors should alleviate the behaviour. In support of this view, the apparently successful elimination of self-mutilative behaviour in patients with Lesch-Nyhan syndrome was reported using L-5-hydroxytryptophan (Mizuno & Yugari, 1975). However, Nyhan himself (1976) reported discouraging results using L-5-hydroxytryptophan to control self-mutilative behaviour.

While elevated serotonin levels are hypothesised to be responsible for the self-mutilation in individuals with Lesch-Nyhan syndrome (Breese et al., 1989), there has been some suggestion that a serotonin deficiency is responsible for the self-mutilative behaviour of individuals with Down syndrome. The severe self-mutilative behaviour of a 26 year old profoundly

mentally handicapped woman with Down syndrome was treated through dietary means. Dramatic benefit was evidenced the first day and, after 6 months, the self-mutilative behaviour still was close to 90% lower than baseline rates (Gedye, 1990).

There has been little research investigating the biological basis for self-mutilation in personality disorders. One study compared two groups of nonretarded patients matched for psychiatric diagnosis, one group with a history of self-mutilative behaviour. The number of platelet imipramine binding receptor sites were examined as platelets are similar to serotonergic neurons in that operations of uptake, storage, and release of serotonin function in a way similar to those of the presynaptic neurons. Decreased numbers of imipramine binding sites are evident in many psychiatric disorders. Platelet imipramine binding receptor sites are a useful means of indexing central serotonergic functioning in disorders characterised by aggression and impulsivity. It was believed that a reduced number of imipramine binding sites may also be evident in the presence of self-mutilative behaviour, a form of impulsive and aggressive behaviour (Simeon et al., 1992).

No significant correlation was demonstrated between serotonergic measures and impulsivity or aggression for a group of personality disordered mutilators and non-mutilators. This finding indicated that general serotonergic function did not distinguish the two groups. However, a significant negative correlation was demonstrated between the degree of self-mutilative behaviour and the number of platelet imipramine binding receptor sites, and between impulsivity and the number of platelet imipramine binding receptor sites. As the two groups were matched for

psychiatric diagnosis and did not differ with regard to history of suicide attempts, these findings may be confidently related to the presence of self-mutilative behaviour (Simeon et al., 1992).

These findings indicated that, in light of no absolute differences in serotonergic measures, there is a relationship between the severity of self-mutilative behaviour and serotonergic dysfunction. To further test this assumption, all subjects with a history of attempted suicide were excluded. The result was that the self-mutilators had mean CSF 5-HIAA levels 44% lower than control subjects (Simeon et al., 1992).

5.1.3 Endogenous opiates

Endogenous peptides have been identified which have a function and structure similar to those of morphine (Snyder, 1977). The central nervous system contains three genetically distinct categories of opioid peptides. These are b-endorphin/corticotrophins, enkephalins, and dynorphin/neoendorphins (Harris, 1992). Their role in the control of pain has been implicated by the localisation of the binding sites of these peptides (Murrin, Coyle & Kuhar, 1980). Decreases in pain responsiveness have been demonstrated by the introduction of these substances into the periaqueductal grey matter (Hosobuchi, 1981).

Stress-induced analgesia (SIA), an insensitivity to pain during acutely stressful states, in animals and humans (Madden, Akil, Patrick & Barchas, 1977; Willer, Dekers & Cambier, 1981) has been linked to increased opioid peptide production and decreased pain responsiveness. SIA has been potentiated by the administration of an enkephalinase inhibitor (Harris, 1992).

Reversal of SIA has been partially achieved with the administration of naloxone which is an opiate antagonist (Buchsbaum, Davis & Bunny, 1977).

Those areas of the brain of animals associated with self-stimulatory behaviour have dense distribution of opioid receptors (Olds & Fobes, 1981). Investigations using rhesus monkeys and rats have demonstrated that increased self-stimulation occurs subsequent to infusion of opioids into the ventral tegmentum, substantia nigra or nucleus accumbens (Harris, 1992). A reinforcement relationship exists between opioid substances and self-stimulation (Olds & Fobes, 1981). Indeed, animals studies have demonstrated that subjects bar-pressed for encephalin (Belluzzi & Stein, 1977), which supports the proposition that opioids have reinforcing properties.

Endogenous opiates have been implicated in self-mutilative behaviour in mentally retarded groups. An enhanced activity of endogenous opioid neuropeptides, such as b-endorphin, may underlie self-mutilative behaviour, particularly as such neuropeptides may play a role in mediating the perception of pain or responsiveness to painful stimuli (Akil, Watson, Young, Lewis, Khahaturian & Walker, 1984). Support for this opioid overactivity hypothesis has been obtained from animal as well as from human studies. Morphine and other opioid agonistic agents may induce self-mutilative effects in animals (Herman, Leslie & Goldstein, 1980). Concentrations of b-endorphins were examined in the plasma of mentally retarded subjects who displayed symptoms of self-mutilation and compared with a matched patient control group who did not display self-mutilation. Compared with controls, the self-mutilating group had higher plasma b-endorphin levels (Sandman, Barron, Chicz-DeMet & DeMet, 1990).

Two hypotheses have been suggested linking endogenous opioids and self-injury. Firstly, repetitive self-injury leads to SIA with an associated increase in the levels of endogenous opioid peptides, the function of which is to inhibit pain. The second hypothesis is that individuals engage in self-injurious behaviour in order to self-administer or increase levels of endogenous opioid peptides (Harris, 1992). Both of these hypotheses have merit. Due to the reinforcing properties of endogenous opioid peptides (Belluzzi & Stein, 1977; Olds & Fobes, 1981), it would be expected that self-mutilative behaviour would decrease if the effect of an increased level of endogenous opioids was negated by the administration of an antagonistic substance.

Naltrexone is a long-acting endorphin antagonist (Richardson & Zaleski, 1986) and a series of studies have indicated that opioid blockers are effective in attenuating self-mutilative behaviour. Four subjects were given four fixed conditions (0, 25, 50, 100mg) of naltrexone on a different week. All subjects experienced a decrease in self-mutilative behaviour when treated with naltrexone. The rate of self-mutilative behaviour decreased in proportion to the increase in dosage of naltrexone for three of the four subjects. There was no consistent effect of naltrexone on other behaviours characteristic of mental retardation in these subjects, such as stereotypy and maladaptive social functioning (Sandman, Barron & Colman, 1990). A similar result was demonstrated with six male, profoundly mentally retarded subjects (Kars, Broekema, Glaudemans-van Gelderen, Verhoeven & van Ree, 1990). These results support the proposition that endogenous opioids are implicated in self-mutilative behaviour.

The effectiveness of the opiate antagonist naltrexone in reducing self-mutilative behaviour may be the result of the antagonising effect on endogenous opioids like β -endorphin that may be responsible for maintaining a relatively tonic level of pain insensitivity in self-mutilating subjects (Sandman, Datta, Barron, Hoehler, Williams & Swanson, 1983). Support for this assumption may be derived from the results of studies indicating that disturbed nociception was reversed by treatment with naloxone, a short-acting endorphin antagonist (Dunger, Leonard, Wolff & Preece, 1980; Yanagida, 1978).

Another interpretation may be that self-mutilative behaviour increases the release of endorphins and that the effects of opiate antagonists are due to the elimination of the reinforcing properties of endorphins (Belluzi & Stein, 1977; van Ree, Smyth & Copaert, 1979). In accord with this latter assumption, self-mutilative behaviour may be considered a symptom of addiction to endogenous opioid neuropeptides (Cronin, Wiepkema & van Ree, 1986). Thus, both of these speculative interpretations suggest that disturbances in endogenous opioid systems may be involved in the pathogenesis of self-mutilative behaviour (Kars et al., 1990).

It should be noted, however, that the hypothesised reinforcement cycle is a very simplistic understanding of a complex phenomenon. In addition, plasma opioids may not accurately reflect cerebral levels (Favazza, 1989a).

5.1.4 Summary of biological theories

There are several lines of evidence that mitigate against a purely organic explanation of the motivation of self-mutilative behaviour. Lesch-Nyhan

syndrome will be taken as an example. First, there are reports that self-mutilative behaviour may be lacking altogether in Lesch-Nyhan syndrome (Nyhan, 1968) or that it may take atypical forms (Duker, 1975). Second, operant techniques such as extinction, time out, and differential reinforcement of behaviours other than self-mutilation can be effective in eliminating the self-mutilative behaviour (Duker, 1975; McGreevy & Arthur, 1987). One would not expect such procedures to be effective if self-mutilative behaviour was directly controlled by a biochemical abnormality.

One interesting single case study reported a reduction of self-mutilative behaviour in a mentally retarded, severely autistic 14 year old subject following the administration of naltrexone. Using an ABAB design, alternating naltrexone administration with a placebo, maintenance of the reduction of self-mutilation was evident during the second placebo phase (Walters, Barrett, Feinstein, Mercurio & Hole, 1990). This result indicates that something other than the drug treatment maintained the improved behaviour. The decisive factor may well have been social reinforcement, as social relatedness concomitantly improved.

Finally, there are observational reports that self-mutilative behaviour can be brought under stimulus control, becoming more likely in the presence of certain adult carers (Duker, 1975). The children in this study learned to mutilate themselves more frequently in the presence of adults who attended to such behaviour. The organic hypothesis would have predicted that, since self-injurious behaviour is biochemically determined, its occurrence should be relatively independent of external stimulus conditions. It is possible, of course, that a behaviour can be brought under stimulus control and yet still

have organic involvement. Nevertheless, these observations on stimulus control are significant insofar as they are consistent with the evidence that suggests that self-mutilative behaviour, even in Lesch-Nyhan syndrome, may have an operant component (Carr, 1977). The influence of operant reinforcement will be discussed in a subsequent section of this chapter.

5.2 Psychodynamic theories

Alternative views of the aetiology of self-mutilative behaviour are provided by psychodynamic theories. Psychodynamic theorists have been prolific on the subject of self-mutilation. Their explanations are many and varied. Examples of psychodynamic theories have been extracted from the literature and presented here. It is beyond the scope of this review to cover all proposed theories within this paradigm.

One of the earliest, and probably one of the best psychodynamic explanations of self-mutilation comes from the work of Menninger (1935). He believed that self-mutilation is used as a means of averting suicide. He conceptualised self-mutilation as containing three distinct elements. The first of these is the element of aggression. This aggression may be directed towards the self with the self being understood as an introjected form of an object, for example, a parent. Alternatively, the aggression may be directed outward. In this sense the aggression is aimed at a real, present object. Self-mutilation allows the individual to gain control of the anger and aggression that cannot be expressed in other ways.

The second element proposed by Menninger is stimulation. This stimulation may have a physical or sexual base. Self-mutilation can gratify castration fantasies. Repeated symbolic removal of the genitals by an act of wrist cutting, for example, can control the forbidden urges that emanate from the genitals. Later theorists have postulated that the relaxation response experienced after the commission of the act is due to the fact that the genitals have remained intact despite self-injury (e.g., Friedman, Glasser, Laufr & Wohl, 1972).

Self-punishment is the final element postulated by Menninger. Self-mutilation may provide atonement for past thoughts or actions perceived as unacceptable. For the psychologically well adjusted individual it is enough to express remorse for past actions and to recognise that self-mutilation is not required. For the neurotic individual, the act of self-mutilation provides a symbolic payment for sins. For the psychotic individual, self-mutilation is not symbolic but directly attacks the body part associated with past sins.

An alternative psychodynamic interpretation views self-mutilative behaviour as a distorted form of autoerotic activity (Siomopoulos, 1974). This formulation states that prior to puberty, self-mutilators engage in excessive masturbatory behaviour. The onset of masturbation occurs at age six or seven years. By age fourteen, masturbation ceases and self-cutting begins, initially irregularly and then with more frequency. The early masturbatory behaviour occurs as a result of lack of maternal handling. This maternal deprivation has been suggested by other early writers (see Graff & Mallin, 1967; Pao, 1969). Self-stimulatory acts such as masturbation are adopted to compensate for the lack of maternal handling. The

masturbatory behaviour is interpreted as an autoerotic fixation. At puberty the masturbatory behaviour is repressed. Self-mutilative behaviour emerges to replace the masturbatory behaviour and as such is a distorted form of autoerotic behaviour.

The conceptual leap from masturbatory behaviour to self-mutilative behaviour becomes apparent "if one allows the inference that the self-cutter opens up symbolically through her cutting multiple little female genitals on her skin, which become available for uninhibited touching, handling, and all sorts of manipulations" (Siomopoulos, 1974, pp.90).

Support for this notion was provided by the proposition that self-cutting was believed almost exclusively to be the domain of females (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972). However, it has been shown that the reported predominance of female self-mutilators was a misrepresentation (e.g., Clendenin & Murphy, 1971; Weissman, 1975). Further support was proposed in that self-mutilators were believed to find adult heterosexual contact abhorrent. However, while some studies have demonstrated this to be the case (Favazza & Conterio, 1989; Simpson, 1976), contradictory findings have been reported (e.g., Rosenthal et al., 1972). Therefore, self-mutilative behaviour as an autoerotic behaviour is difficult to accept.

There are many psychodynamic formulations of self-mutilative behaviour, almost as many formulations as there are psychodynamic authors. They are all speculative in nature. To a greater or lesser extent, these formulations can account for some aspects of the behaviour. However, the hypotheses derived from these formulations are untestable (Bennun,

1984) in part due to the fact that they involve multiple inferences from observable behaviour (Yates, 1970). Psychodynamic formulations of self-mutilative behaviour do not aid in the identification of individuals at risk of performing the behaviour (Sweeny & Zamecnik, 1981) and treatments based on these formulations are time consuming and of questionable value (see Feldman, 1988a).

5.3 Social learning theories

Bennun (1984) examined the social learning aspects of self-mutilative behaviour in terms of a behavioural learning model and a social psychological model of appeal. The behavioural learning model is based on hypotheses regarding self-injurious behaviour in disabled populations (Carr, 1977). The model states that self-mutilative behaviour is a learned operant behaviour with the reinforcement of reward or punishment being contingent on the performance of the behaviour (Bennun, 1984). The nature of the reinforcement may be either positive or negative (Carr, 1977).

Self-mutilative behaviour can be negatively reinforced by external stimuli. The behaviour is maintained by escape from or avoidance of aversive stimuli (Bennun 1984). For example, self-mutilators are reported to have poor interpersonal skills. They react strongly to criticism and rejection (Favazza & Conterio, 1989; Graff & Mallin, 1967; Raine, 1982; Simpson, 1975, 1976; Walsh & Rosen, 1988), being unable to tolerate the negative feelings engendered by these reactions from others. They use self-mutilation to terminate this type of response in others. Self-mutilative behaviour

becomes a powerful tool in interpersonal relationships. Whenever an act of self-mutilation serves to end a punitive response by significant others, the behaviour is negatively reinforced and the likelihood that self-mutilation will be used at the next instance of interpersonal crisis is increased (Walsh & Rosen, 1988).

Self-mutilative behaviour can be positively reinforced by external stimuli. As with any other person, the self-mutilator requires nurturance and care. However, self-mutilators often use their mutilative behaviour to obtain this response from others because they lack alternative means of achieving this. Every time an act of self-mutilation is followed by sympathy and concern, the behaviour is positively reinforced and strengthened. Both professionals and significant others find it difficult to avoid a caring response in the face of obvious physical injury despite the fact that the injury is self-inflicted (Walsh & Rosen, 1988).

This explanation of the positive reinforcement associated with self-mutilative behaviour is similar to the description of the social psychological model of appeal described by Bennun (1984). In this case, self-mutilative behaviour becomes a means of communicating a message to significant others without explicitly and verbally delivering that message. The appeal of the self-mutilator is to his or her social network. The behaviour acts to change the circumstances of the self-mutilator or to coerce significant others to provide support.

An operant formulation of self-mutilation explained the behaviour as generating an active response from the self-mutilator's environment (Bostock & Williams, 1974). Self-mutilative behaviour becomes habitual when the

individual learns that the behaviour will elicit the desired responses of others. Each time the desired response is achieved, the behaviour is reinforced and strengthened.

Many people, including professionals (see Walsh & Rosen, 1988), describe self-mutilators as stubborn and manipulative. Indeed, this description is accurate at the most superficial level. However, the fact that processes of reinforcement and/or punishment operate to maintain this type of behaviour should not be forgotten. The social learning formulations of self-mutilative behaviour should be used as an explanation of aetiology and not as a pejorative label (Bostock & Williams, 1974).

5.4 Contagion/modelling

When asked to relate the reason for the initial act of self-mutilation, 91% of 240 female self-mutilators reported that the event just happened. Of the remaining subjects in this sample, 6% related that they knew of someone else who had self-mutilated and 3% had read about the behaviour. These factors played a part in the onset of the behaviour for these individuals (Favazza & Conterio, 1989). Therefore, it is apparent that for a relatively small number of self-mutilators, modelling is an important factor in the onset of the behaviour. In addition, for those self-mutilators for whom the behaviour is well established, modelling of the behaviour may influence a subsequent episode (Walsh & Rosen, 1988). Indeed, it is well established that a contagion effect can occur leading to an epidemic of the behaviour (see Feldman, 1988a; Graff & Mallin, 1967).

A generally accepted definition of contagion of self-mutilation is "a sequence in which one individual inflicts self-injury and then others in the immediate environment imitate the behaviour" (Walsh & Rosen, 1988, p.79). Early reports of this phenomenon cited instances of epidemics of trichotillomania (Holdin-Davis, 1914; Menninger, 1935). By the 1960s, the phenomenon was well documented and reports emerged of episodes of epidemic self-cutting (e.g., Gardner & Gardner, 1975; Graff & Mallin, 1967; Lester, 1972; McKerracher et al., 1968).

Contagion effects most commonly occur in institutional or hospital settings where groups of dysfunctional individuals develop close relationships with each other (Rosen & Walsh, 1989; Rosen, Walsh & Lucas, 1988; Simpson, 1976). An epidemic of self-mutilation was reported in an adolescent psychiatric unit involving 11 of the 25 residents. This epidemic continued for seven months (Matthews, 1968). At least two features of the epidemic were demonstrated to be important. Firstly, two self-mutilators appeared to initiate the behaviour in others. The duration of the epidemic was prolonged because of these two females who competed to produce the most severe symptoms. The other participants who came into direct contact with the initiators also more seriously injured themselves. Secondly, the behaviour did not continue when individual self-mutilators were placed in the more controlled environment of an adult psychiatric ward. In particular, the epidemic was controlled by removing the instigators.

The most serious or extreme example of the contagion effect was reported in a training school for adolescent females (Ross & McKay, 1979). The majority of these girls (86%) had deliberately wounded themselves and the authors

attributed this high rate to three factors. Firstly, they believed that the residents used self-mutilation as a means of displaying affection. They described peer group customs for maintaining cohesion in the group and affirming peer group membership. Secondly, the rate of self-mutilative behaviour increased in proportion to attempts by the staff to eliminate the behaviour. Thirdly, they reported anger and frustration by residents in response to the restrictive and understimulating environment in the institution. Interestingly, despite the high rate of the behaviour and the fact that it had developed as a peer group custom, the authors were sceptical about the existence of a contagion effect. They felt that there was insufficient evidence to allow such a conclusion.

In light of this scepticism, a study was conducted to determine if evidence of contagion could be obtained (Walsh & Rosen, 1985). A number of factors were examined including self-mutilative behaviour, aggressive behaviour, suicidal talk, substance abuse and hospitalisation over a twelve month period. It was determined that a temporal relationship existed between acts of self-mutilation among adolescent inpatients. At times there was a high rate of self-mutilative behaviour and at other times there was no evidence of the behaviour. This clustering of acts of self-mutilation was statistically significant. None of the other factors displayed such clustering. It was suggested that self-mutilative behaviour was influenced by social or group factors.

It has been postulated that three factors are important in the development of an epidemic of self-mutilation: the psychopathology of the individual participants; the interaction of the peer group; and the environment of the institution. Further, the interacting components that serve to contribute to

the contagion of self-mutilation include: the communication patterns of the self-mutilators; attempts by the self-mutilators to change the behaviour of others; the influences of the peer group; and how self-mutilators respond to staff members and treatment (see Walsh & Rosen, 1988 for a comprehensive discussion of these factors).

5.5 The tension reduction model

Self-mutilative behaviour often is very difficult to understand. This is true for both the mutilator and the non-mutilator. Physical damage is inflicted in the absence of pain (Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Ross & McKay, 1979; Simpson, 1976; Walsh & Rosen, 1988) and appears to bring relief for the self-mutilator (Lion & Conn, 1982). Even the most diverse disciplines have described the same pattern of tension relief following self-mutilative behaviour (e.g., Arons, 1981; Bennun, 1984; Siomopoulos, 1974). The behaviour may become more understandable when the process of an act of self-mutilation is examined.

The tension reduction model of self-mutilation was formulated because of repeated reports of relief experienced by self-mutilators immediately following a self-mutilative act (Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; McKerracher et al., 1968; Pao, 1969; Raine, 1982). An act of self-mutilation typically follows a sequence of events that has been described as almost stereotyped (Simpson, 1976). The understanding of this sequence of events is drawn from phenomenological

and clinical reports.

Self-mutilators have reported a range of feelings that occur immediately prior to an act of self-mutilation. These feelings typically include anxiety, depression, loneliness, resentment, anger, self-hatred and tension (Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1976). A variety of factors have been reported to precipitate these feelings. However, the common thread in the literature is that escalating negative emotions occur in reaction to interpersonal conflict, rejection, separation or abandonment either in relation to a significant other or a professional (Feldman, 1988a; Grunebaum & Klerman, 1967; Novotny, 1972; Rosenthal et al., 1972; Simpson, 1975, 1976). These circumstances may be threatened, real or imagined (Novotny, 1972). As the behaviour becomes habitual, self-mutilative episodes may be precipitated by minor events (Graff & Mallin, 1967).

As negative feelings escalate, an act of self-mutilation is contemplated (Feldman, 1988a; Pao, 1969). The self-mutilator becomes increasingly preoccupied with the urge to perform the act (Grunebaum & Klerman, 1967). The situation may be perceived as uncontrollable (Feldman, 1988a). As the behaviour becomes habitual, a sense of resignation of the necessity of an act of self-mutilation has been reported (Walsh & Rosen, 1988).

As the escalating negative feelings become intolerable, many self-mutilators report feeling numb, withdrawn and unreal (Feldman, 1988a; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1975; Winchel & Stanley, 1991). These feelings indicate a state of depersonalisation (Feldman, 1988a; Gardner & Gardner, 1975; Pao, 1969;

Rosenthal et al., 1972; Simpson, 1976). As the negative feelings become intolerable, the self-mutilator engages in self-injury. The injury is reported to occur quite suddenly (Simpson, 1976) although the site and severity of the wound appear to be quite controlled (Feldman, 1988a; Simpson, 1975). Physical damage, for example, may range from a single deep laceration to multiple superficial cutting requiring little medical attention (Rosenthal et al., 1972).

Injury typically occurs in the absence of painful sensation (Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Ross & McKay, 1979; Simpson, 1976; Walsh & Rosen, 1988). This absence of pain is reported despite the fact that attempts to desensitise the skin are rarely made (Ross & McKay, 1979) and despite the fact that lacerations often are severe (van Moffaert, 1990). Some self-mutilators do report painful sensation upon cutting although these reports are in the minority (Novotny, 1972; Simpson, 1975). Painful sensation commonly returns minutes, hours or even days after the injury (Gardner & Gardner, 1975; McKerracher et al., 1968). The absence of pain during self-mutilation is most probably mediated by an increase in endogenous opiates, caused by the extreme stress reaction prior to cutting (e.g., Darche, 1990).

The sight of blood from a self-inflicted wound appears to have significance in the self-mutilative process and precipitates a mood change (Simpson, 1975). The appearance of blood in the wound results in a sense of relief (van Moffaert, 1990). When instant relief is not felt it generally is related to insufficient bleeding and some mutilators will continue to cut until there is enough blood to precipitate this change in mood (Kaplan & Fik, 1977; Simpson, 1976). Any evidence of injury may serve the same

purpose (Feldman, 1988a), for example, the skin blistering from a self-inflicted burn.

The act of self-cutting is effectively therapeutic (Simpson, 1976). There is a reported rapid reduction of tension following the commission of the act and repersonalisation occurs for those who previously experienced a depersonalised state (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). An act of self-mutilation is terminated when satisfaction and relief are experienced and indeed, most self-mutilators seem to be aware of what is necessary to end the negative emotional state (Rosenthal et al., 1972).

The rewarding tension reducing qualities of self-mutilation reportedly maintain the behaviour (Bennun, 1984) even though the reduction of tension that occurs with the act of self-mutilation is typically short-lived (Lion & Conn, 1982). Initial relief is followed by feelings of self-hatred, disappointment and fear of the consequences (Feldman, 1988a). Any behaviour that effectively reduces a negative state will be reinforced by that reduction of tension (Bennun, 1984; Walsh & Rosen, 1988). The effective relief from tension will strengthen the behaviour and make it difficult to eliminate from the individual's behaviour repertoire (Bennun, 1984). Also, it increases the likelihood that the behaviour will be repeated when the individual experiences a similar negative state.

The nature of the reinforcement appears to be negative internal reinforcement. It generally is accepted that self-mutilation is performed in an attempt to reduce unpleasant feelings (Graff & Mallin, 1967; Grunebaum

& Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). Whatever, the precipitant, the resultant tension is an aversive stimulus. Any action that eliminates this state can be said to be negatively reinforcing. The power of the reinforcing properties of self-mutilation occur because of a high level of distress prior to the act, and the immediate and substantial degree of relief after the act (Walsh & Rosen, 1988). The nature and degree of internal negative reinforcement for self-mutilative behaviour considerably strengthens the behaviour. This can account for the habitual nature of self-mutilative behaviour (Feldman, 1988a; Walsh & Rosen, 1988). It is not the act of self-mutilation that is the reinforcer, but the immediate consequence of the act (Walsh & Rosen, 1988). The tension reduction model will be discussed in detail in subsequent chapters particularly in relation to the psychophysiological processes involved with the act of self-mutilation.

5.6 Summary

Effective control of self-mutilative behaviour will rest on a thorough understanding of the aetiology of the behaviour. This includes an understanding of the facts that initially precipitate the behaviour and the factors that maintain it. It is necessary to empirically test each proposition to determine the interaction of factors that influence the behaviour. Unfortunately, many of the theories proposed to account for self-mutilative behaviour are not amenable to testing. Others are testable, but no attempt has been made to do so. These points represent a major deficiency in the

study and understanding of self-mutilative behaviour. In addition the demographics of those who engage in the behaviour and estimates of rate of occurrence often lack clarity. These factors will be discussed in the next chapter.

CHAPTER SIX
DEMOGRAPHIC VARIABLES

6. DEMOGRAPHIC VARIABLES

It is important to briefly focus on the demographics of Type III self-mutilation to establish that this behaviour does represent a significant clinical problem. Although precise estimates of the incidence of self-mutilation are problematic, there is every indication that the extent of the behaviour imposes difficulties in terms of the provision of medical and psychiatric care. It also is possible that an examination of the demographics of self-mutilators will evidence similarities between self-mutilators that can assist in the identification of potential mutilators.

6.1 Prevalence

It is generally accepted that the prevalence of self-mutilative behaviour is quite high (Simpson, 1976) although there are few adequate studies of the incidence of the behaviour (Simpson, 1975). In their review of the literature, Walsh and Rosen (1988) determined that there has been an increase in the incidence of self-mutilation since the 1960s. They cited studies from Scandinavia, Europe and North America, all reporting a marked rise in cases of self-mutilation. Given the amount of study directed towards the estimate of incidence, it is initially surprising that there is little agreement of the prevalence of the behaviour. There are a number of reasons why this is the case.

As previously discussed, self-mutilation may be subsumed under the broader category of attempted suicide or self-injury (Benjaminsen, Krarup &

Lauritsen, 1990; Dorpat & Boswell, 1963; Eaton & Reynolds, 1985; Feldman, 1988a; Lauritsen, 1990; Reynolds & Eaton, 1986; Simpson, 1976). In most cases, combined samples of self-poisoners and self-mutilators have been examined (Bancroft, Skrimshire, Reynolds, Simkin & Smith, 1975; Brittlebank, Cole Hassanyeh, Kenny, Simpson & Scott, 1990; Hassanyeh, O'Brien, Holton, Hurren & Watt, 1989; O'Brien, Holton, Hurren, Watt & Hassanyeh, 1987a, 1987b; Walker, 1980) although the inclusion of self-cutters with other types of self-destructive behaviour such as gas inhalation and hanging have been reported (Bagley & Greer, 1971). Inclusion of behaviours such as gassing, jumping from heights and hanging in discussions of self-mutilation leads to inflated estimates of the behaviour (e.g., Morgan, Pocock & Pottle, 1975). At the other extreme, excluding all behaviours except wrist-cutting (Clendenin & Murphy, 1971; Weissman, 1975) leads to underinclusive reporting and deflates estimates of the incidence.

Important to this discussion is that self-mutilation is likely to be seriously underreported. There is evidence that many self-mutilators do not report their behaviour but treat the wounds themselves (Favazza & Conterio, 1989; Simpson, 1976). Alternatively, the injury may be treated but not reported (Feldman, 1988a; Simpson, 1976) and this is probably true in most cases. The stigmatisation associated with the behaviour and the potential of restrictive interventions lead self-mutilators to either avoid treatment or to mislead professionals about the cause of the injury (Walsh & Rosen, 1988). Indeed, the question about whether the injury is self-inflicted may not be asked and the injury is recorded as a simple laceration (Feldman, 1988a). These factors make accurate estimation of the prevalence of the behaviour

exceedingly difficult.

The vast majority of reports of the prevalence of self-mutilative behaviour are based on skin-cutting. It is virtually impossible to make estimates of the prevalence of other types of self-mutilative behaviour (Walsh & Rosen, 1988). Given these problems, it is difficult to give an accurate estimate of the occurrence of the behaviour. Nevertheless, it is generally accepted that self-mutilation is a common clinical event.

If only self-lacerations are taken from Morgan et al.'s (1975) study of "deliberate self-harm" which included self-poisoning and more lethal behaviours such as jumping from heights, a rate of 14 per 100,000 population per year is achieved. This figure is likely to be artificially low because it includes only reports of self-cutting. Pattison and Kahan (1983) estimated the incidence to be somewhere in the range of 400-600 per 100,000 population per year. However, the accuracy of these figures must be questioned because these authors were not dealing solely with self-mutilative behaviour. Walsh and Rosen (1988) believed the true incidence to be anywhere between these figures. However, Favazza and Conterio (1989), concerned only with self-mutilation in the strictest sense, estimated the incidence to be 750 per 100,000 per year in the general population. Even if the very lowest figure of 14 per 100,000 were accepted, this still represents quite a significant clinical problem.

Specific populations, of course, exhibit different rates of the behaviour. The highest reported incidence of self-mutilative behaviour occurs in samples of prisoners, institutionalised adolescents and children diagnosed as autistic, schizophrenic, intellectually disabled or brain injured (Feldman, 1988a).

6.2 Sex distribution

As previously mentioned, early studies assumed that self-mutilators were female (e.g. Grunebaum & Klerman, 1967). For example, only one male self-cutter was evident in a sample of hospitalised psychiatric patients but this subject was dismissed as atypical (Graff & Mallin, 1967). Male cutters were interviewed in a sample of psychiatric patients but the results were not reported (Rosenthal et al., 1972). The authors felt that the self-mutilative behaviour of females represented a different phenomenon to that of the self-mutilative behaviour of males.

However, males do self-mutilate and these early studies either underestimated or did not appreciate this fact (Kaplan & Fik, 1977). The first epidemiologically adequate studies demonstrated that a significant proportion of self-mutilators were male (Clendenin & Murphy, 1971; Weissman, 1975). Indeed, the proportion of male self-mutilators was higher than the proportion of male suicide attempters (Clendenin & Murphy, 1971). Self-injurers were found to be more likely to be male compared with self-poisoners (Robinson & Duffy, 1989).

Nevertheless, it is generally accepted that female self-mutilators outnumber male (Lion & Conn, 1982; Novotny, 1972). The majority of studies employing both sex subjects have demonstrated that the greater proportion of self-mutilators in these samples have been female (Ballinger, 1971; Clendenin & Murphy, 1971; Favazza & Conterio, 1989; Langbehn & Pfohl, 1993; Phillips & Muzaffer, 1961; Simpson, 1975; Takeuchi et al., 1986; Weissman, 1975)

6.3 Marital status, employment and education

As well as being female, the typical self-mutilator was reported to never have been married. In some studies, the greater proportion of self-mutilating subjects were single (Favazza & Conterio, 1989; Graff & Mallin, 1967). More self-mutilators were reported to be single in comparison to suicide attempters in general (Clendenin & Murphy, 1971) and self-poisoners in particular (Robinson & Duffy, 1989). However, no significant differences with regard to marital status were demonstrated between wrist cutters and suicide attempters identified at a hospital emergency room. Of this sample, 40% were single and 60% were either currently married or had been married (Weissman, 1975).

The typical portrait also described the self-mutilator as intelligent (Graff & Mallin, 1967). Indeed, more than one half of this sample had attended college. Of the large group of female self-mutilators surveyed, respondents had, on average, attended college for one year (Favazza & Conterio, 1989).

It is usual for self-mutilators to be reported to function adequately between episodes of self-mutilative behaviour and to have acted responsibly in their employment or at school (Grunebaum & Klerman, 1967). Of 240 female self-mutilators, 30% were engaged in full time employment and a further 12% were students. With 16% reporting being disabled and a further 12% describing themselves as housewives, and excluding other possibilities, at most 28% of this sample were unemployed (Favazza & Conterio, 1989).

A significant interaction was demonstrated between employment status and sex when comparing methods of self-harm. Employed females were

more often self-poisoners and employed males were more likely to have self-injured (Robinson & Duffy, 1989).

6.4 Age

As well as being female, the traditional and stereotypical self-mutilator also was understood to be young (Grunebaum & Klerman, 1967). This has been demonstrated for female self-mutilators (Graff & Mallin, 1967; McKerracher et al., 1968), for male self-mutilators (Kaplan & Fik, 1977; Weissman, 1975), for self-mutilators in a rural area (Scott & Powell, 1993), and when self-mutilators have been compared with suicide attempters (Clendenin & Murphy, 1971; Sonneburn & Vanstraelen, 1992).

However, self-mutilation is not exclusively the domain of the young (Simeon et al., 1992) with substantial proportions of subject samples being placed in the middle to late age groups (Rosenthal et al., 1972; Takeuchi, 1986; Weissman, 1975). Subjects aged above seventy years have been reported (Ballinger, 1971; Clendenin & Murphy, 1971; Favazza & Conterio, 1989).

6.5 Onset and duration of self-mutilation

It is generally understood that self-mutilation usually does not occur before puberty (Novotny, 1972). The behaviour most commonly is understood to begin during adolescence (Favazza & Conterio, 1988, 1989; Rosenthal et al., 1972). However, self-mutilative behaviour does not exclusively begin during adolescence. Onset of the behaviour has been reported up to 38

(Graff & Mallin, 1967) and 56 years (Gardner & Gardner, 1975).

A number of factors have been associated with the onset of self-mutilative behaviour. The problems experienced by the self-mutilator at the onset of the behaviour are varied. Family problems were the most consistent concomitant of the first episode of self-mutilative behaviour although only 29% of 240 female self-mutilators reported this type of problem. Conflicts with friends, at work or school, and with the police were rarely reported. Almost half the sample simply listed other problems attesting to the diversity of problems at onset (Favazza & Conterio, 1989).

Given the difficulty of treatment, it is likely that self-mutilative behaviour is repeated over a number of years (Favazza & Conterio, 1988; Langbehn & Pfohl, 1993). However, there is very little known about long-term prognosis (Gardner & Gardner, 1975). Of a sample of 240 female self-mutilators, 81% reported that self-mutilation was an ongoing problem (Favazza & Conterio, 1989). Duration of cutting up to 26 years has been reported with a mean of 5 years duration of cutting (Gardner & Gardner, 1975).

6.6 Extent of the behaviour

It is generally understood that self-mutilation may become habitual and develop into a chronic behavioural pattern (Walsh & Rosen, 1988). The 86% of girls who self-mutilated in a training school had done so an average of eight times. This figure was stable across the 30 years of the institution's history (Ross & McKay, 1979). Half of a sample of female self-mutilators had engaged in more than 50 self-mutilative episodes, 23% between 25 and 50

episodes. In contrast only 2% had self-mutilated only once (Favazza & Conterio, 1989). Half a sample of personality disordered self-mutilators had engaged in self-mutilative behaviour 1-3 times per year, 35% 4-11 times per year, and 15% more than 12 times per year (Simeon et al., 1992).

The degree of scarring on the body can often attest to the extent of self-mutilative behaviour. In one survey of female self-mutilators, respondents were asked to list the site of scarring on their bodies. Scars were reported to be located on the arms by 74% of respondents, the legs by 44%, the abdomen by 25%, the head by 23%, the chest by 18% and the genitals by 8% (Favazza & Conterio, 1989).

6.7 Patterns of help-seeking behaviour

Although 42% of 240 female self-mutilators reported that someone, usually mother or friend, were aware of the first mutilative episode, only 8% had sought professional help within a week of the first injury. Substantially more, 37%, did not seek help for their self-mutilative behaviour for a year and 39% had never sought professional help (Favazza & Conterio, 1989).

Many of the problems of sample bias arise because of differing patterns of help-seeking behaviour between the sexes. Referrals of male self-mutilators came from public psychiatric facilities whereas female referrals came from private psychiatric facilities (Clendenin & Murphy, 1971). In addition, females were more likely to seek psychiatric assistance while males were more likely to come under the scrutiny of the criminal justice system (Robinson & Duffy, 1989; Simpson, 1975). Indeed, significantly more self-mutilators than

control subjects had reported trouble with the police (Simpson, 1976).

An interesting phenomenon has been reported that may influence the patterns of help seeking behaviour. Studies of female self-mutilators have reported connections between self-mutilators and the medical field. For example, 18% of the parents of self-mutilators were either currently employed or had at some time been employed in a medical profession (Favazza & Conterio, 1989). Self-mutilators themselves also had contact with medicine and were reported to have been nurses or medical secretaries (Grunebaum & Klerman, 1967). This was true of 42% of self-cutters with only one control subject reporting such a connection or interest (Simpson, 1975).

6.8 Summary

This chapter has summarised the limited information available on those who engage in self-mutilation and the frequency of the behaviour. The inadequacies in the literature should be evident. For example, there is no clear understanding of the incidence of Type III self-mutilative behaviour and what little information is available largely focuses on wrist cutting. While it is not the aim of this project to rectify this situation, it is evident that the matter needs to be addressed.

To this point this review has determined the nature of self-mutilative behaviour, how it can be classified and, with limitations, why individuals engage in this type of behaviour and the demographics of individuals categorised as self-mutilators. The next question relates to the presence of psychopathology that may characterise individuals who engage in self-mutilative behaviour.

CHAPTER SEVEN
PSYCHOPATHOLOGY

7.1 PSYCHOPATHOLOGY

The DSM-III-R (APA, 1987) or the draft criteria for the DSM-IV (Davison & Neale, 1994) do not classify self-mutilation as a separate disorder but it is associated with at least four, possibly five established disorders. Self-mutilative behaviour, along with a range of suicidal behaviours, is a diagnostic criterion of Borderline Personality Disorder. One of the complications of Multiple Personality Disorder is reported to be self-mutilation. The behaviour is associated with Sexual Masochism and is used as a means of acting out sexual masochistic urges. While Trichotillomania itself is sometimes classed as a self-mutilative behaviour (e.g., Ross & McKay, 1979), other forms of self-mutilation are listed as associated features of the disorder. Self-mutilation has been classified as a factitious disorder (House & Thompson, 1985) and may be subsumed under a diagnosis of Factitious Disorder with Physical Symptoms (Favazza, 1989a; van Moffaert, 1990). The self-inflicted nature of some of the physical damage associated with this disorder could be classed as self-mutilative.

However, a variety of other diagnoses have been applied to self-mutilators (Favazza, 1989a). Association between self-mutilation and antisocial and histrionic personality characteristics also are commonly reported (Fruensgaard & Flindt Hansen, 1988; van Moffaert, 1990) along with narcissistic and schizotypal personality traits (Feldman, 1988a; Gardner & Gardner, 1975). Depression and substance use disorders have been reported to be concomitants of self-mutilative behaviour (Bennum, 1983; Favazza & Conterio, 1989; Lion & Conn, 1982; Simpson, 1976) as have elevated levels

of anxiety, hostility and somatic complaints (Darche, 1990). However, Type III self-mutilation is rarely associated with psychoses although individuals with schizophrenia do engage in more bizarre and severe forms of the behaviour (Type IV) (Walsh & Rosen, 1988).

7.1.1 Psychosis and type III self-mutilation

As mentioned, severe forms of self-mutilation such as self-castration and eye enucleation are commonly associated with psychosis (de Catanzaro, 1981; Schaffer et al., 1982; van Moffaert, 1990). This type of self-mutilative behaviour frequently is reported to be the result of command hallucinations or the result of delusional belief systems (Betts, 1964; de Catanzaro, 1981; House & Thompson, 1985; Schaffer et al., 1982; Shore, Anderson & Cutler, 1978; Waugh, 1986).

However, it should be noted that command hallucinations directing the individual to harm him or herself are more frequently experienced than acted upon (Shore, 1979). In addition, among the multitude of psychotic men, only a very small number engage in severe self-mutilative behaviour such as genital self-mutilation (Greilshaimer & Groves, 1979). What makes a schizophrenic individual vulnerable to self-mutilative behaviour is the degree of trust or belief in the delusion or hallucination. Evidence of this trust may be a period of calm indicating a decision has been made to act upon the command (Shore et al., 1978).

Reports also are evident throughout the literature linking Type III self-mutilation and psychosis (e.g., Ballinger, 1971; Graff & Mallin, 1967; Kaplan & Fik, 1977; Nelson & Grunebaum, 1971; Novotny, 1972; Shore, 1979).

However, in practise, definite symptoms of psychosis are quite uncommon (Simpson, 1976). For example, while 58% of one total sample of skin-cutters were diagnosed as schizophrenic, only 43% of those with this diagnosis actually displayed evidence of hallucinations or delusions. Only one subject had been hospitalised due to the presence of acute psychotic symptoms and evidence of formal thought disorder in the group was rare (Rosenthal et al., 1972).

Daily functioning of Type III self-mutilators has been demonstrated to be adequate although reports of confusion, tension and withdrawal have been noted at times of stress (Raine, 1982). It has been suggested that a diagnosis of psychosis is easy to make if the patient is observed during the time when s/he is self-mutilating. However, these difficulties rapidly resolve after an episode of self-mutilation. In reality, psychological testing could find evidence of formal thought disorder in only 20% of self-mutilators believed to be psychotic. Results demonstrated the remaining subjects more commonly displayed evidence of impulsivity, compulsiveness, feelings of inadequacy and a poor self-image (Graff & Mallin, 1967).

It seems quite possible that individuals with psychosis may engage in Type III self-mutilation. However, it is important to distinguish the nature or type of self-mutilation in this population. Type IV self-mutilative behaviour commonly is the consequence of the psychosis. It is the direct result of the symptoms of the disorder such as delusions or hallucinations. The determinants of Type III self-mutilation in this population are unlikely to be psychotic symptoms. Indeed, Type III self-mutilation among psychotic individuals is more likely to be determined by similar factors as other groups.

They, too, report increasing tension and a reduction of that tension upon the commission of an act of self-mutilation. Therefore, while it would be incorrect to say that people with psychosis do not engage in Type III self-mutilation, it also would be incorrect to include under a single definition the two types of behaviour in this population.

7.1.2 Personality characteristics

Despite the strong association between personality disorder and self-mutilation, few systematic studies and even fewer controlled studies have been reported (Simeon et al., 1992). In one epidemiologically sound study, self-injurers were more likely than self-poisoners to have a personality disorder (Robinson & Duffy, 1989). While many investigators equate the presence of self-mutilative behaviour with a diagnosis of personality disorder, research has demonstrated that not all self-mutilators show evidence of such a disorder. For example, 40% of self-mutilators did not have a diagnosis of a personality disorder (Simeon et al., 1992). Nevertheless, the most common diagnosis is that of borderline personality disorder (Favazza & Conterio, 1989; Fruensgaard & Flindt Hansen, 1988; Lion & Conn, 1982; Nelson & Grunebaum, 1971; Schaffer et al., 1982; Simpson, 1976; van Moffaert, 1990). Aspects of the diagnostic criteria for borderline personality disorder do fit with the understanding of self-mutilation. A comprehensive coverage of the DSM-III-R diagnostic criteria for borderline personality disorder and their relationship to self-mutilative behaviour is provided by Walsh and Rosen (1988).

There is support in the literature for the association between self-mutilation and borderline personality disorder. For example, self-mutilators scored significantly higher on nine of the eleven dimensions of the Schedule for Interviewing Borderlines (Simeon et al., 1992). Comparison of non-psychotic self-mutilating psychiatric patients with psychiatric control subjects with no history of self-mutilative or suicidal behaviour demonstrated elevated scores for the self-mutilators on the five major content areas of the Diagnostic Interview for Borderlines. Significantly higher scores were obtained for impulse/action, affects, psychoticism and interpersonal sensitivity with a trend on the remaining dimension of social adaptation with self-mutilators having fewer vocational and social skills (Schaffer et al., 1982).

However, the impulse/action domain, which includes self-mutilative behaviour, has not consistently distinguished self-mutilators from control groups. With groups matched for the presence and type of personality disorder, this domain did not separate the two samples. While self-mutilation was positively correlated with impulsivity, chronic anger and somatic anxiety, the impulsivity more commonly took the form of aggressive, hostile behaviour rather than, for example, the gambling, over-spending and promiscuity more commonly associated with borderlines (Simeon et al., 1992).

It was suggested that self-mutilation may be an indicator of severe borderline personality disorder. Certainly, when compared with controls matched for the presence and type of personality disorder, self-mutilators have demonstrated greater psychopathology related to the traits of borderline

personality disorder (Simeon et al., 1992).

Although some assume that self-mutilation and a diagnosis of borderline personality disorder go hand in hand, it would be incorrect to accept that all self-mutilators fit the criteria for the presence of a borderline personality disorder. For example, only 22% of self-mutilators in a drug rehabilitation programme had evidence of the disorder (Schwartz et al., 1989). Forty-two percent of one sample of wrist-cutters were borderline personalities (Nelson & Grunebaum, 1971) and only 10% of another sample displayed borderline traits (Graff & Mallin, 1967). Indeed, it appears that self-mutilators may be given the borderline label because they self-mutilate rather than because the behaviour occurs in conjunction with other indicators of the disorder (Schaffer et al., 1982).

Other personality traits, apart from borderline personality disorder, have been linked with self-mutilation. For example, self-mutilators scored significantly higher than psychiatric controls on the MMPI Psychopathic Deviance subscale suggesting antisocial personality disorder (Simeon et al., 1992). Indeed, it has been demonstrated that individuals with antisocial personality disorders engage in a range of repetitive, low-lethality self-harming behaviours (Garvey & Spoden, 1980). One diagnostic criterion for the presence of an antisocial personality disorder is cruelty to animals (APA, 1987) and 16% of female self-mutilators reported that they had deliberately acted cruelly towards an animal, most commonly a pet (Favazza & Conterio, 1989). While 40% of a sample of self-mutilators were diagnosed with a personality disorder, the majority were labelled as displaying an emotionally unstable personality. Five percent of the total sample were described as

sociopathic (Graff & Mallin, 1967).

There was evidence of histrionic personality disorder in a subgroup of a sample of self-mutilators (Takeuchi et al., 1986). This group also displayed conversion and somatoform pain symptoms. They had a history of social dysfunction, with increased frequency of skin-cutting during times of interpersonal stress. They also were prone to depression and irritability. They were easily frustrated by lack of acceptance of their pain symptoms as genuine and they cut themselves to gain sympathy.

7.1.3 Depression

While self-mutilation is not frequently reported in conjunction with a major depressive disorder (van Moffaert, 1990), self-mutilators have higher levels of depression than controls (Bennum, 1983; Darche, 1990; Ghaziuddin, Tsai, Naylor & Ghaziuddin, 1992; Graff & Mallin, 1967; Rosenthal et al., 1972). These depressive symptoms respond poorly to antidepressant medication (Simpson, 1976). Whether the depression is an antecedent to or a consequence of self-mutilative behaviour is not clear (Darche, 1990).

One subgroup of self-mutilators was found to have affective disorders (Takeuchi et al., 1986). This group displayed a range of depressive and agitated depressive symptoms. Their self-mutilative behaviour occurred less frequently and generally was more severe than self-mutilators with a depressive disorder. They also were more likely than the other self-mutilators to make genuine suicide attempts, for example, by drug overdose or hanging. The association between severity of self-mutilation and depressive affect has been reported elsewhere (e.g., Kaplan & Fik, 1977).

However, inconsistent evidence has been reported. While only approximately 37% of a sample of self-mutilators reported depression as a primary or secondary symptom, approximately 88% reported chronic feelings of emptiness. In contrast, all psychiatric controls reported depression as being of major concern to them. Therefore, control subjects reported significantly more depressive affect than self-mutilators (Simpson, 1975).

One study demonstrated a difference between observer and self-report ratings of depression. Personality disordered self-mutilators were significantly more depressed than psychiatric controls as assessed by the Hamilton Depression Scale, an observer rating scale. However, the two groups did not differ on self-report scores of the Beck Depression Inventory and the Beck Hopelessness Scale with both groups reporting severe depressive symptoms (Simeon et al., 1992). It should be noted, however, that the self-mutilators were screened for affective disorders in the absence of personality disorders. In addition, the raters, although well trained, were not blind to the condition of the subject.

A significant negative correlation has been demonstrated between the degree of self-mutilation and scores on the Beck Hopelessness Scale (Simeon et al., 1992). This somewhat surprising result was interpreted in terms of the self-healing nature of self-mutilation which allows for the reduction of negative affect with the commission of the act and a subsequent restoration of hope.

It appears that there are qualitative differences in the depression experienced by self-mutilators when compared with psychiatric controls. Although equally depressed, when compared with depressives, self-

mutilators more commonly reported guilt, a sense of punishment, self dislike, self punitiveness, and body image problems. Depressives more commonly reported crying, sleep disturbance, fatigue, loss of appetite, somatic preoccupation and loss of libido (Bennum, 1983). When compared with personality disordered controls, vegetative symptoms were largely absent but greater levels of anxiety, somatisation and cognitive disturbance were present for self-mutilators (Simeon et al., 1992).

A comparison between self-mutilators and psychiatric controls demonstrated that significantly more self-mutilators (48.5%) than controls (8.3%) displayed serious mood instability (Simpson, 1975). Therefore, a labile mood is more characteristic of self-mutilation than prolonged depressive episodes associated with an affective disorder (Simpson, 1976). Certainly, anxiety, tension and depressed feelings are reported to be precipitating factors of self-mutilation (Bennum, 1983; Simpson, 1975).

7.1.4 Anxiety

As mentioned, escalating anxiety has been identified as an element of the phenomenology of self-mutilation (Simpson, 1975). Certainly, self-mutilators have reported higher levels of anxiety than both depressives and normal controls (Bennum, 1983). In addition, anxiety and tension are commonly reported as precipitating emotional states to an act of self-mutilation (Bennum, 1983; Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1976).

A significant positive correlation was demonstrated between the degree of self-mutilation and the level of somatic anxiety (Simeon et al., 1992). Three-quarters of a sample of self-mutilators reported feelings of tension as a primary or secondary problem. Significantly fewer controls, slightly more than one-third, reported a similar problem (Simpson, 1975). However, anxiety levels did not significantly differentiate currently mutilating subjects from those not currently mutilating (McKerracher et al., 1968).

The level of anxiety may be related to the severity of the self-mutilative behaviour. Higher scores on the MMPI Distress Scale were evident for self-mutilators engaging in more severe cutting. Superficial skin damage was related to low scores on this scale (Kaplan & Fik, 1977).

7.1.5 Hostility and aggression

While 85% of a sample of female self-mutilators claimed they could never harm anyone else (Favazza & Conterio, 1989), more generally, self-mutilators have been described as aggressive and commonly exhibit impulsively hostile actions (Grunebaum & Klerman, 1967; Pao, 1969). Compared with self-poisoners, self-injurers were reported to have more often displayed violent behaviour towards others (Robinson & Duffy, 1989). Self-mutilators have been demonstrated to score highly on measures of irritability and hostility expressed either verbally or physically (Yesavage, 1983). One study indicated that the majority of self-mutilators either overly controlled their anger or demonstrated overt hostility and impulsively aggressive behaviour (Graff & Mallin, 1967).

A study investigating self-mutilating personality disordered individuals demonstrated that self-mutilators displayed higher levels of aggressive

behaviour, sociopathic tendencies and chronic anger than controls. The authors found it interesting that the anger typically associated with the emotional state preceding an act of self-mutilation was demonstrated to be a long-standing trait and significantly differentiated self-mutilators from control subjects (Simeon et al., 1992).

Early research understood self-mutilative behaviour to be the expression of anger and hostility directed towards the self (e.g., Menninger, 1935). While repeated episodes of self-harm were demonstrated to be related to higher levels of intropunitive hostility, repeat self-injurers also scored significantly higher than single episode self-injurers on measures of extrapunitive hostility (Brittlebank et al., 1990).

A study comparing self-mutilators with depressives and medical controls indicated this not to be the case (Bennum, 1983). While intropunitive hostility was demonstrated to be significantly lower in the medical control group, it did not distinguish the self-mutilators from the depressives. The same study did demonstrate an effect of extrapunitive hostility. Self-mutilators scored significantly higher than the two control groups on the urge to act out hostility. Significant differences between all groups also were evident on the total combined hostility score with the self-mutilators scoring highest.

These results were interpreted in terms of control. The factor that was deemed central to the understanding of hostility was the ability to control behaviour (Bennum, 1983). It was suggested that self-mutilators display poor impulse control at times of extreme stress. As distressing feelings escalate, the ability to control impulsive behaviour is reduced. Both external and internal stimuli evoke the impulsive aspects of aggressive behaviour and the behaviour is rewarded by the consequences of the action. Self-

mutilation is a means of controlling arousal levels but self-mutilators cannot control the impulsive urge to self-injure. The fact that arousal is reduced does not preclude a further act of aggression. Indeed, its rewarding nature increases the likelihood of a recurrence.

7.1.6 Substance abuse

Substance use disorders have been reported among self-mutilators (Gossop et al., 1975; Lion & Conn, 1982; Novotny, 1972; Rosenthal et al., 1972; Simpson 1976). Self-mutilation under the influence of alcohol or drugs had occurred in 41% of female habitual self-mutilators with 26% sometimes self-mutilating under the influence of a substance, 12% often and 3% always (Favazza & Conterio, 1989). Significantly more self-cutters (50%) than psychiatric controls (8.3%) had habitually used drugs and alcohol (Simpson, 1975). When compared with self-poisoners, self-injurers were demonstrated to be more likely to abuse alcohol, especially the younger age groups (Robinson & Duffy, 1989). Other studies (e.g., Rosenthal et al., 1972) demonstrated that drug and alcohol use did not differentiate self-mutilators from controls groups.

Alcohol has been implicated as the most commonly abused substance (Simpson, 1976) with periodic rather than chronic alcoholism being apparent (Favazza & Conterio, 1989), although increased reliance on alcohol with age has been reported (Graff & Mallin, 1967). Excessive alcohol consumption as part of the self-mutilation ritual has been reported among male self-cutters (Kaplan & Fik, 1977). The majority of females, on the other hand, reported never to have mutilated under the influence of drugs or alcohol (Favazza &

Conterio, 1989). Sex differences concerning alcohol consumption and self-mutilation have been indicated. Although the data have limitations (e.g., difficulties establishing dosage), a study of self-cutters demonstrated that 60% of males had consumed five or more units of alcohol prior to self-cutting. Most self-mutilating females were sober (Maloney et al., 1987). This is not to say that females do not have problems with alcohol. In a large sample of female self-mutilators, 28% reported concern about their drinking and 18% believed themselves to be alcoholic (Favazza & Conterio, 1989). Thirty percent of female wrist-cutters reported alcohol abuse (Graff & Mallin, 1967), and 64% of another sample were labelled as alcoholic (Novotny, 1972). From a sample of 50 females being treated at an alcohol abuse clinic, 23% had engaged in self-cutting, 27% had thought of doing so, 8% had engaged in self-burning and 15% had thought of doing so (Evans & Lacey, 1992).

It is, perhaps, not necessarily a history of alcohol abuse that mediates acts of self-harm but intoxication at the time of the act. Although including self-cutters and individuals who had sustained non-fatal self-inflicted gunshot wounds, a rather strange combination, one study demonstrated that only 10% of an alcoholic sample had injured themselves during sustained periods of sobriety. The remaining 90% were intoxicated at the time of the act. Although discussed in terms of attempted suicide, only 35% of the total sample (including nonalcoholics) had inflicted potentially fatal injuries (Mayfield & Montgomery, 1972).

There is relatively limited information available concerning the link between illicit drug use and self-mutilation although it has been suggested that self-mutilators are easily addicted (Gardner & Gardner, 1975; Graff &

Mallin, 1967). Whether or not this is the case, the link between drug abuse and self-mutilative behaviour has been consistently reported (Favazza & Conterio, 1989; Gossop et al., 1975; Graff & Mallin, 1967; Schwartz et al., 1989).

It has been suggested that experience with drugs prior to hospitalisation is not the only factor to consider in self-mutilation. Self-mutilating patients with no history of drug-use prior to hospital admission were reported readily to become drug reliant following the administration of psychotropic medication as part of the treatment regime (Graff & Mallin, 1967).

The most commonly reported reasons for engaging in self-mutilative behaviour for a drug dependent group were poor impulse control, relief from tension, the need to control the environment, and a desire to control the actions of others (Schwartz et al., 1989).

One study indicated a higher incidence of self-injury in orally dependent drug abusers than in intravenous users. Although, the incidence was relatively high in both groups. On one or more occasions, 32% of the orally dependent group had engaged in self-injurious behaviour compared with 11% of intravenous drug users. While there was no significant difference between the groups with regard to the number of subjects who had engaged in a single, isolated act of self-injury, the orally dependent group was significantly more likely to have engaged in multiple, repetitive episodes (Gossop et al., 1975).

Hallucinogens were reported to be highly anxiety provoking for self-mutilators. Amphetamines generally were more popular (Simpson, 1976). Orally dependent drug abusers, who had a high rate of self-injury, more

commonly abused amphetamines and barbiturates. Intravenously dependent subjects, with a significantly lower rate of self-injury, more commonly abused narcotics, which have a sedating effect (Gossop et al., 1975). Although it was believed that amphetamines were more popular among self-mutilators because they heightened awareness (Simpson, 1976), amphetamines do produce states of agitation (Gossop et al., 1975), states which are poorly tolerated by self-mutilators (Walsh & Rosen, 1988). Self-mutilation is more likely to occur in an agitated state than under sedation (Gossop et al., 1975).

7.1.7 Obsessive-compulsive disorder

Some individuals with an obsessive-compulsive disorder are reported to engage in self-mutilative behaviour such as excoriation, self-biting, skin-scratching and skin-picking (Ernst, 1973; Gupta et al., 1986; House & Thompson, 1985; Lion & Conn, 1982), although compulsive self-mutilation is believed to be a rare phenomenon (Stinnett & Hollender, 1970; Walter, 1991). Although attempts may be made to cease the behaviour, self-mutilators report to feel a compulsion to continue in an attempt to reduce negative feelings. Eye-banging as a form of compulsive behaviour has been reported (Oren & Laor, 1987; Stinnett & Hollender, 1970). The result of eye banging can be severe. The frequency and force of the behaviour can result in retinal detachment and traumatic cataracts leading to blindness (Stinnett & Hollender, 1970). One study indicated that compulsive behaviours were evident during childhood and the eye banging developed to cope with feelings of guilt about past behaviours. Obsessions persisted even when the impulse to eye-bang was resisted (Oren & Laor, 1987). Two cases were presented of

individuals with obsessive-compulsive disorder with no evidence of other psychopathology. One had a compulsion to press his eyes and the other engaged in hair-pulling (Primeau & Fontaine, 1987).

Self-mutilators without a diagnosis of obsessive-compulsive disorder also may report a compulsion to engage in the behaviour (Favazza & Conterio, 1989), which questions the degree of voluntary nature of the behaviour (van Moffaert, 1990). One quarter of a sample of self-mutilators were reported to have perfectionistic and compulsive personalities (Graff & Mallin, 1967).

In addition to a reported compulsion to engage in the behaviour, self-mutilators also have scored higher than controls on measures of obsessionality (Gardner & Gardner, 1975; McKerracher et al., 1968). An examination of the nature of the obsessionality demonstrated overconcern with cleanliness and the need to be actively employed. In addition, checking rituals, perfectionism and irritability in face of a disruption to routine significantly contributed to scores on obsessive-compulsive measures (McKerracher et al., 1968).

The rituals that occur with obsessive-compulsive disorder function as a means of reducing anxiety and tension (Primeau & Fontaine, 1987). The most commonly reported consequence of self-mutilative behaviour also is tension reduction (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). Self-mutilative behaviour as a symptom of obsessive-compulsive disorder may represent a destructive ritual.

7.2 Self-mutilation as a disorder of impulse control

Given that many self-mutilators feel compelled to engage in the behaviour and report feeling little control over their behaviour, a disorder of impulse control is suggested. Indeed, 70% of self-mutilators reported that they could not control their behaviour and that the act of self-mutilation was the result of a series of feelings and events over which they could exert no influence (Bennum, 1983). Thirty-five percent of a sample of wrist-cutters were described as impulsive (Graff & Mallin, 1967).

It has been suggested that self-mutilation can best be understood in the same class of behaviours as kleptomania and pyromania (Siomopoulos, 1974). Indeed, the disorder Trichotillomania, often reported as a form of self-mutilation, is included as a DSM-III-R disorder of impulse control. The essential features of a Disorder of Impulse Control Not Elsewhere Classified can be equated with self-mutilation. The essential features include:

1. Failure to resist an impulse, drive, or temptation to perform some act that is harmful to the person or others. There may or may not be conscious resistance to the impulse. The act may or may not be premeditated or planned.
2. An increasing sense of tension or arousal before committing the act.
3. An experience of either pleasure, gratification, or release at the time of committing the act. The act is ego-syntonic in that it is consonant with the immediate conscious wish of the individual. Immediately following the act there may or may not be genuine regret, self-reproach, or guilt." (APA, 1987, p.321)

The habitual nature of the behaviour suggests that self-mutilators are unable to resist the impulse to engage in the behaviour, and it certainly causes self-harm. While it is reported that self-mutilators initially attempt to resist the impulse (Feldman, 1988a; Pao, 1969; Simpson, 1976), as the behaviour becomes habitual they become resigned to performing the act when experiencing negative emotions (Walsh & Rosen, 1986). The behaviour commonly is reported to occur quite suddenly, without extensive planning or thought (Simpson, 1976).

The escalation of feelings of tension, depression, anger, anxiety and distress prior to an act of self-mutilation is well documented in the literature (Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Rosenthal et al., 1972; Simpson, 1976). In addition, feelings of release leading to relaxation, calm and sometimes pleasure following the act also have been reported (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Lion & Conn, 1982; Pao, 1969; Rosenthal et al., 1972; Simpson, 1976; van Moffaert, 1990). These feelings have been reported to be quite short-lived, usually followed by a sense of 'badness', guilt and regret (Feldman, 1988a; Lion & Conn, 1982; Schwartz et al., 1989).

7.3 Deliberate self-harm syndrome

The term deliberate self-harm (DSH) initially was used to describe self-destructive acts where the intent to die was not apparent (Morgan et al., 1975). It arose out of a dissatisfaction with the existing terminology. DSH was proposed as a general term that could be applied to such behaviours as

failed suicide attempts, drugs overdoses, self-poisoning, gas inhalation, self-laceration and other forms of physical injury. It was believed to be free of implied motive.

While this system can be criticised, it must be acknowledged that Morgan and his colleagues based their hypothesis of an epidemiologically sound study. They collected data from 1,569 cases of "deliberate self-harm" who presented in Bristol, England over a two year period, 1972-73. They supported their conclusions with reference to a number of other epidemiological studies. From these cases, prevalence statistics and demographic characteristics were presented. The guidelines presented earlier by Clendenin and Murphy (1971) and Weissman (1975) for establishing new syndromes were adhered to.

However, a major limitation of their work is evident and was recognised by Walsh and Rosen (1988). Their new syndrome was overinclusive. It included all of what they termed "failed suicides". This term included episodes of self-harm by such methods as self-poisoning, drug overdose, hanging, attempted drowning, precipitation and self-laceration. Although it was claimed that the term deliberate self-harm was purely descriptive, it would appear that inclusion of behaviours of such wide ranging lethality makes description of any single behaviour problematic. It confuses any distinction that can be made between suicidal and self-mutilative behaviour.

Even at the most superficial level, these different methods of self-harm are quite distinct. It would appear that it is only by chance that behaviours such as hanging, drowning and jumping from heights are not fatal. It is difficult to comprehend why someone, not intent on suicide, would attempt to hang themselves, drown themselves or jump from the top of a building.

The ingestion of medication in excess of the recommended dosage or the ingestion of other chemicals may be associated with low levels of intent as are minor self-lacerations. However, the two types of behaviours produce quite different results. Self-laceration, for example, results in quite visible injury, the degree of damage can be carefully controlled and the results are often permanent. There is not necessarily any visible sign of damage from self-poisoning, nor is the degree of damage easily controlled. In addition, the effects of a non-lethal dosage of poison are transient (Walsh & Rosen, 1988). There is very little evidence to suggest that two types of behaviours can be adequately compared.

As can be seen, the umbrella term of "deliberate self-harm" adds very little to the understanding of these types of behaviours. However, it does further confuse many issues that need clarification before each distinct behaviour can be understood. Nevertheless, the term has been adopted by some and it appears from time to time in the literature (e.g., Brittlebank et al., 1990; Hassanyeh et al., 1989; Myers, 1982; O'Brien et al., 1987a, 1987b; O'Shea, Falvey, McCollam & Synnott, 1986).

The term deliberate self-harm has been proposed in the United States (Kahan & Pattison, 1984; Pattison & Kahan, 1983). This proposed syndrome differs substantially from the one outlined by Morgan and his colleagues (1975). The authors describe the psychological symptoms of DSH as "1) sudden and recurrent intrusive impulses to harm oneself without the perceived ability to resist; 2) a sense of existing in an intolerable situation which one can neither cope with nor control; 3) increasing anxiety, agitation, and anger; 4) constriction of cognitive-perceptual process resulting in a

narrowed perspective on one's situation and personal alternatives for action; 5) a sense of psychic relief after the act of self-harm; and 6) a depressive mood, although suicidal ideation is not typically present" (Pattison & Kahan, 1983, p.867).

Inclusion in the index case analysis was based on the following criteria: "1) inclusion of cases of deliberate bodily self-harm of low lethality; 2) inclusion of cases in which there were data on individuals rather than groups; 3) exclusion of cases with apparent highly lethal intent, such as gunshot, hanging, jumping from heights, and gas inhalation; 4) exclusion of cases of drug or alcohol overdose, inasmuch as the direct intent of death and the lethality level are difficult to determine; 5) exclusion of cases of indirect self-harm such as chronic alcoholism, chronic drug use, and compulsive eating; 6) exclusion of all cases involving young children because of possible organic factors." (Pattison & Kahan, 1983, pp. 867-868). Data comparison was made of 56 cases available in the literature that met these criteria.

A number of problems exist with this proposal. It has been pointed out that the differing uses of the DSH term in Britain and the United States only can lead to confusion (Walsh & Rosen, 1988). Standardisation of definition is essential for adoption of such a broad term as DSH.

It was proposed that depressive mood be included as a symptom of the syndrome and that suicidal ideation typically was not found. There is some evidence that the depressive symptomatology of self-mutilators qualitatively differs from that of individuals with a depressive disorder (Bennum, 1983; Simeon et al., 1992). Labile mood is more characteristic of self-mutilators

than a depressed mood (Simpson, 1976). In addition, suicidal ideation has been reported to occur in conjunction with self-mutilative behaviour (Favazza & Conterio, 1989). It is difficult to determine how these symptoms were included in the DSH syndrome in light of the contrary evidence.

The inclusion criteria for the index case analysis quite clearly stated that young children would be excluded because of the possibility of confounding organic factors (Pattison & Kahan, 1983). In fact, children or adolescents with the onset of behaviour prior to age 17 years were included. Indeed, three cases of children with the onset of behaviour at six years were included. Inclusion of these cases has been criticised (see Putnam, 1984). Pattison and Kahan (1984) attempted to justify the inclusion of these cases because the three patients in question fit the prototype of DSH. However, their acceptance in the analysis was contrary to the inclusion criteria.

The review of the classification of self-mutilative behaviour clearly has indicated that there are substantial differences in what Walsh and Rosen (1988) categorised as Type III and Type IV behaviours. There is nothing to suggest that behaviours such as self-castration are in the same class of behaviours as superficial wrist-cutting. The motivations for the behaviours have been shown to be quite different and the threat to life from the injuries varies greatly. Nevertheless, of the 56 index cases, a substantial proportion were highly lethal behaviours performed in response to psychotic symptoms. The proposed syndrome has been criticised on this point (Ennis & Barnes, 1984). In terms of occurrence these behaviours are exceedingly rare and are reported in the literature because of this fact. Superficial wrist-cutting, for example, is a far more common clinical entity so that single case reports in

the literature are neither available nor warranted. Therefore, there is a bias in the selection of index cases which casts doubt on the validity of the results on which the DSH syndrome is based.

These criticisms clearly indicate that if the DSH syndrome is to be a viable proposition, then substantial research needs to be conducted. Basing a new syndrome on only 56 cases studies contravenes all guidelines for investigating and defining clinical entities (see Clendenin & Murphy, 1971). In all likelihood, self-mutilative behaviour is a symptom of a variety of disorders, both Axis I and Axis II (Ennis & Barnes, 1984).

7.4 Summary

In summary, to a certain extent, there is agreement in the literature with regard to the pattern of symptomatology that occurs concomitantly to the symptom of self-mutilation. It should not be forgotten, however, that there are consistent contradictory results occurring in the literature.

The symptom of self-mutilation can be classified under a range of psychopathological disorders including a disorder of impulse control. However, attempts to see the symptom as a separate syndrome, to date, have proven to be deficient. This is not to say that the proposition of a separate syndrome for self-mutilative behaviour does not have merit. However, if that syndrome was to encompass "deliberate self-harm" behaviours, it would be necessary to establish a link, for example, between self-poisoning and self-mutilation, other than the fact that the two behaviours were deliberately self-inflicted and that they caused self-harm. To date, the

available research indicates that the behaviours are quite different.

There are numerous factors that can be related to self-mutilative behaviour, other than the psychopathology that occurs as a concomitant of the behaviour. A range of these factors are addressed in the following chapter.

CHAPTER EIGHT
OTHER FACTORS ASSOCIATED WITH SELF-MUTILATION

8. OTHER FACTORS ASSOCIATED WITH SELF-MUTILATION

A range of factors consistently has been reported to be related to self-mutilative behaviour. For some of these factors, such as childhood illness and surgery, family background, and sexual and physical abuse, the relationship lies in these factors having a developmental influence on the individual that leaves that person vulnerable to later self-mutilation. For other factors, such as trauma, the influence occurs in adulthood and precipitates the development of self-mutilative behaviour. The most consistently reported factors are reviewed in this chapter.

8.1 Childhood illness or surgery

Serious illness or surgical intervention early in life have been associated with the later development of self-mutilative behaviour (Favazza & Conterio, 1989; Simpson, 1976; Takeuchi et al., 1986). The age of occurrence appears to be of importance. Medical problems, hospitalisation and/or surgery before the age of 18 months, 5 years or 12 years have been reported among self-mutilators (Favazza & Conterio, 1989; Rosenthal et al., 1972; Simpson, 1975, 1976).

The factor that links early medical and surgical intervention and self-mutilative behaviour has been postulated to be body alienation (Walsh & Rosen, 1988). A review of the literature determined that children with serious, chronic physical illness displayed quite serious distortions of body image. These children described their bodies in punitive terms and saw

their bodies as being separate from their psychological or emotional selves. Therefore, it is possible that a distortion of body image that results from illness and surgery lays the foundation for the development of body alienation. In turn, body alienation makes the individual vulnerable to self-mutilative behaviour.

A second hypothesis is that serious medical problems during childhood, although associated with uncomfortable and disturbing consequences, result in external positive reinforcement. Doctors, nurses and significant others all provide sympathy and caring. Therefore, children may come to associate pain and disfigurement from surgery with obtaining nurturance (Walsh & Rosen, 1988). It has been suggested that early surgery serves as a prototype for later self-mutilative behaviour (Rosenthal et al., 1972). In later life and when faced with distress, the individual may adopt self-mutilation as a successful means of achieving external positive reinforcement.

8.2 Family background

Dysfunctional family relationships and family disruption have been implicated as precipitants of self-mutilation. While there is some evidence to support these claims, contradictory results have been evident. Reports have indicated, compared with non-mutilators, that more self-mutilators come from homes broken by divorce, death or trauma/illness (Carroll et al., 1980, 1981; Simpson, 1975, 1976), more commonly prior to the age of 10 years (Carroll et al., 1980; Favazza & Conterio, 1989). In addition, as children, self-mutilators were frequently placed in foster care (Grunebaum & Klerman,

1967). The high frequency of separation from parents the self-mutilator experienced as a child supports the reported theme of separation and threat of, or actual abandonment as a common precipitant of self-mutilative acts in later life (Carroll et al., 1980; Feldman, 1988a; Rosen & Thomas, 1984; Simpson, 1976).

A study was conducted to determine if the method of family disruption affected the development of self-mutilative behaviour (Walsh & Rosen, 1988). Six types of family interruption were identified: loss of a parent by death; placement with a relative; placement in foster care; placement in group care; adoption; and parental separation or divorce. Three of these types of interruptions significantly differentiated self-mutilators from non-mutilators: foster care placement, group care placement and the divorce of parents. In each of these cases, the loss of the parent experienced by the self-mutilator during childhood was not permanent or complete. The ongoing links with the parent left the self-mutilator vulnerable to further feelings of abandonment or rejection. However, family disruption does not consistently distinguish self-mutilators from control groups (Rosenthal et al., 1972; Schwartz et al., 1989; Takeuchi et al., 1986).

Self-mutilators often have described their childhood as being unhappy. More than half of one sample chose this adjective to describe their early upbringing. Only 8% described their childhood as happy (Favazza & Conterio, 1989) with 32% of one sample reported to have run away from home on more than 5 occasions (Schwartz et al., 1989). Self-mutilators were often witness to violence and physical fighting in the family home (Carroll et al., 1980; Stinnett & Hollender, 1970; Walsh & Rosen, 1988) and for many this

violence was excessive (Carroll et al., 1980). Self-mutilators also have been exposed to parental behaviour that was characterised by aggression and overt sexuality (Grunebaum & Klerman, 1967). These results suggest parental disharmony as well as dysfunctional parent-child relationships (Carroll et al., 1980).

Anger has been reported as the most common feeling in the family by 61% of self-mutilators (Favazza & Conterio, 1989). However, the prohibition of the expression of anger by the offspring also has been reported with 93% of self-mutilators indicating that such expression was either never allowed or would evoke severe punishment. Indeed, reports of punishment for crying were evident (Carroll et al., 1981). This variable has significantly differentiated self-mutilators from control subjects (Carroll et al., 1980). Few female self-mutilators believed they were able to express their feelings to family members throughout their childhood and few reported that there was much affection between family members. More commonly they were always told to be strong regardless of how they were feeling (Favazza & Conterio, 1989). Restriction of the expression of anger may have resulted in these individuals directing their aggressive feelings towards themselves (Carroll et al., 1981).

While studies have varied in terms of methodological sophistication, the father of the self-mutilator typically has been described as seductive and unable to set limits. He has been described as intermittently indulgent, often inadequate at his occupation, cold, distant, hypercritical, and frequently alcoholic (Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Takeuchi et al., 1986). Reports have typically described the mother as cold, punitive,

domineering, obsessive, unconsciously provocative, and perfectionistic, setting high standards for the child but acting out herself (Graff & Mallin, 1967; Grunebaum & Klerman, 1967). Indeed, 85% of one sample of self-mutilators reported confusing, double messages throughout childhood (Favazza & Conterio, 1989).

Parental deprivation has been identified as an underlying theme in the understanding of self-mutilation (Carroll et al., 1981; Simpson, 1976). Self-mutilators have described their childhood as unstable with feelings of rejection and isolation predominating (Carroll et al., 1980; Herzberg, 1977). One half of one sample of female self-mutilators felt deceived by their mothers and 46% felt deceived by their fathers (Favazza & Conterio, 1989). Self-mutilators have rated their relationship with their father as poor (60%) and indifferent (30%) and with their mother as poor (85%) and indifferent (5%) (Graff & Mallin, 1967).

While there was a trend for self-mutilators to report less positive feelings towards their parents, a disparity in the parental relationships of self-mutilators has been reported with a good relationship with one parent, sharply contrasting with a negative relationship with the other (Carroll et al., 1980). This disparity was greater for self-mutilators than for control subjects. Further analysis compared those subjects who reported markedly negative feelings and subjects who gave all other ratings. Significantly more self-mutilators than controls reported a strongly negative relationship with one parent. The recipient of the negative feelings was typically the father regardless of the sex of the self-mutilator. No subject reported strongly negative feelings towards both parents. In addition, for the self-mutilators,

the disparity in parental relationship was significantly correlated with violence in the family (Carroll et al., 1981).

However, the families of self-mutilators also have been described as symbiotic, enmeshed and internally directed (Senior, 1988). This could explain discrepancies in reports of parent-child relationships (e.g., Stinnett & Hollender, 1970). Unlike suicidal behaviour, which is directed towards death, the function of self-mutilative behaviour may be to engage family members and to seek attention. It should also be noted that the very act of self-mutilation may serve to substantially alter family dynamics (Senior, 1988). Many of the family factors believed to precipitate self-mutilation, may actually be the consequence of a self-mutilating family member.

It should be acknowledged that any recollections of family environment and feelings towards parents are prone to distortion. Ideally, a more objective assessment of childhood variables should be achieved as the discrepancy between memory and reality may be great (Simpson, 1981). However, verification of recollections of family information would be exceedingly difficult and no other alternative is presently available (Carroll, Schaffer, Abramowitz & Spensley, 1981).

There is some indication that psychopathology in family members may precipitate self-mutilative behaviour in the offspring (Takeuchi et al., 1986). Modelling of self-destructive behaviours by parents was suggested to precipitate self-destructive behaviours in the offspring. A study examining the link between self-destructive behaviour in the family and subsequent self-mutilative behaviour in the offspring demonstrated a significant correlation between family alcohol abuse described as a self-destructive

behaviour and self-mutilation (Walsh & Rosen, 1988). Alcoholism and depression were the most common diagnoses of parents of the large sample of female self-mutilators. Axis II diagnoses were exceedingly uncommon (Favazza & Conterio, 1989).

However, these factors did not always distinguish self-mutilators from control groups. Parents of either group have been demonstrated to be equally likely to be substance dependent (Schwartz et al., 1989) or have elevated levels of general psychopathology (Carroll et al., 1981).

8.3 Sexual and physical abuse

There is an association between childhood abuse and self-destructive behaviours, particularly self-mutilation (Green, 1978). Indeed, both sexual and physical abuse during childhood have been demonstrated to be significant predictors of self-harm (Favazza & Conterio, 1989; Herzberg, 1977; Robinson & Duffy, 1989). Earlier onset of abuse has been associated with higher rates of self-cutting (van der Kolk et al., 1991).

Physical abuse most commonly is carried out by parents (Favazza & Conterio, 1989) and probably reflects the general environment of conflict within the family (Carroll et al., 1980). The perpetrator of the physical abuse was reported to be the mother (50%) and the father (45%) in a sample of female self-mutilators (Favazza & Conterio, 1989). Physical abuse by a parent was reported by 86% of another sample of self-mutilators with 57% reporting this abuse to be excessive. Only one control subject indicated physical abuse by a parent and this was considered to be no more than moderate. The

difference between the groups was statistically significant (Carroll et al., 1980). Other perpetrators have included brother, stepfather, sister, uncle and 'other individuals' (Favazza & Conterio, 1989). Among self-mutilators in one study, physical abuse was significantly correlated with violence in the family and reports of a strongly negative relationship with one parent (Carroll et al., 1981). The physical abuse typically preceded the onset of self-mutilative behaviour (Favazza & Conterio, 1989).

The incidence of self-mutilative behaviour in a sample of physically abused children was significantly higher than in control samples of neglected and non-abused children with 20% of abused children engaging in the behaviour (Green, 1978). An interesting result from this study was the young age of subjects. The mean age of all groups was 8 years. While it is commonly accepted that self-mutilation rarely manifests prior to puberty (Novotny, 1972; Rosenthal et al., 1972), these abused children appear to be an exception. The incidence of self-mutilative behaviour was significantly higher among physically abused, school-aged schizophrenic boys than non-abused boys. A significant relationship was not demonstrated for females although the result was in the expected direction. The lack of significance may have reflected the small sample size for females. Indeed, all physically abused female subjects later engaged in self-mutilative behaviour (Green, 1968).

Sexual abuse in the families of self-mutilators has been noted (Carroll et al., 1980; Favazza & Conterio, 1989; Goodwin et al., 1979). This factor has distinguished self-mutilators from control groups (Carroll et al., 1980). It has been reported that the onset of sexual behaviour commonly has been

premature for self-mutilators and the nature of that sexual experience often was incestuous (Grunebaum & Klerman, 1967). However, sexual abuse by a person outside the family more commonly is reported (Favazza & Conterio, 1989; Schwartz et al., 1989). To support these suggestions it has been demonstrated that the average age of onset of sexual abuse was seven years and the common perpetrators of that abuse were reported to be a family friend (43%), brother (25%), father (23%), uncle (13%), mother and stepfather (6%) and grandfather (4%) (Favazza & Conterio, 1989). For self-mutilators, sexual abuse has been significantly correlated with a positive parental relationship (Carroll et al., 1981) which probably reflects the fact that sexual abuse was perpetrated by a person other than a parent (Favazza & Conterio, 1989).

However, it does not follow that all abused children will self-mutilate or that all self-mutilators have a history of abuse. While histories of sexual abuse may be evident for self-mutilators, this factor does not necessarily distinguish self-mutilators from control groups (Briere & Zaidi, 1989; Schwartz et al., 1989).

Nevertheless, the vulnerability of abused children to the development of self-mutilation is well understood (Green, 1978). Self-mutilation has been identified as a component of the child sexual abuse accommodation syndrome (Summit, 1983). Self-mutilation is used as a means of coping with or accommodating to the unacceptable reality of chronic sexual abuse. The mechanism by which self-mutilation operates is one of tension reduction (Bennun, 1984; Henderson & Williams, 1974). In this sense, self-mutilation can be understood as an effective, although maladaptive coping strategy.

Body alienation, which may leave an individual vulnerable to self-mutilation, also may occur as the result of childhood abuse (Walsh & Rosen, 1988). In reviewing the literature, it was determined that body image problems have been demonstrated as a concomitant of both sexual and physical abuse in children. Abused children come to view their bodies as ugly, contaminated and dirty. They view their bodies as separate from themselves and this could lead to the body as a target for self-harm. The link between childhood abuse and self-mutilative behaviour has been empirically supported, demonstrating that self-mutilators were more likely than control subjects to have experienced such events. Indeed, the correlation between childhood abuse and later self-mutilative behaviour was the highest of all the variables studied.

8.4 Eating disorders

Eating disorders frequently have been reported to be a concomitant or antecedent of self-mutilative behaviour in females (Brown, 1993; Cross, 1993; Favazza & Conterio, 1989; Favazza, DeRosear & Conterio, 1989; Goldner, Cockhill, Bakan & Birmingham, 1991; Graff & Mallin, 1967; Parkin & Eagles, 1993; Raine, 1982; Simpson, 1976; Walsh & Rosen, 1988). The onset of self-mutilative behaviour typically precedes the onset of the eating disorder (Favazza & Conterio, 1989). Further reports of the link between self-mutilative behaviour and dysfunctional eating patterns have appeared in the literature (Rosenthal et al., 1972) and this factor has distinguished self-mutilators from control groups (Simpson, 1975). Eating disorders have been reported as a

concomitant in cases of nonpsychotic female genital self-mutilation (French & Nelson, 1972; Goldney & Simpson, 1975; Simpson, 1973) and adolescent wrist cutters (Takeuchi et al., 1986).

Bulimia is the most commonly reported eating disorder associated with self-mutilative behaviour (Favazza & Conterio, 1989) and episodes of self-mutilation have been temporally associated with episodes of binge eating (Simpson, 1976; Takeuchi et al., 1986). In addition, anorexia and marked obesity also have been reported (Favazza & Conterio, 1989; Simpson, 1976). A combination of eating problems ranging from anorexia to obesity have been noted (Favazza & Conterio, 1989; Graff & Mallin, 1967; Novotny, 1972; Rosenthal et al., 1972). One subgroup of female patients with eating disorders also had a history of self-mutilation. Comparison between those subjects with and without a history of self-mutilative behaviour demonstrated that these two groups did not differ with regard to general impulsivity, chronicity or severity of the eating disorder, or depressive symptomatology. What did distinguish the groups was the higher level of dissociative phenomena in the self-mutilation group (Demitrack, Putnam, Brewerton, Brandt & Gold, 1990). The relationship between dissociation and self-mutilation will be discussed in later chapters with regard to the tension reduction model. Of course, contradictory results have been presented. No significant difference was evident in the rate of self-mutilative behaviour of bulimics with a DSM-III-R diagnosis and a normal control group (Newton, Freeman & Munro, 1993).

8.5 Interpersonal deficits

Difficulties with expression or communication of feelings and problems experienced by self-mutilators have been reported by professionals attempting to treat these individuals (Raine, 1982; Simpson, 1976). Indeed, 73% of female self-mutilators reported that they had difficulty finding words to express their feelings (Favazza & Conterio, 1989). These difficulties were significantly more evident in self-mutilators than in control groups (Simpson, 1975). The interpersonal relationships of all self-mutilators in one sample were reported to be poor with multiple conflicts being evident (Graff & Mallin, 1967).

From the examination of the personal attributes of the 240 female self-mutilators a number of factors emerged. Seventy-five percent felt they were a burden to others, 67% believed that they were not understood by anyone, 48% wanted to be taken care of, 35% did not know how to get positive attention and 20% enjoyed the attention they received from their self-mutilative behaviour. While 22% reported having no friends, 27% reported they had many friends. Despite this, 69% indicated that they felt scared when close to anyone. Four percent trusted only men, 15% only women, 46% only their therapist and 26% trusted no-one (Favazza & Conterio, 1989).

Self-mutilators have been reported to have difficulty in developing and maintaining stable relationships with their peers (Walsh & Rosen, 1988). They are generally distrustful of intimate relationships. This is not to say that self-mutilators are socially withdrawn. Indeed, it has been demonstrated that they are particularly socially active when compared with control subjects.

However, their relationships are characterised by conflict and are generally short-term. Relationship breakdowns, common among self-mutilators, have been found to precipitate psychological crises. This is particularly true if the childhood of the individual has been characterised by loss or separation from significant others.

8.6 Trauma

The development of self-mutilative behaviour as a consequence of childhood sexual abuse is well documented (e.g., Carroll et al., 1980; Favazza & Conterio, 1989; Grunebaum & Klerman, 1967; Schwartz et al., 1989). There has been demonstrated a link between childhood incest and the development of post-traumatic stress disorder (PTSD) in adult survivors (Albach & Everaerd, 1992). Of the sample of 97 adult survivors, 62% engaged in self-mutilative behaviour. This sharply contrasted with the fact that none of the non-abused control sample had ever engaged in the behaviour.

In addition, there is increasing evidence that the behaviour can develop as a consequence of exposure to a traumatic event in adulthood. The earliest report described self-mutilative behaviour following rape (Greenspan & Samuel, 1989). In each of the three cases, self-cutting was the predominant and presenting symptom. It became evident that each of these women had been raped with one also reporting childhood sexual abuse. Each displayed a pattern of symptoms best described as PTSD. Superficial cutting while in a depersonalised state was reported in each case and the self-mutilative behaviour was performed in an attempt to end this depersonalisation.

Since this article, several reports have emerged of self-mutilative behaviour as a consequence of combat-related PTSD (Kim & Ainslie, 1990; Lyons, 1991; Pitman, 1990). These reports indicate that self-mutilative behaviour may result from a wider range of trauma than just traumatic sexual experience (Pitman, 1990). The type of self-mutilative behaviour resembles Type III behaviour as engaged in by individuals with borderline personality disorder (Feldmann, 1990). Indeed, disorders associated with self-mutilative behaviour, such as borderline personality disorder and multiple personality disorder, are believed to have traumatic origins (Kim & Ainslie, 1990).

The DSM-III-R criteria for the presence of PTSD include a description of "numbing" (APA, 1987). This symptom in fact may reflect depersonalisation or stress-induced analgesia (Pitman, 1990) also demonstrated by self-mutilators (Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Pao, 1969; Rosenthal et al., 1972; Simpson, 1975, 1976). The self-mutilative behaviour of individuals with PTSD most probably reflects a means of reducing tension and ending a depersonalised state (Feldmann, 1990; Kim & Ainslie, 1990) rather than a means of eliciting a social response (Kim & Ainslie, 1990). Indeed, it was suggested that internal negative reinforcement, that is the elimination of unpleasant affect with cutting, was maintaining the self-mutilative behaviour of a Vietnam veteran who only ever mutilated within the context of his PTSD symptomatology, particularly intrusive flashbacks (Lyons, 1991).

8.7 Summary

It is evident that there are many variables that have been related to self-mutilative behaviour or to self-mutilators themselves. However, there is a thread in the literature indicating contradictory results. It is necessary to determine to what extent the associated factors are apparent in the sample under investigation. However, prior to this undertaking, a review of the literature relating to the chosen sample is provided in the following chapter.

CHAPTER NINE
SELF-MUTILATION IN PRISON

9. SELF-MUTILATION IN PRISON

There is indication in the literature (e.g., Feldman, 1988a; Holley & Arboleda-Florez, 1988; Simpson, 1976; Yaroshevsky, 1975) that the rate of self-mutilative behaviour in prisons is high in comparison to other self-mutilating groups. However, there is nothing to suggest that the nature of the self-mutilative behaviour of incarcerated samples differs from that of non-incarcerated samples (Bach-y-Rita, 1974; Claghorn & Beto, 1967; Dooley, 1990; Jones, 1986; Rada & James, 1982). It is the extent of the behaviour that distinguishes incarcerated self-mutilators from others.

There are two broad categories of explanation to account for the high rate of self-mutilative behaviour in prisons. Firstly, it may be a factor related to the individual in that self-mutilators, for whatever reason, may find themselves facing the criminal justice system. Secondly, the high rate of self-mutilative behaviour in prisons may be a function of the environment. These factors will be discussed in this chapter.

Before continuing, it is important to note that all self-harming behaviours, completed suicide, attempted suicide and self-mutilative behaviour, as well as suicidal ideation are recognised as similar entities within the prison system. Limited resources mean that the nature and extent of intervention for self-harm are limited. In Australia, intervention generally involves isolation in a "suicide-proof" cell under intensive observation as well as psychiatric and psychological treatment. After a period of time, and following an alteration of mood of the prisoner, the individual is returned to his cell but movement around the prison is restricted and

observation is maintained until the crisis is deemed to be over (McCarthy, 1992).

Indeed, in the literature there is no clear distinction between the self-harm behaviours of prisoners. Of course, the confusion between attempted suicide and self-mutilative behaviour evident in the psychiatric literature also is apparent in the literature relating to incarcerated subjects. As such, a brief coverage of the literature pertaining to suicide and attempted suicide in prisons will be made. This coverage also is important to place self-mutilative behaviour among prisoners into perspective.

9.1 Suicide and attempted suicide in prison

Self-destructive behaviours in incarcerated populations are common. Although difficult to estimate (Lester, 1987), the suicide rate in prisons has been reported to be five times that of the general population (Porter & Jones, 1990). Hanging is reported to be the most common method of suicide in prisons (Burtch, 1979; Danto, 1971; Dooley, 1990; Porter & Jones, 1990; Rieger, 1971). Other methods have included self-poisoning, jumping from heights, gunshot, starvation and self-immolation. Death by self-laceration is uncommon (Porter & Jones, 1990). Of a large sample of completed suicides, 1.4% had made a neck cut and 1.7% other cutting (Dooley, 1990).

Any type of prisoner may commit suicide. Prisoners serving life sentences (Burtch, 1979; Topp, 1979) and first time offenders (Burtch, 1979) are especially at risk. The prisoner who is particularly vulnerable has been identified as having no history of suicidal behaviour, arrested for a minor

offence, intoxicated at the time of arrest, and placed in an isolation cell (Porter & Jones, 1990). At the same time, a significantly greater number of suicides in another study had either been charged with or convicted of violent or sexual crimes (Dooley, 1990). Male suicides significantly outnumber female suicides in prisons (Lester, 1982) as in the general population (Burvill, 1980; Dorsch & Roder, 1983; Dyck, Newman & Thompson, 1988; Frederick, 1978; Haines et al., 1989; Haines, Hart, Williams, Davidson & Slaghuis, 1992; McClure, 1984; Paerregaard, 1980).

The younger prisoner has been identified as being at risk of a suicide attempt while incarcerated (Beigel & Russell, 1972; Topp, 1979). However, the mean age of completed suicides in one sample was significantly higher than the general prison population with more than half of the suicide sample being over 30 years of age compared with one third of the prison population (Dooley, 1990).

For first time offenders, the time when most at risk is during the first week of incarceration. Indeed, the first 24 hours are the most dangerous (Porter & Jones, 1990). However, the initial period of incarceration is a vulnerable time (Backett, 1987; Beigel & Russell, 1972; Danto, 1971; Dooley, 1990; Rieger, 1971), even for those who are familiar with prison life (Burtch, 1979; Topp, 1979).

Anticipation of or committal to a sentence in excess of 18 months is a risk factor for self-destructive behaviour early in incarceration, even for those with previous sentences (Topp, 1979). Indeed, a disproportionate number of those that completed suicide in one study were detained on remand pending trial. Of these, only a small minority were unfamiliar with

incarceration. In addition, of the sentenced prisoner cases, there was a disproportionate number serving sentences in excess of four years, with 25% of these cases serving life sentences (Dooley, 1990). However, there is no linear relationship between self-destructive behaviour and duration of sentence (Rieger, 1971).

Prisoners must adapt to institutional life in the initial period of incarceration. There are numerous stressors including separation from loved ones, restriction of activity, familiarisation with the prison regime, living in close proximity to many other people and possible withdrawal from drugs and alcohol. It is the distress caused by this adaptation that has been postulated to result in suicide attempts rather than any form of psychiatric illness. Indeed, in one study there was little evidence of depressive illness, present or past (Backett, 1987), although greater seriousness of attempt and greater medical lethality were associated with high levels of depressive symptomatology in serious juvenile offenders (Alessi, McManus, Brickman & Grapentine, 1984), particularly female adolescent offenders (Miller, Chiles & Barnes, 1982). Nevertheless, it was suggested that the ability to cope with these stressors differed for prisoners and poor coping skills was the factor that precipitated a self-destructive behaviour. It was when a critical threshold was reached, that a suicide attempt was contemplated (Backett, 1987).

9.2 Self-mutilation in prison

The incidence of self-mutilation in incarcerated populations has not been determined. While it has been reported that only a small percentage of

all prisoners self-mutilate during incarceration (Jones, 1986), others suspect that the percentage is much higher (e.g., Holley & Arboleda-Florez, 1988). Indeed, incarcerated populations have been identified as a group particularly vulnerable to the behaviour (e.g., Feldman, 1988a).

Whatever the incidence, self-mutilation in prison does present a serious management problem (Claghorn & Beto, 1967; Jones, 1986). The behaviour also presents a substantial drain on prison resources (McCarthy, 1992). Custodial, medical and mental health staff are involved in the management of these people (Jones, 1986).

When encountered in psychiatric settings, female self-mutilators are overrepresented (Lion & Conn, 1982; Novotny, 1972; Robinson & Duffy, 1989; Simpson, 1975). The reverse is true in prison settings (Jones, 1986). The vast majority of incarcerated self-mutilators are male. This may, of course, represent the greater proportion of male prisoners. However, the sex differences in help-seeking behaviour of self-mutilators does support this finding. As mentioned, females are more likely to seek psychiatric assistance (Robinson & Duffy, 1989; Simpson, 1975) whereas males more commonly find themselves under the direction of the criminal justice system (Robinson & Duffy, 1989; Simpson, 1975, 1976).

Methods of self-mutilation in prison are similar to those in non-incarcerated populations. As with psychiatric populations, self-cutting is the most frequently used method of self-mutilation (Bach-y-Rita, 1974; Claghorn & Beto, 1967; Jones, 1986; Rada & James, 1982). One third of a large sample of subjects who had completed suicide while incarcerated had a history of self-cutting of the wrists and/or arms (Dooley, 1990). Other types of self-

mutilation reported included self-hitting (Claghorn & Beto, 1967; Jones, 1986; Rada & James, 1982), self-burning (Claghorn & Beto, 1967; Jones, 1986), interference with wound healing (Jones, 1986) and ingestion of foreign objects (Beigel & Russell, 1972; Jones, 1986). Use of multiple methods has been reported (Claghorn & Beto, 1967).

Other studies have reported similar results. Examination of "suicide attempts" in a U.S. gaol demonstrated that while half the sample had attempted hanging with this behaviour probably reflecting high suicidal intent, the other half of the sample engaged in low lethality behaviours. Self-cutting was the most common although there were two cases of ingestion of foreign objects (Beigel & Russell, 1972). While multiple methods of self-mutilation were reported, self-cutting occurred at a rate three times that of other methods. These included cigarette burns, self-immolation and self-hitting (Claghorn & Beto, 1967). Urethral insertion of foreign objects (Rada & James, 1982) and penile self-mutilation in the absence of psychotic symptoms (Conacher, Villeneuve & Kane, 1991) have been reported.

The range of instruments available for self-mutilation may be somewhat limited by the prison setting. The instrument used for self-cutting in prison has been reported most frequently to be the razor blade (Bach-y-Rita, 1974; Rada & James, 1982). Displaying the same ingenuity as non-incarcerated self-mutilators, makeshift instruments have been fashioned from material available in the cells of self-mutilators (Bach-y-Rita, 1974). For example, the tops of soda cans, plastic spoons and assorted metal objects have been fashioned as instruments of self-mutilation (Rada & James, 1982).

Some evidence can be provided for the extent of self-mutilative behaviour in prisons. The 67 self-mutilating subjects in one study engaged in 133 episodes of self-mutilation over a 12 month period. More than half the sample (55%) engaged in only one episode and 18% had self-mutilated twice (Jones, 1986). When consideration was given to scar tissue, the number of scars on self-mutilators in another study ranged from 3 to 150 with a mean of 93 scars. While most wounds were superficial, all subjects had engaged in severe laceration. Arms were the most common site of injury although other areas of the body, such as abdomen and thighs, were also scarred (Bach-y-Rita, 1974).

One of the most notorious inmates in the Australian prison system was a much publicised self-mutilator. He engaged in a minimum of 84 mutilative incidents including self-cutting and ingestion of such objects as razor blades and glass. He engaged in genital self-mutilation involving the partial amputation of his penis and on several occasions interfered with the healing of the wounds around his exposed urethra (Parker, 1991).

As with non-incarcerated self-mutilating populations, the behaviour generally begins at a young age. The average age of onset of self-mutilative behaviour in one incarcerated self-mutilating population was 19 years (Bach-y-Rita, 1974). In addition, despite the young age of self-mutilators, many had already experienced marital separation and divorce (Beigel & Russell, 1972).

It would be expected that few prisoners would have a history of regular employment or occupational adjustment. Indeed, 73% of one sample of incarcerated men reported inadequate occupational adjustment based on a

history of chronic unemployment (Claghorn & Beto, 1967). However, self-mutilating prisoners were twice as likely as the prisoner control subjects to report such a history. This is in contrast to non-incarcerated self-mutilating populations who have been reported to have adequate employment histories (Favazza & Conterio, 1989; Grunebaum & Klerman, 1967).

Many of the factors determined to be associated with non-incarcerated self-mutilating populations also have been linked to self-mutilating prisoners. With regard to family variables, self-mutilating prisoners have been demonstrated to come from larger families than non-mutilating prisoner control groups (Claghorn & Beto, 1967). Larger family size is linked to a lower economic standard. In addition, with a large number of siblings, there is an increased competition for affection and attention in the family. One half of the self-mutilating prisoners in another study reported the loss of a parent either through divorce or by death before the age of 12 months with a further subject reporting the loss of a parent at 5 years of age (Bach-y-Rita, 1974).

Dysfunctional early family environments have been reported. The childhood histories and home environments of six male prisoner self-mutilators were described as chaotic (Rada & James, 1982). Three-quarters of one sample reported parental cruelty and the same figure reported considerable family violence. All of this group had fathers or father surrogates who were alcoholic. Despite this, 62.5% reported a positive maternal influence with only 37.5% describing histories of maternal deprivation (Bach-y-Rita, 1967). However, with no comparison made with a prisoner control sample, it is difficult to state with any certainty that these factors were related only to

self-mutilating prisoners.

As mentioned, a firmly held hypothesis was that self-mutilation represented hostility directed towards the self. Testing this hypothesis it would be predicted that self-mutilating prisoners would have been charged with fewer violent crimes such as murder, rape, armed robbery and aggravated robbery, than prisoner controls. This was the case with a combined sample of suicide attempters and self-mutilators (Beigel & Russell, 1972). However, the number of violent crimes did not distinguish a group of self-mutilating prisoners from non-mutilating prisoner controls with 66% of self-mutilators and 58% of controls reporting such crimes (Claghorn & Beto, 1967). Indeed, a pattern of self-mutilative behaviour and aggression towards others has been identified among self-mutilating prisoners (Bach-y-Rita, 1974). In this sense, incarcerated self-mutilators do not differ from non-incarcerated self-mutilators who have been demonstrated to be extrapunitive hostile (Brittlebank et al., 1990) and it has been determined that this hostility is a long-standing trait rather than a transient, situation-specific response (Simeon et al., 1992).

Indeed the history of hostility in incarcerated self-mutilators has been demonstrated to be long-standing. The early childhoods of self-mutilating prisoners have been described as turbulent with three-quarters of one sample reporting being unable to control their anger. Adolescent years were characterised by swings between violent anger and depression. Loneliness was a key theme. Anger control problems continued in adulthood. In one study, all but one subject reported instances of assault with a weapon on more than one occasion. All had been incarcerated for more than five years

with a mean duration of institutionalisation of 11.5 years. They had juvenile convictions for deviant behaviour (Bach-y-Rita, 1974).

Ethnicity has been identified as a possible determinant of self-mutilation in prisoners. An early study in Texas, in the United States demonstrated a disproportionately larger number of Latin American self-mutilating prisoners and a disproportionately smaller number of Negro self-mutilating prisoners (Claghorn & Beto, 1967). Cultural factors implicated in the onset of self-mutilative behaviour were used to explain these biases. It was postulated that the reaction to imprisonment may vary as a function of race and this reaction determined the likelihood of the development of self-mutilative behaviour. By necessity, prison systems are based on regimentation, routine and conformity. North American Caucasians were deemed most suited to this type of system as this culture was believed to be based on the ideals of equality. This equality was seen as the basis for self-esteem. In contrast, Latin American men value uniqueness of personality. These men, therefore, were viewed as least able to cope with the constraints of the prison system which attempts to diminish distinctiveness or uniqueness of individuals. The low rate of self-mutilation among Negro prisoners was interpreted to reflect the general passive-aggressive nature of these people. They were believed to be more likely to display extrapunitive hostility than to direct aggressive feelings towards themselves.

However, if these factors did play a part in determining the ethnic mix of self-mutilators, it should be the case for all samples, regardless of the source. This does not seem to be the case. Caucasian males were demonstrated to be overrepresented in at least one study (Jones, 1986)

9.3 Explanations for self-mutilation in prison

A multitude of explanations have been provided for self-mutilation in prison settings (Bach-y-Rita, 1974). For example, self-mutilative behaviour may be understood to reflect the restrictive nature of the prison environment, the general psychopathology of the perpetrator and the use of self-mutilation as a means of manipulation. Many of these explanations reflect the orientation of the investigator (Claghorn & Beto, 1967).

Generally speaking, the explanations can be divided into two categories, those explanations that see self-mutilative behaviour in prisoners as a function of incarceration and those that explain the behaviour as a function of individual factors such as psychopathology (Coid, Wilkins, Coid & Everitt, 1992). If the behaviour solely was caused by the prison environment, individuals would begin the behaviour only after incarceration. One study (n=8) reported that all but one of the self-mutilating sample began self-mutilating after incarceration with the other subject having first mutilated while hospitalised (Bach-y-Rita, 1974). In contrast, a more recent study demonstrated that self-mutilative behaviour could not be accounted for by the prison environment alone (Wilkins & Coid, 1991)

However, not all studies make this distinction. In a study designed to identify risk factors associated with self-mutilation in prison, a comparison was made of subjects who had engaged in self-mutilative behaviour during incarceration and those subjects who had not (Jones, 1986). The two groups were demonstrated to be comparable with regard to age, sex, marital status, IQ, escape attempts and length of sentence. The total group were

predominantly male, had never been married and had low-average intelligence. Self-mutilating prisoners were significantly more likely to be Caucasian. They also were more likely to have been charged with a serious crime, to have had disciplinary problems during incarceration and to have engaged in more assaultive behaviour while in prison. Forty-nine percent of self-mutilating prisoners presented at initial incarceration with forearm scars. This figure was significantly higher than the 23% of control prisoners who also had forearm scars.

The author stated that the most promising finding with regard to the identification of individuals at risk of self-mutilation while incarcerated was the presence of scars on the forearm at first presentation (Jones, 1986). However, the fact that 23% of the control group had forearm scars indicates that these subjects may have engaged in self-mutilative behaviour prior to incarceration. Although these prisoners had not self-mutilated during the period under consideration, there was no reason to suggest that they would not do so at a future time. Nevertheless, the important point is that a substantial proportion of subjects in this study had engaged in self-mutilative behaviour prior to incarceration. This indicates that the prison environment cannot be the sole factor influencing the rate of self-mutilative behaviour in prisons. Of course, it cannot be determined whether the self-mutilative behaviour prior to incarceration occurs as a function of individual factors or factors associated with the environment of criminals outside the prison.

Although the prison environment cannot be the only factor that determines self-mutilative behaviour among prisoners, it is possible and likely that the prison environment exacerbates existing problems accounting

for the high rate of self-mutilative behaviour among incarcerated populations. Possible contributing factors in the prison environment will be examined.

9.3.1 Isolation

Physical isolation

Solitary confinement and segregation have been used as means of punishment within the prison system. Guidelines for the use of solitary confinement in correctional institutions in the United States include maximum isolation of fifteen days, an exercise period of one hour outside the isolation cell for five of seven days per week and access to reading matter. However, these guidelines can be easily manipulated so that instances of solitary confinement up to a period of one year have been reported (Kaufman, 1980).

Research has suggested that isolation within the prison may have serious negative side-effects. For example, it was determined that juveniles held in the adult prison system and isolated from the general prison population for their own protection, had a significantly higher suicide rate than youths held in juvenile detention centres (Flaherty, 1983). The side-effects may be severe for any vulnerable populations. Examination of the composition of prisoners in solitary confinement evidenced an overrepresentation of psychiatrically and cognitively impaired individuals (Kaufman, 1980). Coping skills deficits would be expected in both groups.

Numerous negative consequences of solitary confinement have been identified including wrist-cutting, acute confusional state and panic, fears of suffocation and paranoid distortions. Further consequences included

perceptual changes; perceptual distortions, hallucinations and derealisation; affective disturbance; difficulties of concentration, thinking and memory; and disturbances of thought content. (Grassian, 1983).

It is interesting to note that all of the above symptoms rapidly resolved upon release from solitary confinement. This resolution most commonly occurred within a few hours of release and there was no correlation between the time taken for resolution and the severity of symptoms. In addition, symptoms subsided during exercise periods or medical consultations away from the isolation cell (Grassian, 1983).

It was determined that approximately half of self-mutilative episodes in one study took place in isolation cells or when the mutilator was segregated from the rest of the prison population (Jones, 1986). This was interpreted as the restrictiveness of the environment increasing the risk of self-mutilation. Indeed, when unable to engage in normal coping strategies because of a restrictive environment, self-mutilators have been demonstrated to be more likely to engage in the behaviour (Ross & McKay, 1979). However, the reason for being in solitary confinement may be a more important factor. Certainly, the single most important variable in predicting the occurrence of self-mutilation was demonstrated to be the severity of disciplinary reports (Jones, 1986).

For many inmates, periods of isolation are perceived as irritating or boring. For those individuals who rely on social contact and support to cope with the prison environment, isolation represents a serious disruption to normal coping strategies. The same is true for those individuals who lack adequate problem-solving skills and who rely on some form of activity to

cope with the environment. When normal coping strategies are unavailable, feelings of helplessness and explosive tension have been reported (Johnson, 1978). These feelings leave vulnerable individuals at risk of self-mutilative behaviour.

It has been suggested that isolation should be used discriminately for potential self-mutilators (Jones, 1986). However, given the limited resources available to deal with self-destructive individuals, isolation is the treatment of choice (McCarthy, 1992).

In addition, it was suggested that as isolation is a problem for self-mutilators, a dormitory setting should be used to house potential mutilators (Jones, 1986). In this way, fellow inmates can identify potential mutilators and intervene to prevent episodes of self-mutilative behaviour. However, a concomitant of dormitory settings in prison has been demonstrated to be an increase in violence between inmates (Kaufman, 1980). Violent and assaultive behaviour also has been identified as a problem for self-mutilators (Bach-y-Rita, 1974; Jones, 1986). In addition, the housing of vulnerable individuals could easily lead to a contagion effect and an epidemic of self-mutilative behaviour could develop (see Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Lester, 1972; Matthews, 1968; McKerracher et al., 1968; Simpson, 1976; Walsh & Rosen, 1985, 1988)

Emotional isolation

For many inmates, incarceration is stressful and support from significant others is reported to be needed to cope with the stress of confinement. Indeed, many describe their families as their most important support system. When

the link with their families become unreliable, distress ensues (Johnson, 1978).

While loneliness can be a problem for prisoners of any age, this is particularly true for young offenders who lack the maturity and self-sufficiency to cope with an impersonal environment. Young offenders have commonly taken significant others for granted and have manipulated and abused relationships during their criminal careers. At a time when these relationships become more important, support often is not forthcoming leading to feelings of helplessness. Self-mutilative behaviour may develop in an attempt to achieve a response from significant others (Johnson, 1978).

Interpersonal difficulties and the use of self-mutilative behaviour to compensate for deficits in social skills are common in the histories of these individuals. Self-mutilation has proven to be a reliable means of securing assistance and support. They use self-mutilative behaviour as the primary means of communicating distress (Johnson, 1978). Indeed, this is true of non-incarcerated self-mutilators (Walsh & Rosen, 1988).

The use of self-mutilative behaviour to secure support may have short-term rewards. Significant others may respond to this type of behaviour because of feelings of guilt. Support also may be obtained from prison staff who attempt to placate the individual and alleviate distress. These short-term rewards reinforce the use of self-mutilative behaviour as a means of obtaining desired support (Johnson, 1978). Therefore, it is evident that there is an overlap between the influence of separation from support networks caused by incarceration and operant factors.

9.3.2 Operant factors

The self-mutilative behaviour of prisoners frequently is perceived as manipulative or attention-seeking behaviour rather than being suicidal or a manifestation of serious disturbance (Jones, 1986). It has been suggested that the extent of self-mutilation in any prison is related to the environmental conditions of that prison. The behaviour is used to alter environmental circumstances and is not a reflection of individual psychopathology (Yaroshevsky, 1975).

Incarcerated patients may also present at emergency centres. It was reported that the self-mutilative behaviour of these individuals was manipulative and used to gain access to hospital or simply to escape the prison environment. It was recommended that prisoners be returned as soon as medical treatment was completed. The authors did point out that repetitive behaviour of some incarcerated self-mutilators leads to hospitalisation as the only alternative (Lion & Conn, 1982). Six of eight self-injurers who were psychiatrically assessed stated that death was not the intention of their behaviour but that they were motivated by a desire to be removed from the gaol setting and be placed in hospital. Threats were made of further self-injury if they were returned to the gaol environment and, indeed, four of these six subjects did engage in additional episodes (Beigel & Russell, 1972).

When rated by prison personnel, the majority of self-mutilating prisoners were assessed as being motivated by operant factors. Attention-seeking was ascribed to 32% of the sample, 10% were perceived to be protest gestures, and 16% were deemed to be manipulative. Therefore, in total 58%

of self-mutilators were given a perjorative label. The remaining prisoners were understood to be motivated by depression (18%), release of tension (14%) and anger or remorse (10%) (Claghorn & Beto, 1967).

The self-mutilative behaviour in Soviet prisons was ascribed to the intolerable conditions of the prison environments. The behaviour was reported to be used to assert the prisoners rights and to attempt alteration of the environment (Yaroshevsky, 1975). However, it is interesting to note that the majority of self-mutilators were common prisoners, convicted of such offences as theft and extortion. The political prisoners, for whom prison conditions were measurably worse, were not reported to engage in self-mutilative behaviour. Their chief method of protest was hunger strike. It would appear that some other factor played a role in the performance of the behaviour.

The primary motivation for urethral insertion by six male prisoners was considered to be manipulative. On the surface, the goals of the behaviour were to gain attention or to effect transfer from their present environment. The more bizarre form of self-mutilative behaviour, in an environment where self-mutilative behaviour is not a rare phenomenon, generally achieved these goals. However, in many instances the behaviour continued despite achieving the primary goal. It was determined that, although the behaviour was reinforced by social factors, individual factors also were prominent. The individual factor identified was tension reduction (Rada & James, 1982). This will be discussed in later chapters.

9.3.3 Environmental conditions

Physical conditions

It is generally accepted that overcrowding in prisons has negative consequences and is related to increased psychopathology including self-mutilative behaviour (Cox, Paulus & McCain, 1984). For example, it has been suggested that overcrowding leads to increased violence within the prison, increased psychopathology ranging from anxiety to reactive psychosis, and higher rates of self-destructive behaviour (Kaufman, 1980). However, despite extensive research, the relationship between poor prison adaptation and prison crowding may not be as conclusive as suggested (Bonta, 1986), although it has been suggested that it is not the density that produces negative effects, but the nature of the interactions within the crowded social environment (Cox, Paulus & McCain, 1986).

Early research largely focused on a stimulus overload model (e.g., Altman, 1975). This stress-related model considered the consequences of high population density to be both physiological arousal and psychological discomfort. Indeed there is some evidence that increased social density is related to these stress reactions (e.g. D'Atri, 1975). One study examined the frequency of illness complaints and urinary catecholamine levels as markers of the stress of crowding (Schaeffer, Baum, Paulus & Gaes, 1988). Comparisons were made of prison inmates in dormitory, cubicle-design housing and single cell accommodation. Single cell inmates reported less perceived crowding, had fewer illness complaints and had lower urinary catecholamine levels than other groups. However, while cubicle-design inmates had lower catecholamine levels than dormitory inmates, these two groups were

comparable in reported crowding and in the frequency of illness complaints. The cubicle-design accommodation afforded some privacy although there was still close proximity to other prisoners.

However, this stress-related model overlooked other consequences of high population density in prisons, such as violent, aggressive and disruptive behaviour. An early study demonstrated a positive correlation between population density and misconduct (Megargee, 1977). However, replication of this result proved difficult, particularly when prison subpopulations were examined. It has been suggested that the inconsistent results were due to the influence of moderator variables. For example, the relationship between disruptive behaviour and prison crowding may be moderated by the age of the offender. It would appear that younger prisoners are especially vulnerable to the effects of prison crowding (Bonta, 1986).

In addition, the length of exposure to the crowded environment (or length of sentence in a crowded prison) also may influence the relationship between population density and negative effects (Bonta, 1986). This would explain the largely negative results in laboratory studies where the crowding is contrived and exposure is brief. Studies of prisoners, on the other hand, have demonstrated an increased probability of disruptive behaviour with increased length of confinement (see Bonta, 1986 for review).

However, the effects of the length of exposure to crowding may be mediated by other variables. The study comparing dormitory, cubicle-design and single cell accommodation (Schaeffer et al., 1988) demonstrated fewer negative effects for the single cell inmates. Accommodation in a single cell occurred only after a period of incarceration. While the authors implied

that the lower stress-related effects were due to the length of incarceration, it is more likely that the move to single cell accommodation ameliorated the cumulative effects of exposure to a high population density environment.

It may be appropriate to understand the effects of crowding as occurring on a continuum. With brief exposure, milder consequences may be experienced, such as increased blood pressure and heart rate, and increased reports of illness behaviour. These consequences are relatively benign. With long exposure, disruptive behaviour and violence may be evident. These consequences would be deemed severe (Bonta, 1986).

This relationship between time and negative effect seems relatively simple. However, the studies investigating this relationship have been correlational and, while a causal link is indicated, it has not been proven. In addition, there has been no examination of whether those prisoners in a high density environment who evidence such effects as increased physiological arousal and misconduct actually perceive themselves to be crowded (Bonta, 1986).

It also is possible that it is not the high population density itself but its concomitants that produces the negative effect. These concomitants would include such variables as increased noise levels, increased temperature, surveillance and protection difficulties, and the high turnover of individual prisoners (Bonta, 1986). For example, fewer assaults occurred in air-conditioned sections of a prison compared with those areas not air-conditioned (Atlas, 1984). However, results are generally inconsistent and vary from prison to prison.

Despite these tentative relationships, it is a simple fact that not every individual exposed to a crowded environment will react badly. A cognitive, social-learning model has been proposed to explain this fact (Bonta, 1986) and has the advantage of understanding individual differences. It postulates two components or processes that operate in a high population density environment. The first process is one of attribution and the second, the implementation of learned coping mechanisms:

It has been postulated that it is not the absolute number of individuals in the environment that produce the negative effects, but the violation of personal space (Worchel, 1978). Indeed, it was recognised that conflicts over territoriality were a factor that influenced the relationship between prison crowding and increased blood pressure (D'Atri, 1975). Again, it was postulated that it was social density rather than spatial density that increased illness complaints in selected U.S. prisons and gaols (McCain, Cox & Paulus, 1976).

When violation of personal space occurs, the individual experiences an increase in arousal. When this arousal is attributed to the violation of personal space, learned coping strategies are then brought into operation (Bonta, 1986). The inconsistent response to high population density may reflect a diversity of coping mechanisms, both adaptive and maladaptive, such as withdrawal (e.g., Smith, 1982), acting out (Megargee, 1977), and engaging in constructive activities (Jan, 1980). This may account for the vulnerability of the young to the effects of social density (Bonta, 1986) as younger people have been demonstrated to have poorer coping skills (Kessler, Price & Wortman, 1985).

The problem of length of exposure can be related to this model (Bonta, 1986). Complex attributions develop over time. Once the attribution has been made, a variety of available coping strategies may be applied to the problem. As these strategies fail, more maladaptive and desperate strategies may be implemented. This is supported by the fact that high density environments may interfere with cognitive efficiency (Langer & Saegert, 1977). The investigation evaluated the completion of a contrived task in terms of the processing of environmental information, the evaluation of alternatives, decision making processes and the performance of behaviours. As the stressful elements in the problem situation increased, the efficiency of the individual in adequately dealing with the situation at a cognitive level decreased. The results also could be applied to the selection and implementation of coping strategies and this may explain why more desperate and ultimately maladaptive coping strategies are selected.

This model also may be used to explain the development of self-mutilative behaviour in prison settings. Self-mutilation is generally understood as an effective, although maladaptive, coping strategy (Walsh & Rosen, 1988). This is true if self-mutilation is used as a method of dealing with an unpleasant environment or as a means of reducing distressing tension and discomfort. It can be postulated that self-mutilative behaviour is the strategy selected to cope with the inevitable violation of personal space in a prison environment. This is particularly likely if the individual has a history of adequately dealing with problem situations by the use of self-mutilative behaviour.

Another factor that increases the likelihood of the adoption of self-mutilative behaviour as a coping strategy is the restrictions the environment places on alternatives for action. For example, an individual commonly may seek privacy and withdraw from the environment, or seek physically strenuous activities such as jogging, swimming or playing ball games, or attempt to engage in mentally stimulating activities as a means of coping with problem situations. These alternatives are not available to a prison setting, particularly not on-call. There is a serious limitation to the options for coping that is a direct result of the prison environment.

Social conditions

The very nature of the prison environment may be perceived as threatening. Prison life involves separation from significant others, denial of status and restriction of autonomy. Some prisoners, particularly young offenders, experience prison existence as traumatic (Johnson, 1978). So it is the social system within the prison that may set the scene for the adoption of maladaptive coping strategies.

A newly incarcerated individual must learn adequately to adjust to the prison environment. Adaptation to the prison environment and identification with the norms of the institution have been demonstrated to be related to better psychological adjustment (James & Johnson, 1983). The term prisonisation has been used to describe the impact on the individual of the prison environment (Clemmer, 1958). There exists within prisons a set of norms forming a rigid code. These elements demand loyalty to fellow inmates and opposition to prison staff who represent general society which

is viewed as rejecting. To adequately cope in the prison environment, individuals must assimilate into this system. This occurs to a greater or lesser extent and is dependent on the nature and extent of relationships outside the prison environment and the duration of exposure to the environment. Therefore, those individuals with positive relationships and a short sentence will least be effected by the prisonisation process. Adequate coping depends on primary group affiliation within the prison environment and those who are unable to affiliate because of the above reasons will suffer most when incarcerated.

This theory is well supported when consideration is given to the length of time an individual has been incarcerated and the reported increase in non-conforming behaviour that occurs as the prison sentence progresses. However, it is not able to account for individual changes over time or a reported U-shaped distribution of highly conforming responses where conforming behaviours are evident at the beginning and toward the end of the prison sentence (Wheeler, 1961). Therefore, alternative views have been postulated to account for the influences of the inmate culture.

The content of inmate culture has been explained by a negative selection process or a problem-solving process. The first view, negative selection, is based on the fact that all prison inmates have one feature in common, that is, participation in criminal activities. The extent and nature of the criminal activity indicates the degree to which the individual opposes conventional societal norms. Therefore, the inmate culture is based on the values of individuals who show some commitment to a criminal system. These values are particularly evident in prisoners who have been inmates for a

long period of time or who have what can best be described as criminal careers. A reinforcement system would operate based on the criminal character of the inmates. As such, the view of prisons as a breeding ground for crime and criminals is consistent with this notion. It also largely accounts for a prisonisation process operating whereby individual inmates alter their response to the environment as they learn or assimilate the inmate culture.

The second view describes the inmate culture in terms of its problem-solving nature. The actual content of the inmate culture is defined by the response to the problems of adjustment within that environment (Wheeler, 1961). It has been demonstrated that the problems faced in the prison environment are quite distinct from the types of problems faced outside prison. Five major problem areas have been identified. These include rejection of the inmate status, sexual deprivation and material deprivation associated with imprisonment, unrelenting social control by prison staff, and the constant close proximity of other inmates.

The major influence of the problem-solving nature of inmate culture would have the most effect during the middle of the sentence, at a time farthest from contact with general society (Wheeler, 1961). As release approaches there would be a shift towards adjusting to problems of reintegration into general society. In addition, if this view is correct, then recidivists and first time inmates would display the same U-shaped distribution of conforming behaviours.

In either case, inability to adapt to the inmate culture presents problems. Inmates must gain peer acceptance. An emphasis on toughness leads to exploitation of those individuals who have difficulty gaining this acceptance

(Johnson, 1978).

Some individuals, particularly those who have been raised in inhospitable environments, are well able to cope with and adjust to the prison environment. Power-oriented societies such as those in prisons suit individuals who have learned to wield power to survive. However, the majority have had no preparation for such an environment. Many learn to cope by assimilating the prison culture. For those who cannot, self-mutilative behaviour is often adopted as an alternative coping strategy (Johnson, 1978).

9.3.4 Psychopathology

Imprisonment has been linked to high rates of psychopathology (e.g., Gunn, 1977; Lamb & Grant, 1982; Schumaker, Groth-Marmat, Dougherty & Barwick, 1986; Taylor & Parrott, 1988; Teplin, 1983, 1984, 1990). An importation model suggests that psychiatrically ill individuals are unable to cope with community living and, as a consequence, are incarcerated. Alternatively, it has been suggested that it is the prison environment that causes the increased psychopathology among prisoners. Whatever the explanation, between 3% and 63% of prisoners evidence some psychiatric illness (Kaufman, 1980). This wide range is a function of the type of institution studied and the diagnostic criteria employed.

A subgroup of prisoners were described who displayed a wide range of chronic impulsive behaviours including self-mutilation and violence towards others (Bach-y-Rita, 1974). All but one subject reported repeated episodes of severe depression during adulthood and all had engaged in at least one serious suicide attempt. Although occasionally their self-mutilative

behaviour was used for manipulative purposes, all subjects reported escalating negative feelings which were effectively ended by the commission of the act of self-mutilation. Indeed, when asked, most stated that the motivation for their self-mutilative behaviour was manipulation. However, although accepted by many investigators, this explanation is simplistic.

The psychiatric diagnoses of six male prisoner self-mutilators who had engaged in urethral insertion included three cases of borderline personality disorder, two cases of antisocial personality disorder and one case of mild intellectual disability plus antisocial personality disorder. During childhood, all demonstrated poor school performance, relationships with peers were inadequate and all were considered to be disciplinary problems (Rada & James, 1982).

In working with youths at a juvenile correctional facility, it was perceived that the self-mutilative behaviour of a number of inmates reflected pervasive maladjustment rather than a discrete psychiatric episode. The self-mutilators were seen to display poor problem solving ability in the face of psychological distress. To investigate this hypothesis, inmates with a history of at least one self-mutilative episode were compared with those referred for psychiatric evaluation without a history of self-mutilation and inmates who had no history of either psychiatric referral or self-mutilative behaviour (Chowanec, Josephson, Coleman & Davis, 1991).

A substantial proportion (40%) of the total institution population presented with mental health problems. Although displaying many similarities, the self-mutilation group and the psychiatric evaluation group could be distinguished. More aggressive and noncompliant behaviours were

evident in the self-mutilation group. These problems were evident prior to admission to the correctional facility. It was not the level of distress that distinguished the two mental health groups, but their behaviour (Chowanec et al., 1991).

Factors that differentiated self-mutilation from a general prisoner sample included drug abuse, repeated outbursts of rage or fighting, withdrawal and incommunicativeness, self-destructive behaviours other than slashing, anxiety, and a tendency to blame the environment (Virkkunen, 1976).

A comparison was made between a sample of self-mutilating prisoners and non-mutilating prisoner controls (Blackledge, 1967). In terms of personality, self-mutilators were demonstrated to be less controlled and self-disciplined and more tense and intense than controls subjects. In terms of personal adjustment, self-mutilators evidenced reduced feelings of personal freedom, belonging and self-reliance than non-mutilating counterparts. They displayed a greater tendency to withdraw from others and to show "nervous" symptoms. In terms of social adjustment, they demonstrated a greater tendency to antisocial behaviour and had poorer family relationships. Interestingly, psychiatric hospitalisation was four times more evident in the histories of the self-mutilators than the control subjects and on no occasions were these hospitalisations related to self-mutilative behaviour.

9.4 Summary

It is evident that there are many factors that can influence the occurrence of self-mutilative behaviour in a prison setting. Patterns of symptomatology

that have been demonstrated to distinguish self-mutilators from prisoner controls. In addition, there are many factors operating within the prison environment that could influence the individual to adopt self-mutilative behaviour as a coping strategy or exacerbate an existing tendency to engage in the behaviour at times of stress. Indeed, both factors may operate in conjunction to increase the likelihood of self-mutilative behaviour in prisons.

CHAPTER TEN
CONCOMITANTS OF SELF-MUTILATION IN PRISON

10. CONCOMITANTS OF SELF-MUTILATION IN PRISON

10.1 Introduction

A review of the literature in the previous chapter indicates that there are a number of factors that could account for self-mutilative behaviour in prisons. For example, there is evidence to suggest that incarcerated self-mutilators exhibit elevated levels of psychopathology (e.g. Bach-y-Rita, 1974; Chowanec et al., 1991; Rada & James, 1982; Virkkunen, 1976). The symptomatology experienced by incarcerated self-mutilators does not appear to differ from that experienced by self-mutilators outside the prison setting (e.g. Bach-y-Rita, 1974; Chowanec et al., 1991; Rada & James, 1982).

Within the prison it would be expected that self-mutilators would evidence greater levels of symptomatology than their non-mutilating counterparts. There is evidence that this is the case (e.g., Virkkunen, 1976) although firm conclusions on this point are difficult to draw due to methodological limitations of the research. Descriptive studies have been provided where the focus has been on self-mutilating prisoners without comparison to a control group of non-mutilating prisoners (e.g., Bach-y-Rita, 1974). In addition, other studies have confused the issue by including in the control group "reformed" self-mutilators or those presently not mutilating (e.g., Jones, 1986; McKerracher et al., 1968).

Further, there is some indication that it is not distressing psychological symptomatology that distinguishes incarcerated self-mutilators from non-mutilating prisoners, but a range of long-standing maladaptive behavioural

traits (Chowanec et al., 1991). Finally, the matter is further complicated by those studies that demonstrated no significant differences between self-mutilating and non-mutilating prisoners. For example, self-mutilating and non-mutilating prisoners have been demonstrated to have comparable levels of anxiety (Pospiszyl, 1985) and use of illicit drugs (Claghorn & Beto, 1967).

Aside from the methodological problems, inconsistent results may be due to the fact that elevated levels of psychopathology have been evident in the general prison population (Bland, Newman, Dyck & Orn, 1990; Jemelka, Trupin & Chiles, 1989). High rates of substance use disorders (Bland et al., 1990; Herrman, McGorry, Mills & Singh, 1991; Lightfoot & Hodgins, 1988) with 75-80% of prisoners having reported a life problem with substance abuse (Lightfoot & Hodgins, 1988), depressive disorders (Bland et al., 1990; Chiles, von Cleve, Jemelka & Trupin, 1990; Herrman et al., 1991) including dysthymia (Chiles et al., 1990), anxiety/somatoform disorders, obsessive-compulsive symptoms (Bland et al., 1990) and personality disorders, particularly antisocial personality disorder (Bland et al., 1990; Chiles et al., 1990) have been evident in general prison populations. In addition, there was a reported increased likelihood of a history of attempted suicide (Bland et al., 1990). These rates were reported to be higher than the prevalence rates for the general population (Bland et al., 1990; Chiles et al., 1990). In contrast, psychotic disorders were relatively uncommon (Coid, 1984; Herrman et al., 1991).

The increased incidence of substance abuse disorders was particularly evident for incarcerated criminals with antisocial personality disorder (Smith & Newman, 1990). Antisocial prisoners were more likely to develop lifetime

substance use disorders and were more likely to have abused more than one type of substance than prisoners without an antisocial personality disorder. Indeed, substance abuse is a recognised concomitant of antisocial personality disorder (APA, 1987).

It would appear that being incarcerated can result in increased levels of symptomatology in the absence of any preexisting disorder although certain disorders, such as substance dependence, must have been present prior to imprisonment (Gibbs, 1987). A sharp rise in symptomatology has been reported within the first 72 hours of incarceration (Coid, 1984; Gibbs, 1987). This increase was less dramatic for individuals with a previous history of psychological disturbance (Gibbs, 1987). Symptom levels then decreased over time as the individual adjusted to confinement (Coid, 1984; Gibbs, 1987). For example, depression and anxiety levels abated after 5 days within the prison environment (Gibbs, 1987).

A dilemma still exists. Is there a diagnosis that can consistently be applied to self-mutilators or is there a pattern of symptomatology that would identify these individuals? The following questions must be addressed. Do self-mutilators in prison display levels of psychopathology over and above that displayed in the general prison population? If this is so, what is the nature of the psychopathology specific to self-mutilators?

METHOD

10.2.1 Subjects

A total of 53 subjects were employed in this study. Subjects were divided into three groups. The first group (self-mutilators) was comprised of 19 male prisoners with a history of self-mutilation. In addition, two individuals initially selected as normal control subjects were included in selected analyses because they reported a history of self-mutilation. The motivation for their self-mutilative behaviour did not differ from the prisoner self-mutilators so they were included when consideration was given to the history of self-mutilation and the nature of the behaviour. They also were included in examination of sexual abuse histories as it was deemed that this history is separate in its influence on self-mutilative behaviour from the criminal history of the prisoner self-mutilators. The two non-prisoner self-mutilators were excluded from all other analyses because of the possibility that the other variables could be an antecedent to or consequence of criminal incarceration and, therefore, would bias results.

The second group (prisoner controls) was made up of 14 male prisoners with no history of self-mutilation. The final group (normal controls) included 18 male university students with no history of self-mutilation or criminal incarceration. Informed written consent was obtained from all subjects. Examples of the consent forms are presented in Appendix A.

All groups were matched for age. Prisoner groups were matched for duration of present prison sentence as psychiatric symptomatology has been found to alter according to sentence length (Coid, 1984). Consistent with the

definition of Type III self-mutilation (Walsh & Rosen, 1988), individuals who were currently experiencing acute psychotic symptoms and the intellectually disabled were not included. Screening for these variables was conducted by the forensic staff at the prison.

All prisoner subjects were inmates at Her Majesty's Prison Risdon. Risdon Prison is the major detention facility for adult offenders in Tasmania, Australia. Criticisms of studies of prisoner populations have been that sentencing procedures may differ in areas of a state, and that specific prisons may house special prisoner populations making comparisons difficult (Bland et al., 1990). Risdon Prison is the only facility in the state equipped to house long-term maximum security prisoners. The facility at Risdon provides a maximum security section for males. The section has a capacity of 320 places but has a daily average capacity of 179. The daily average capacity has been declining in recent years because of an increase in community based punishment (e.g., community work orders). A Remand Centre for individuals in custody prior to trial and sentencing is situated within the main prison complex but is separate from the maximum security section. A 29 bed hospital provides accommodation for prisoners with physical and psychiatric disorders. It is classified as a Special Institution in that it provides accommodation for individuals who have been found to be not guilty by reason of insanity or who have been found unfit to plead. The forensic staff at the hospital is comprised of one psychiatrist, a senior psychologist, a psychologist and a social worker.

Medium security, minimum security and female prisons are separate from the maximum security section. The medium security and female

prisons are within the main prison complex. Prisoner subjects in this study were situated in the maximum security section, the hospital and the remand section of the prison. One subject was transferred to the medium security section during the course of the study.

Attempts were made to include all subjects in all three studies to gain an overall picture of the self-mutilating individual. However, a number of factors prevented this in some cases. In the prisoner groups, these factors included placement on a 'suicide category' where the prisoner was identified as being at risk of attempting suicide and was placed in an isolated "suicide" observation cell; placement on a 'punishment category' where the individual would be removed from their regular placement and moved to solitary confinement; or early and unexpected release on parole. In the normal control group, attrition was caused by failure to attend experimental sessions or, in one case, emergency hospitalisation.

The design strategy of following a single group of self-mutilators is a legitimate one, particularly when investigating the attributes or behaviours of a clinical sample. The repeated use of the same subject group has been demonstrated to be an acceptable strategy when the occurrence of the target behaviour within any one subject group is low (Kratowill & Mace, 1984) and when the target behaviour is subject to variability within a single individual (Chassan, 1979; Maher, 1970). The implication is that the probability of bias is increased with the introduction of new subject groups. Therefore, the statistical power of a group analysis of results is increased with the use of a single subject group across experiments because the results are more stable (Chassan, 1979). Additional benefits relate to economy of

time and cost (Chassan, 1979; Kratchowill & Mace, 1984). A reduced drop-out rate also has been reported with this type of design (Chassan, 1979).

It should be noted that while the same subject groups were used throughout the course of this investigation, subjects were interviewed on separate occasions for each of the three distinct studies. Therefore, the studies were temporally separated for all subjects.

Consistent with the definition of Type III self-mutilation (Walsh & Rosen, 1988), individuals currently experiencing acute psychotic symptoms and the intellectually disabled were not included. Screening for these variables was conducted by the forensic staff at the prison.

10.2.2 Design

Firstly, a three group design was employed with the groups including self-mutilators, non-mutilating prisoners and normal controls. Dependent variables included measures of symptomatology, personality, aggression/hostility, family environment, alcohol and drug abuse, sexual/physical abuse and suicidal history. Secondly, a two group (self-mutilators and non-mutilating prisoners) design was employed to investigate aspects of prison environment and criminal history. Finally, a within subject design addressed the self-mutilative history of the experimental group.

10.2.3 Materials

An interview schedule was devised to standardise the collection of data. All scales included in the interview schedule were administered verbally

to circumvent potential problems of literacy in the prison groups. This was not done in consideration of IQ differences between the groups but because of variation in education background and exposure to educational opportunities. Copies of the interview schedule and the standardised scales used in this study can be viewed in Appendix B.

Demographic information

Age and marital status were recorded along with educational attainment. In addition, a record was made of whether the subject experienced any literacy problems.

Criminal history

Prisoner subjects were asked a series of questions relating to criminal activities. These included the nature of the offence or offences for which they were currently incarcerated; the duration of the prison sentence received for this crime (in the case of those subjects on remand pending trial, no record was made); how much of the present sentence had been served at the time of interview (including remand subjects because time spent on remand is automatically deducted from the prison sentence when it is handed down); details of any past offences including the nature of the offence and the number; and the number of any past prison sentences. When responding to the question regarding past offences, some subjects had to make estimates because the actual numbers were too high for accurate recall. It should be noted, of those subjects on remand, all admitted culpability with regard to their most recent offence. There was no remand subject who claimed to be innocent of the crime for which they were charged.

Control subjects were asked if they had ever been charged with a criminal

offence. The answer was negative in all cases.

Symptomatology

The SCL-90-R (Derogatis, 1983) was selected as a measure of symptomatology. It is a revised symptom checklist comprised of 90 items originally devised to determine the patterns of psychological symptoms in psychiatric and medical patients. The test also is appropriate for use with normal samples. Each of the 90 items is rated on a 5-point scale in terms of the distress experienced by the individual in the seven days prior to administration.

There are nine primary symptom dimensions: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. In addition, three global indices provide single scores of the nature and extent of psychopathology. The Global Severity Index (GSI) provides a single summary score of the current level of psychopathology. The score is achieved by combining information regarding the number of items endorsed and the degree of distress experienced by the individual. The Positive Symptom Distress Index (PSDI) provides a measure of perceived distress separate from the number of items endorsed. The Positive Symptom Total (PST) evaluates the extent of symptomatology by scoring the number of items endorsed by the individual. Seven additional items not appearing in the primary symptom dimensions are included in the calculation of the global indices. These items or symptoms are related to multiple dimensions but not exclusive to any one.

Verbal administration of the test has been used in medical settings where debilitation or trauma prevents administration using the self-report

format. Comparison of the two administration styles demonstrates no appreciable bias.

The internal consistency of the nine symptom dimensions ranges from .77 for Psychoticism to .90 for Depression suggesting that symptom items reflect the measurement dimension or underlying factor. Test-retest reliability ranges from .80 for Anxiety to .90 for Phobic Anxiety indicating stability across time. Convergent and construct validation studies have demonstrated the SCL-90-R to be a good measure of current psychopathology (Derogatis, 1983).

Rules are provided for recognition of a positive case. A GSI score or two symptom dimension scores above a standard score of 63 indicates a positive diagnosis or case. Standard score conversion tables are available for non-patient, out-patient, in-patient and adolescent populations.

Personality

The Millon Clinical Multiaxial Inventory (MCMI) (Millon, 1983) was employed as a measure of personality. This test provides measures of basic personality patterns (Schizoid [Asocial]; Avoidant; Dependent [Submissive]; Histrionic [Gregarious]; Narcissistic; Antisocial [Aggressive]; Compulsive [Conforming]; and Passive-Aggressive [Negativistic]) and pathological personality disorders (Schizotypal [Schizoid]; Borderline [Cycloid]; and Paranoid). This test also provides information regarding clinical syndromes (Anxiety, Somatoform, Hypomanic, Dysthymic, Alcohol Abuse, Drug Abuse, Psychotic Thinking, Psychotic Depression, and Psychotic Delusions). While a revised version of the test is available, lack of a method of manual scoring makes its use in research limited. In addition, the revised edition has been

criticised for the fact that the validity of the test appears not to have improved over the earlier version (Streiner & Miller, 1989).

For the basic personality patterns, the test-retest reliability with an average interval of one week evidenced coefficients ranging from .81 for Compulsive to .91 for Histrionic. With an interval of five weeks, the range varied from .77 for Compulsive to .85 for Histrionic. For the pathological personality disorders, test-retest reliability at one week was .86 for Schizotypal, .84 for Borderline and .85 for Paranoid. At an average of five weeks retest, the figures were .78, .77 and .77 respectively. For the clinical syndromes, the coefficients ranged from .78 for Dysthymia to .83 for Alcohol Abuse and Drug Abuse at one week retest, and from .61 for Psychotic Depression to .76 for Alcohol Abuse at five week retest. The substantially lower coefficients achieved after five weeks for the clinical syndromes are not surprising as the majority of these syndromes are amenable to therapeutic intervention and all subjects included in the analysis were participating in psychotherapeutic programmes (Millon, 1983).

Recommended cut-off scores are provided for the interpretation of a single score as clinically significant. An adjusted and weighted score above 75 is suggestive of the presence of a disorder. A score above 85 suggests that the disorder has prominence.

Prison environment

The response of the incarcerated groups to the prison environment was assessed using the Jail Stress Scale (Bonner & Rich, 1990) which was devised to measure stress/distress in U.S. gaol inmates. This scale was modified to suit the population under study. U.S. gaols operate as holding

facilities prior to sentencing and are equivalent to a remand centre in Australia or they are used for the incarceration of inmates when the sentence is short. Therefore, items were added of relevance to sentenced prisoners as well as those awaiting trial. The resultant instrument had eleven items rated on a scale of stress from 1 - no stress to 5 - extreme stress.

Aggression/hostility

The Hostility and Direction of Hostility Questionnaire (HDHQ) (Caine, Foulds & Hope, 1967) was used in conjunction with the SCL-90-R to investigate the nature of hostile feelings. Subscales are available for Urge to Act Out Hostility, Self Criticism, Criticism of Others, Paranoid or Projected Hostility, and Guilt. A global score is available along with a measure of the direction of hostile feelings (i.e., intropunitive or extrapunitive).

Test-retest reliability coefficients are cited for 30 normal subjects with retest at one year. Coefficients range from .23 for the Guilt subscale to .75 for the total hostility score. Comparisons of the test-retest coefficients for those with treatment success and those with treatment failure support the reliability of the test. At one year follow-up, of those who reported treatment failure coefficients ranged from .31 for the Self-Criticism subscale to .95 for Criticism of Others. Of those who reported treatment success at one year, coefficients ranged from .20 for Paranoid Hostility to .78 for Self-Criticism.

Family Environment Scale

A number of structured questions were included in the interview to determine living arrangements during childhood and the age at which family disruption occurred for those whose parents had separated or divorced.

The Family Environment Scale (FES) was employed to measure family

background. It was developed to evaluate the social climate within the family structure. The scale considers interpersonal relationships between family members, the degree to which the family encourages personal growth, and the family unit as a system (Moos, 1974).

The FES-Form R is a 90-item scale that provides ten subscales on three dimensions. Table 4 provides a description of the nature of the ten subscales. Normative data is available from a sample of 285 families. The sample families are of varying size and, while they cover a wide range of socioeconomic levels, there is a bias towards middle and upper middle class families. Standard score conversions are based on the mean raw scores of families but can be used for the conversion of individual scores as the standard deviations for both are approximately equivalent.

Internal consistencies for the test are adequate ranging from .64 for the Independence subscale to .79 for the Moral-Religious Emphasis subscale. The average item-to-subscale correlations range from a moderate correlation of .45 for Independence to a substantial correlation of .58 for the Cohesion subscale. Eight week test-retest reliability ranged from .68 for Independence to .86 for Cohesion. Examination of the correlations of subscales indicates that the FES measures related but distinct aspect of the family climate.

Research findings have suggested no consistent overall gender biases in the perception of family climate. The Cohesion and Expressiveness subscales tend to decrease and the Conflict Subscale increases with increasing family size. Comparisons were made between "clinical" and "normal" families. Expected differences were noted and these provided support for the construct validity of the scale.

Table 4: Descriptions of the Family Environment Scale subscales.

Subscale	Description
Relationship Dimensions	
Cohesion	The extent to which family members are concerned and committed to the family and the degree to which family members are helpful and supportive of each other.
Expressiveness	The extent to which family members are allowed and encouraged to act openly and to express their feelings directly.
Conflict	The extent to which the open expression of anger and aggression and generally conflictual interactions are characteristic of the family.
Personal Growth Dimensions	
Independence	The extent to which family members are encouraged to be assertive, self-sufficient, to make their own decisions and to think things out for themselves.
Achievement orientation	The extent to which different types of activities (i.e., school and work) are cast into an achievement oriented or competitive framework.
Intellectual-cultural orientation	The extent to which the family is concerned about political, social, intellectual and cultural activities.
Active recreational orientation	The extent to which the family participates actively in various kinds of recreational and sporting activities.
Moral-religious emphasis	The extent to which the family actively discusses and emphasizes ethical and religious issues and values.
System Maintenance Dimensions	
Organisation	Measures how important order and organisation is in the family in terms of structuring the family activities, financial planning, and explicitness and clarity in regard to family rules and responsibilities.
Control	Assesses the extent to which the family is organised in a hierarchical manner, the rigidity of family rules and procedures and the extent to which family members order each other around.

(Moos, 1974)

Alcohol and drug dependence

The Michigan Alcoholism Screening Test (MAST) (Selzer, 1971) and a drug use screening instrument were administered to investigate the extent of substance use problems. The MAST investigates the behavioural, interpersonal and help-seeking patterns of individuals who abuse alcohol. This scale was initially administered to five groups: hospitalised alcoholics, a control group, drivers with a conviction for driving under the influence of alcohol, a group of individuals with convictions for being drunk and disorderly, and a group of drivers with a specified number of moving violations and accidents within a two year period. From the responses of these groups, weightings were applied to a range of questions so that their contribution to the total score was increased. The scale was determined adequately to distinguish alcoholic from non-alcoholic subjects in all groups. There were a number of false negatives, a result to be expected when there is a reliance on self-report of alcoholic individuals. This is a problem not easily prevented.

The drug screening instrument is presently used at the John Edis Hospital in Tasmania. This hospital is the major facility in Tasmania dealing with patients with addictions to alcohol and drugs. This facility provides a detoxification unit as well as therapeutic programmes to combat substance addictions. The instrument investigates behavioural, interpersonal, medical and psychological difficulties associated with the use of drugs other than alcohol. In addition, the types of illicit drugs used were recorded.

Sexual and physical abuse

Questions regarding sexual abuse were modified from those employed in a study investigating the psychological consequences of childhood sexual abuse (Fitzgerald, 1988). The questions related to the following: the number of abusers, the relationship to the abuser, the age of onset of the abuse, the frequency of abuse, the duration of abuse, the nature of the sexual abuse, and whether violence was used at the time of the abuse.

The initial question regarding physical abuse was whether physical punishment had been used during childhood. The subject was then asked to estimate the severity of physical punishment experienced compared with their perception of the physical punishment received by others. Finally, a question was included to determine if medical treatment for physical abuse during childhood had been received. These questions were adapted from those used by Favazza and Conterio (1989).

Self-mutilation history

The nature and extent of self-mutilative behaviour was examined. Consideration was given to the frequency and duration of the behaviour; methods employed; instruments used to self-mutilate; and site of injury. A record was made of the length of time prior to interview that a self-mutilative episode occurred.

Motivation for self-mutilation

The motivation for self-mutilation scale was modified from a scale used to assess the motivation for attempted suicide (Henderson, Hartigan, Davidson, Lance, Duncan-Jones, Koller, Ritchie, McAuley, Williams & Slaghuis, 1977). The scale provides subscales of depression, extrapunitive,

alienation, operant, modelling, avoidance, tension reduction, and janus face which refers to an ambivalent attitude towards life and death. This scale is scored on a three point scale: 1 - not at all, 2 - a little, and 3 - a great deal, according to the relevance for that individual.

Suicidal intent

The Suicidal Intent Scale (Pierce, 1977) was included to assess threat to life from self-mutilative acts and intent to die. This scale assessed the circumstances surrounding the act, provided a self-report measure of intention, and rated risk of death from the behaviour. Reliability was examined by assessing the interrater agreement following interviews with sixteen suicidal patients. The interrater reliability coefficient was .97. In addition, the correlation coefficient between the 'circumstances' scores for the two raters was .82.

Five hundred suicidal patients were followed up five years after completion of the Suicide Intent Scale in order to determine the predictive validity of the scale (Pierce, 1981). While the scores were not significantly different, there was a trend for the 7 of 500 who had completed suicide at follow-up to have scored higher than the norm of this scale. Of course, the analysis was hampered by the low number of eventual suicides. However, it was determined that repeated administration of the scale over a substantial time span can track the fluctuation in lethality and intent in self-destructive behaviour.

History of attempted suicide

A number of questions were included to determine the extent and nature of previous suicidal behaviour. Questions included: the number of

past suicide attempts; the method used in the suicide attempt (multiple categories could be indicated); and whether medical or psychiatric hospitalisation had occurred as a result of a suicide attempt.

10.2.4 Procedure

The self-mutilators were identified by the forensic staff at the Special Institution Hospital at H.M. Prison Risdon and appropriate prisoner controls were approached to participate in the study. Prisoner subjects were interviewed in the hospital. Normal control subjects were selected to match experimental subjects for age and variables important to subsequent studies. These subjects were interviewed in the Department of Psychology, University of Tasmania. Duration of interview ranged from two and one half to four hours per subject. As mentioned, verbal administration of scales was conducted to avoid problems with literacy. Scales were administered verbally to all groups to bring some standardisation to test administration. This was carried out as a precautionary measure only and proved to be unnecessary. Nevertheless, it was considered to be an important precaution, not because of the intellectual capacity of the prisoner groups, but because of the possibility of poor educational history.

Participation was voluntary. Prisoner subjects were introduced to the study by the prison psychologist or senior psychologist. The investigator then explained fully the nature of the study, including participation in subsequent studies, and written informed consent was obtained. Normal control subjects were approached by the investigator and the nature of the study was explained to them. Written informed consent was obtained. For

participation, normal control subjects could gain course credit or subjects were compensated for their time at a nominal rate. Monetary compensation was not provided for prisoner subjects although a token "gift" was allowed by the Department of Justice. In most cases this was chocolate.

RESULTS

All Analyses of Variance were run using SuperANOVA (Abacus Concepts, 1989) while t-tests and chi-square analyses were conducted on StatView (Abacus Concepts, 1992).

10.3.1 Description of sample

Table 5 presents the mean ages and standard deviations of the three groups. There were no significant differences between the groups in terms of age ($F(2,50)=23.97, p=.985$).

Table 5: The means and standard deviations of the ages of the three groups.

	Self-mutilators	Prisoner controls	Normal controls
Mean	22.47	22.56	22.28
SD	4.97	5.06	4.66

There was no variation between the groups in terms of marital status ($\chi^2=4.49, df=6, p=.611$). The percentages of each group in each marital status category are presented in Table 6.

Table 6: The percentage of subjects in each group in each marital status category.

Marital status	Self-mutilators	Prisoner controls	Normal controls
Never married	84.21	78.57	83.33
Married/de facto	10.53	7.14	16.67
Separated/divorced	5.26	7.14	0.00
Widowed	0.00	7.14	0.00

An explanatory note of the formal education system in Tasmania is warranted. Primary education includes grades 1 to 6. High school or secondary education includes grades 7 to 10. Adolescents are permitted to leave formal education if either (a) grade 9 (3 years of secondary education) has been completed and the child is 15 years of age, or (b) grade 10 is completed. Grades 11 and 12 are considered to be extended education at college to achieve matriculation. These years are optional. For acceptance at university, matriculation is required unless the student is mature age, in which case partial or full exemption is granted depending on the age of the applicant. When comparing years in formal education, there was a significant difference between the groups ($F(2,47)=17.83, p=.000$). The self-mutilators had spent a mean of 9.33 years in formal education ($SD=1.24$); prisoner controls $\bar{X}=8.57$ ($SD=2.681$); and normal controls $\bar{X}=11.83$ ($SD=0.71$). This result is to be expected as the normal controls were all enrolled in a first year university psychology course. Post hoc analyses demonstrated no difference between the two prisoner groups. A comparison between the prisoner groups in terms of whether high school was completed demonstrated no deviation from expected ($\chi^2=2.50, df=1, p=.113$). Difficulties with literacy were

experienced by four subjects, two self-mutilators and two prisoner controls.

10.3.2 Criminal history

Examination of the status of the total prisoner sample demonstrated that 54.29% (19 subjects) were maximum security prisoners housed in the main prison complex; 31.43% (11 subjects) were maximum security prisoners residing in the special facility hospital either temporarily or permanently; and 14.29% (5 subjects) were on remand pending trial. While there were no significant deviations from expected in terms of custodial arrangements, there was a trend for more self-mutilators to be residing in the hospital at the time of interview ($\chi^2=5.17$, $df=2$, $p=.075$). This is not unexpected as a history of severe self-mutilative behaviour is sufficient reason for initial placement in the hospital for observation.

The mean duration of sentence at time of interview for the self-mutilators was 14.15 months ($SD=13.18$) and the prisoner controls 20.85 months ($SD=18.98$). This difference was not significant ($t=1.04$, $df=24$, $p=.307$).

The nature of the present offence was initially examined in terms of a simple categorisation: robbery, robbery with violence, violence, a miscellaneous category. Comparisons of the two groups demonstrated no significant deviations from expected for the robbery category ($\chi^2=0.57$, $df=1$, $p=.450$), the violent crime category ($\chi^2=0.02$, $df=1$, $p=.886$), and the miscellaneous crimes category ($\chi^2=0.25$, $df=1$, $p=.618$). A significant result was demonstrated for the robbery with violence category ($\chi^2=3.87$, $df=1$, $p=.049$) with statistically more self-mutilators than prisoner controls presently serving sentences for this type of crime.

The specific nature of the current offences then were listed under the categories adopted by the Department of Justice (Department of Community Services, 1989-90). Table 7 presents the percentage of prisoner subjects presently incarcerated or on remand pending trial for the various crimes. It should be noted that the majority of subjects had committed more than one crime.

The self-mutilators had a mean of 3.58 (SD=4.35) past prison sentences and the prisoner controls 3.57 (SD=4.78). This difference was not significant ($t=0.005$, $df=31$, $p=.996$). The self-mutilators reported being charged with a mean of 34.47 (SD=53.22) past offences and the prisoner controls 23.79 (SD=18.71). This difference was not significant ($t=0.72$, $df=31$, $p=.479$). Initial examination demonstrated no deviations from expected between the groups with regard to the nature of the crime: robbery ($\chi^2=1.31$, $df=1$, $p=.252$); robbery with violence ($\chi^2=0.01$, $df=1$, $p=.905$); violence ($\chi^2=0.44$, $df=1$, $p=.506$); and miscellaneous ($\chi^2=0.91$, $df=1$, $p=.341$). The percentages of subjects previously charged with each crime are displayed in Table 8. Again, the majority of prisoners previously had been charged with multiple offences.

Table 7: The percentage of subjects in the two prisoner groups convicted of or charged with specific criminal acts.

Nature of crime	Self-mutilators	Prisoner controls
Against the person		
Aggravated robbery	21.05	7.14
Assault	15.79	7.14
Murder	10.53	7.14
Armed robbery	10.53	0.00
Manslaughter	0.00	7.14
Rape	0.00	7.14
Against property		
Burglary	31.58	35.71
Stealing	21.05	42.86
Car theft	10.53	0.00
Break and enter	5.26	0.00
Arson	5.26	0.00
Damage to private property	0.00	7.14
Against good order		
Trespass	10.53	0.00
Breaching bail	5.26	0.00
Firing a weapon in a public place	5.26	0.00
Non-payment of fines	5.26	0.00
Drunk and disorderly/incapable	0.00	7.14
Forgery	0.00	7.14
Traffic matters		
Driving while disqualified	10.53	7.14
Driving under the influence	5.26	0.00
Drug related	0.00	7.14

Table 8: The percentage of subjects in the two prisoner groups previously convicted of specific criminal acts.

Nature of crime	Self-mutilators	Prisoner controls
Against the person		
Assault	21.05	42.86
Grievous bodily harm	10.53	0.00
Armed robbery	10.53	7.14
Attempted murder	5.26	0.00
Kidnapping	5.26	0.00
Aggravated robbery	0.00	14.29
Against property		
Burglary	52.63	57.14
Stealing	42.11	64.29
Car theft	26.32	21.43
Damage to private property	10.53	7.14
Break and enter	5.26	0.00
Arson	5.26	0.00
Against good order		
Drunk and disorderly/incapable	5.26	42.86
Trespass	5.26	7.14
Breaching bail	5.26	0.00
Abusive language	5.26	0.00
Wildlife	5.26	0.00
Urinating in public	5.26	0.00
Fraud	5.26	0.00
Receiving stolen goods	0.00	14.29
Firing a weapon in a public place	0.00	7.14
Traffic matters		
Driving under the influence	26.32	21.43
Driving disqualified	5.26	14.29
Speeding	5.26	14.29
Drug related	15.79	21.43

10.3.3 Prison environment

A comparison of the two prisoner groups in their reaction to the prison environment demonstrated no significant difference ($t=0.84$, $df=31$, $p=.467$). The mean ratings and standard deviations of the two groups to the elements of prison environment associated with a stress reaction are presented in Table 9. With a score of 5 representing extreme stress, all mean ratings represent low to moderate stress levels.

4

Table 9: The mean ratings and standard deviations of the two prisoner groups to items on the Jail Stress Scale.

Item	Self-mutilators	Prisoner controls
Having to be locked up in the actual prison setting.	2.79 (1.65)	2.93 (1.54)
Having to live with other inmates in the prison.	1.79 (0.85)	2.43 (1.45)
Being separated from family and friends while in the prison.	3.47 (1.54)	3.07 (1.54)
Not knowing when you will get out or how much time you will have to do.	2.47 (1.68)	2.86 (1.61)
Being concerned about your safety and health in prison.	2.32 (1.56)	1.93 (1.54)
Having no support or place to go once you are released from prison.	2.05 (1.47)	1.29 (0.82)
Feeling guilty about your charges as if you let yourself and others down by being in prison.	3.21 (1.62)	2.57 (1.65)
Having family or friends reject you because of being in prison.	2.16 (1.38)	1.79 (1.42)
Having conflicts with prison guards.	2.16 (1.57)	1.29 (1.07)
Having conflicts with other prisoners.	1.63 (1.16)	1.86 (1.51)
Having to do things when you are told to do them rather than when you would like.	3.10 (1.59)	2.57 (1.55)
Total score	27.16 (9.86)	24.57 (10.13)

10.3.4 History of self-mutilation

The two non-prisoner self-mutilators were considered in this section as they did not differ from the prisoner self-mutilators in terms of motivation for their behaviour. Subjects had deliberately injured themselves a mean number of 48.05 times (SD=111.95) with a range of 1 to 500 self-mutilative episodes reported. While the highest figure was only an estimate and seems exceedingly high, the complex network of scarring on the subject's skin provided convincing evidence that the estimate was realistic. Given the fact that two subjects reported an excessively high number of injurious episodes (200 and 500 respectively), a more appropriate measure of frequency is a median score. The median number of self-mutilative episodes was sixteen.

The mean duration of self-mutilative behaviour was 6.09 years (SD=5.57) with a minimum of 0 years (i.e., within one year prior to interview) and a maximum of 22 years duration. The last act of self-mutilation occurred a mean of 7.62 months prior to interview (SD=11.90) with a range of 0 (i.e., less than one month before interview) to 55 months. Of the prisoner self-mutilators, 78.95% had engaged in self-mutilative behaviour prior to any incarceration.

Figure 1 illustrates the percentage of subjects inflicting injury to various body parts. The forearm was the most common site of injury with all but one subject reporting deliberate wounding of this area. This included wrist-cutting as well as other aspects of the arm below the elbow.

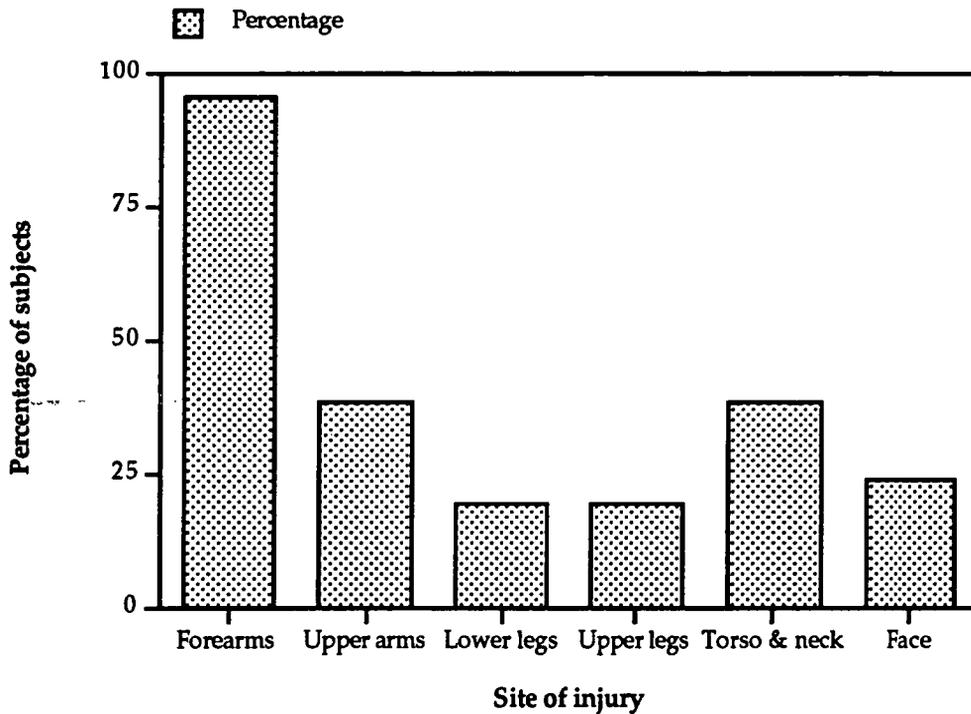


Figure 1: Percentage of self-mutilators deliberately injuring parts of the body.

Consideration was given to the method of self-mutilation. All subjects had cut themselves. Self-burning, self-hitting, skin-scratching and interference with the healing of wounds also were reported. Figure 2 depicts the percentage of subjects reporting each method of injury.

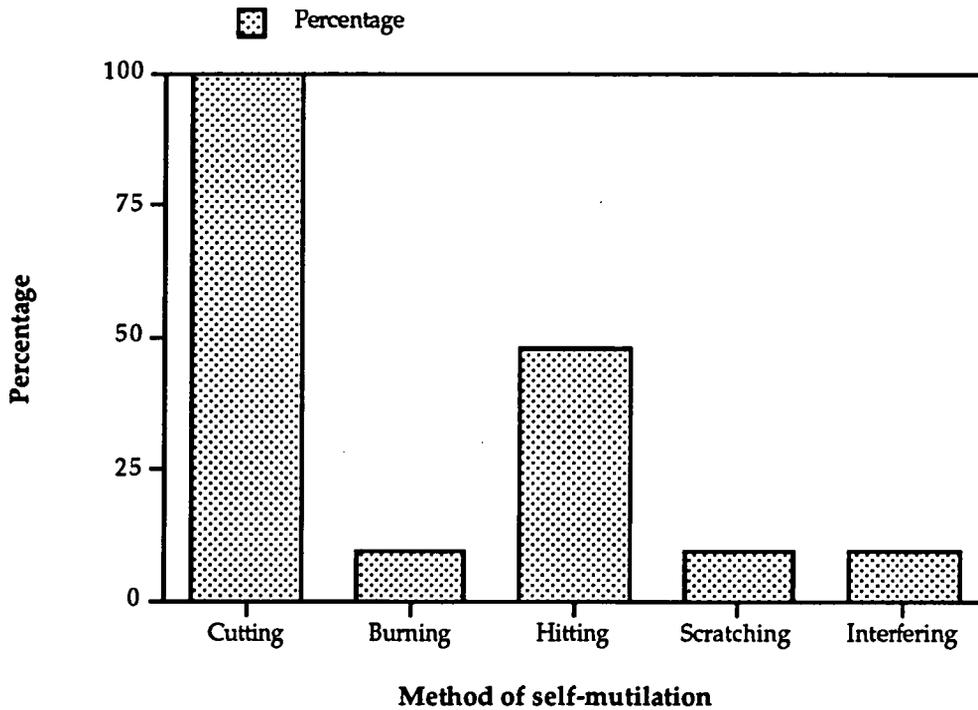


Figure 2: The percentage of self-mutilators engaging in each method of injury.

Examination was made of the instruments used by the self-mutilators to inflict self-injury. The most common instrument was a razor blade followed by knives and broken glass. Other instruments were combined into a single category and included pieces of wood, aluminium cans and fingernails. Figure 3 presents the percentage of subjects using each type of instrument to inflict self-injury.

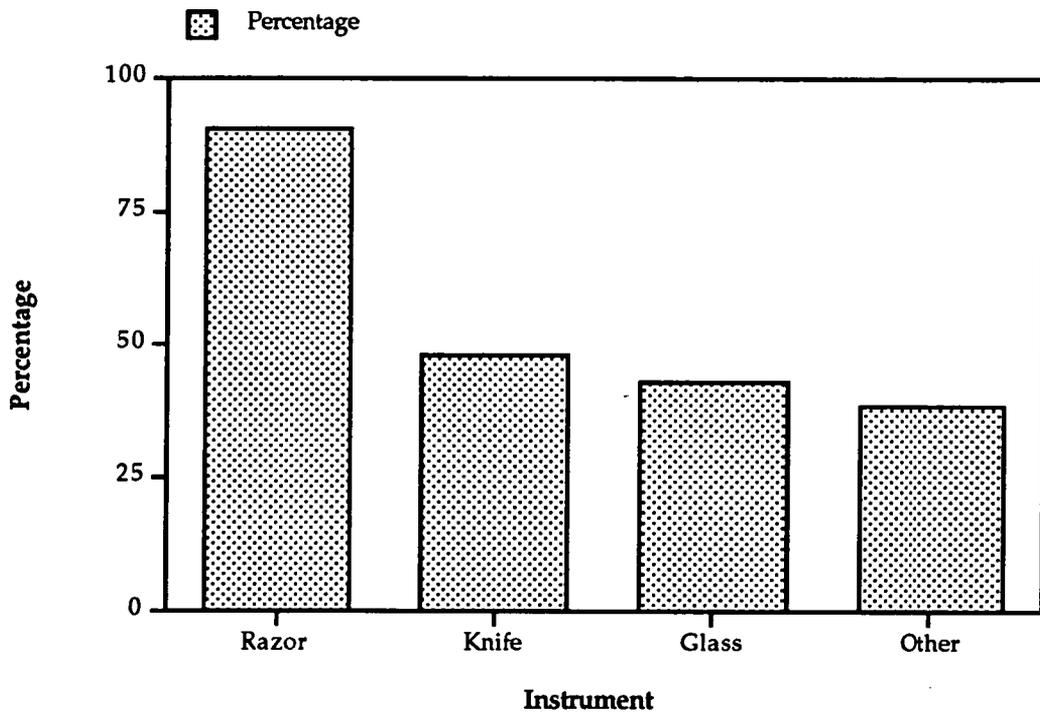


Figure 3: The percentage of self-mutilators using the various instruments to inflict self-injury.

10.3.5 Suicidal intent

The suicidal intent related to the self-mutilative behaviour was assessed. A mean score of 4.65 (SD=2.06) was recorded for the circumstances surrounding the act; \bar{X} =3.80 (SD=2.73) for the self-report measure of suicidal intent; and \bar{X} =0.60 (SD=0.99) for the risk to life presented by the act. The percentage of subjects responding to each category of the suicide intent scale can be viewed in Table 10.

Table 10: The percentage of subjects responding to each category of each item of the Suicidal Intent Scale.

Item	Category	Percentage
Circumstances		
Isolation	Somebody present	5
	Somebody nearby or in contact (e.g., by phone)	60
	No-one nearby or in contact	35
Timing	Timed so that intervention is probable	35
	Timed so that intervention is not likely	35
	Timed so that intervention is highly unlikely	30
Precautions against discovery and/or intervention	No precautions	50
	Passive precautions	25
	Active precautions (e.g., locked door)	25
Acting to gain help during or after attempt	Notified potential helper	20
	Contacted but did not specifically notify potential helper	15
	Did not contact or notify potential helper	65
Final acts in anticipation of death	None	90
	Partial preparation	10
	Definite plans made	0
Suicide note	Absence of note	95
	Note written but torn up	0
	Presence of note	5
Self-report		
Patient's statement of lethality	Thought what he had done would not kill him	35
	Unsure if what he had done would kill him	30
	Thought what he had done would kill him	35
State intent	Did not want to die	25
	Uncertain or did not care if he lived or died	45
	Wanted to die	30

Continued over page

Premeditation	Impulsive, no premeditation	40
	Considered for less than one hour	20
	Considered for less than one day	25
	Considered for more than one day	15
Reaction to act	Patient glad he has recovered	60
	Patient uncertain whether he is glad or sorry	20
	Patient sorry he has recovered	20
Risk		
Predictable outcome	Survival certain	75
	Death unlikely	25
	Death likely or certain	0
Would death have occurred without medical treatment	No	70
	Uncertain	25
	Yes	5

It should be noted that endorsement of certain items indicative of high intent when related to suicide attempts, do not have the same meaning when applied to self-mutilative behaviour. For example, the fact that the self-mutilator was isolated, that the act was timed so that intervention was improbable, that no precautions were taken against discovery and that help was not sought following the act have little significance if the behaviour was of low lethality.

Examination of prior suicide attempts of the three groups demonstrated that 80.95% of self-mutilators, 15.38% of prisoner controls and no normal controls had a history of suicidal behaviour. These differences were significant, with more self-mutilators than statistically expected reporting episodes of attempted suicide ($\chi^2=30.74$, $df=2$, $p=.000$). The self-mutilators had made a mean of 14.76 attempts ($SD=24.68$) and the prisoner controls 1.5

(SD=0.5). All self-mutilators and one of the two prisoner controls had been hospitalised as the result of a suicide attempt. Figure 4 presents the number of subjects reporting attempted suicide by a variety of methods.

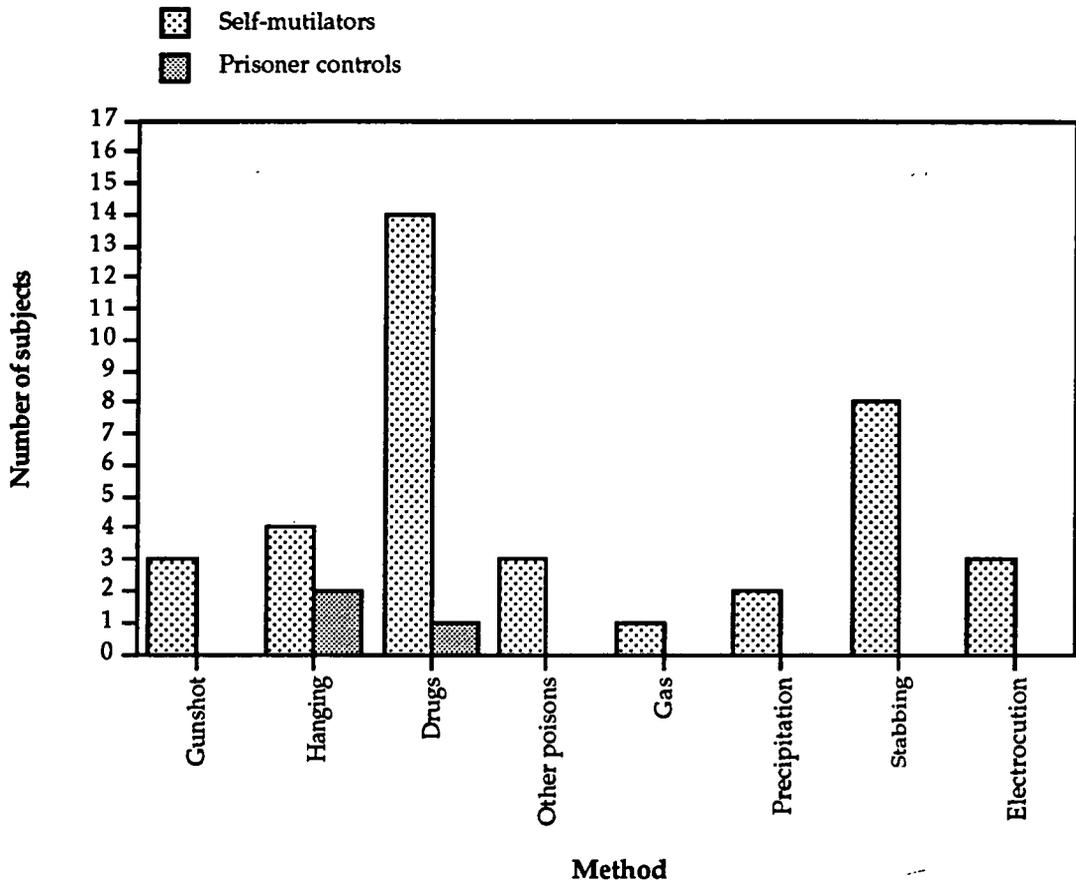


Figure 4: The number of subjects in the two prisoner groups attempting suicide by the various methods.

10.3.6 Motivation for self-mutilation

Examination of the reported motivation for self-mutilation demonstrated significant differences between the subscale scores ($F(7,140)=16.06, p=.000$). Post hoc analyses demonstrated the subscale scores grouping into three distinct motivation patterns. The motivation pattern

most relevant to this sample included Tension Reduction, Depression, Alienation, Avoidance and Janus Face. The second pattern included Operant and Extrapunitive and was of secondary importance. Finally, Modelling scores were significantly different from all other subscales and this motivation was of little relevance to this sample. The mean motivation scores are presented in Figure 5.

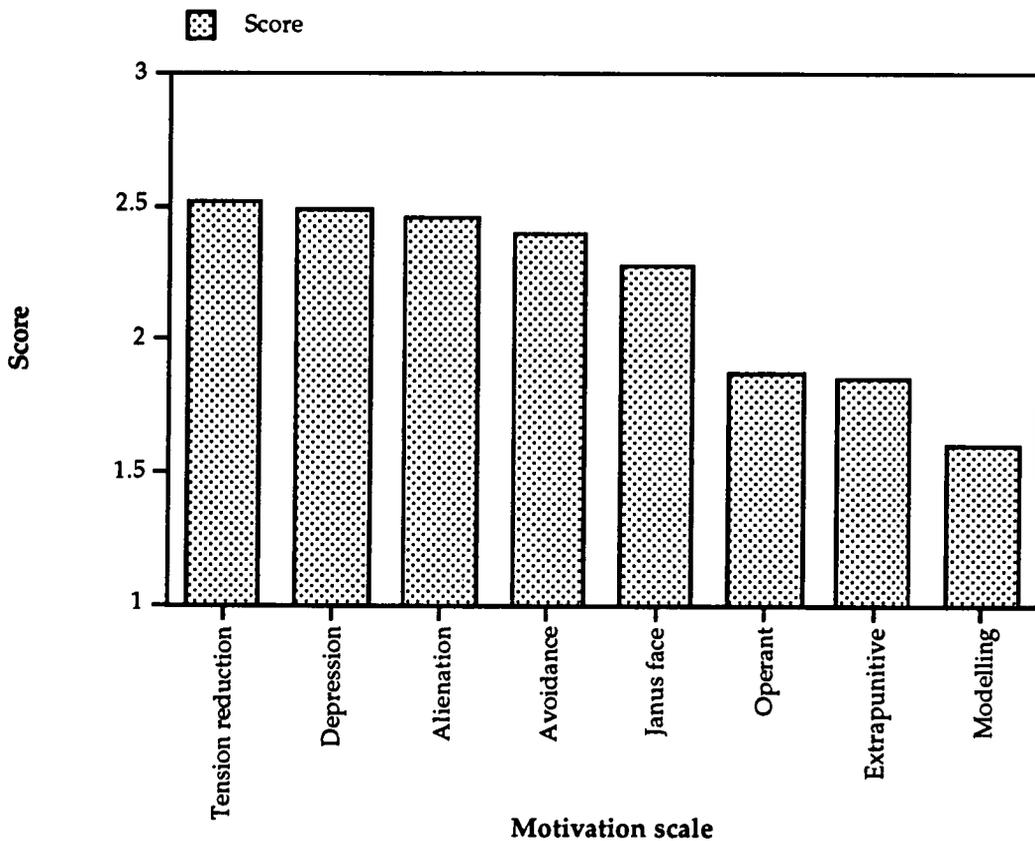


Figure 5: Mean subscale scores for the motivation for self-mutilation scale.

Table 11 presents the mean scores and standard deviations for each of the items of the motivation for self-mutilation scale.

Table 11: The mean scores and standard deviations for each item of the motivation for self-mutilation scale.

Item	Mean	Standard deviation
Tension Reduction		
Did you feel so tense you had to do something?	2.71	0.56
Did you feel anxious and feel it was the only way of coping?	2.52	0.68
Did everything seem not quite real before you did it?	2.19	0.87
*Did it hurt as much as you thought it would?	2.95	0.22
Did you feel less anxious after you had done it?	2.29	0.84
Depression subscale		
Did you want to die?	2.29	0.78
Did you feel there was no hope?	2.62	0.67
Did you feel a failure?	2.62	0.67
Did you feel you had let others down?	2.29	0.90
Did you feel sad?	2.62	0.67
Alienation subscale		
Did you feel lonely?	2.57	0.75
Did you feel you weren't needed?	2.81	0.51
Did you feel you'd been left out of things?	2.38	0.67
Did you feel you'd been hurt?	2.67	0.66
Did you feel someone wanted you out of the way?	1.86	0.85
Avoidance subscale		
Did you feel you just had to get away from it all for a while?	2.57	0.60
Did you feel you just wanted to die?	2.52	0.68
Did you feel you had to get away while things straightened themselves out?	2.43	0.68
Did you feel you couldn't put up with it much more?	2.76	0.62
Did you feel you wanted to leave it to others to sort out?	1.71	0.78

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Janus face subscale

Did you feel you didn't really care if you lived or died?	2.62	0.67
Did you feel uncertain if you wanted to live or die?	1.71	0.84
Did you feel you would take a chance on whether you lived or died?	2.38	0.74
Did you feel you wanted to live, but also wanted to die?	2.38	0.86

Operant subscale

Did you want someone to be different towards you?	1.67	0.86
Did you hope that someone would change?	1.86	0.96
Did you feel that it was the only way to make someone see what they were doing to you?	1.90	0.94
Did you feel it was a way of making others understand you?	1.76	0.77
Did you feel you couldn't bear someone to leave?	2.19	0.93

Extrapunitive subscale

Did you want to make someone sorry?	1.76	0.89
Did you feel angry?	2.71	0.56
Did you think "I'll show him/her"?	1.76	0.89
Did you feel you wanted to hurt someone?	1.62	0.80
Did you think it would upset someone?	1.76	0.89
Did you want to teach someone a lesson?	1.48	0.75

Modelling subscale

Did you think if others do it so can I?	1.33	0.66
Has anyone in your family spoken about hurting themselves?	1.38	0.74
Did you know anyone else who injured themselves?	2.33	0.86
Did you hear about self-injury on TV, radio, or read about it in newspapers or magazines?	1.81	0.93
Did the fact that others do it affect you?	1.14	0.48

*This item is scored in the opposite direction

10.3.7 Symptomatology

A comparison between the three groups was made of the raw scores on the nine symptom dimensions and the three global indices of the SCL-90-R. Mean raw scores and standard deviations are presented in Table 12. Significant differences between the groups were demonstrated on five of the subscales. Depression scores for self-mutilators were significantly higher than both control groups ($F(2,48)=8.86, p=.000$). No difference between the two control groups was evident. The self-mutilators had higher anxiety scores than the normal control group but scores of the prisoner controls did not differ significantly from either the self-mutilators or the normal controls ($F(2,48)=4.59, p=.015$). Hostility scores for the self-mutilators were significantly higher than both control groups ($F(2,48)=6.33, p=.004$). No difference between the two control groups was evident. The self-mutilators had higher phobic anxiety scores than the normal control group ($F(2,48)=4.42, p=.017$) but scores of the prisoner controls did not differ from either the self-mutilators or the normal controls. A significant result was obtained for the psychoticism subscale ($F(2,48)=4.41, p=.012$). The pattern of differences was the same as for the anxiety and hostility subscales. In addition, a trend towards significance was evident for the paranoid ideation subscale ($F(2,48)=3.10, p=.054$) with the difference being demonstrated with a higher score for self-mutilators over normal controls.

Examination of the global indices demonstrated a significant result for the GSI ($F(2,48)=4.91, p=.011$) and the PSDI ($F(2,48)=7.04, p=.002$). For the GSI, self-mutilators recorded higher scores than both control groups with no difference being evident between the prisoner and normal controls. For the

PSDI, only the self-mutilators and normal controls significantly differed.

Table 12: The mean raw scores and standard deviations for the subscales and global indices of the SCL-90-R.

Dimension	Self-mutilators	Prisoner controls	Normal controls
Somatization	0.72 (0.79)	0.63 (0.67)	0.51 (0.37)
Obsessive-compulsive	1.19 (0.84)	1.23 (1.09)	1.11 (0.46)
Interpersonal sensitivity	1.18 (0.98)	0.70 (0.62)	0.70 (0.64)
Depression	1.56 (0.83)	0.83 (0.73)	0.66 (0.43)
Anxiety	1.28 (1.00)	0.96 (1.17)	0.40 (0.37)
Hostility	1.56 (1.16)	0.60 (0.73)	0.71 (0.59)
Phobic anxiety	0.59 (0.68)	0.30 (0.54)	0.13 (0.22)
Paranoid ideation	1.33 (1.03)	0.91 (0.64)	0.70 (0.55)
Psychoticism	0.85 (0.64)	0.52 (0.58)	0.32 (0.39)
GSI	1.18 (0.76)	0.74 (0.60)	0.59 (0.31)
PST	44.68 (19.90)	31.71 (22.78)	33.89 (13.66)
PSDI	2.20 (0.74)	1.91 (0.60)	1.50 (0.23)

Raw scores were converted to standard scores using the non-patient normative data to determine the "caseness" of the groups (Derogatis, 1983). Figure 6 presents the profile of mean standard scores for the SCL-90-R. With the criteria of two or more dimensions having a score equal to or greater than 63, it can be seen that only the self-mutilators meet the conditions for caseness.

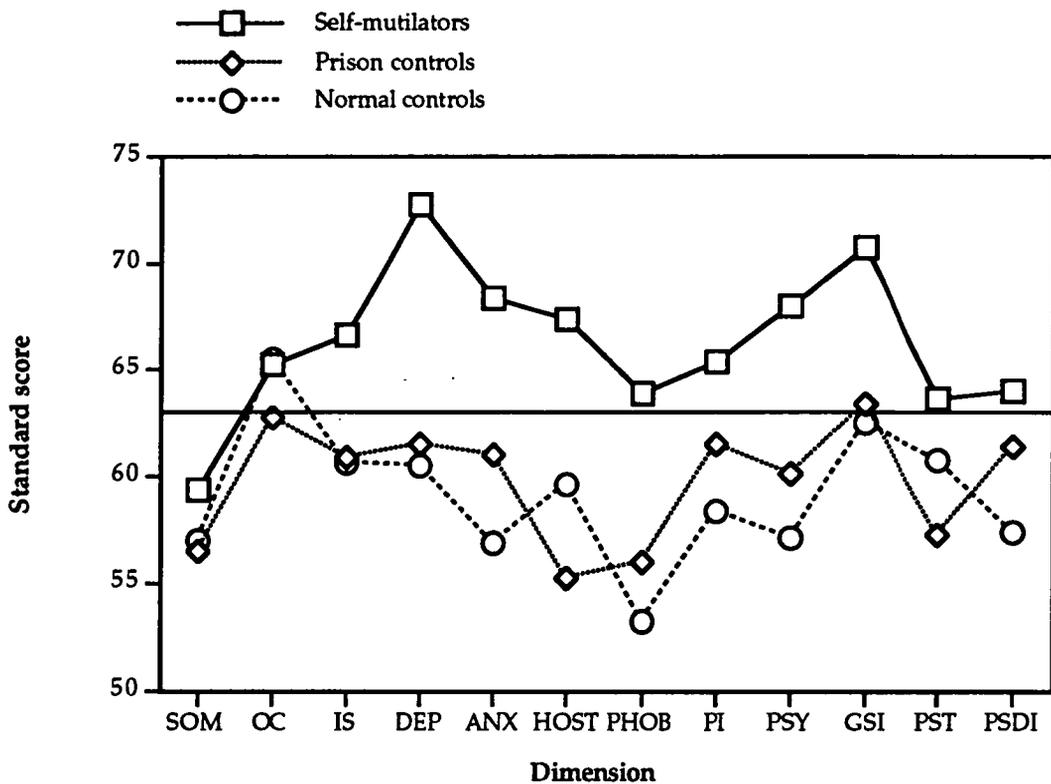


Figure 6: The standard score profile of the SCL-90-R for the three groups.

Consideration also was given to the clinical syndromes derived from the MCMI. Table 13 presents the mean adjusted scores for the three groups. Six of the nine mean subscale scores resulted in significant differences between the groups. Scores on the anxiety ($F(2,48)=4.34, p=.018$) and the psychotic thinking ($F(2,48)=5.31, p=.008$) subscales demonstrated significant differences with the self-mutilators scoring higher than the normal controls with the prisoner controls not significantly differing from the other groups. The two prisoner groups scored significantly higher than the normal control group on the alcohol abuse ($F(2,48)=13.20, p=.000$) and the drug abuse ($F(2,48)=10.67,$

p=.000) subscales. The self-mutilators and prisoner controls did not differ significantly on these subscales. Significantly higher scores for the self-mutilators when compared with both control groups were evident for the dysthymic ($F(2,48)=6.65, p=.003$) and the psychotic depression ($F(2,48)=6.03, p=.004$) subscales. The two control groups' scores were comparable on these subscales.

Table 13: The mean scores and standard deviations for the clinical syndrome scales of the MCMI for the three groups.

Clinical syndrome	Self-mutilators	Prisoner controls	Normal controls
Anxiety	81.05 (20.75)	70.00 (23.39)	59.39 (23.20)
Somatoform	64.84 (16.81)	60.36 (23.35)	56.11 (16.85)
Hypomanic	67.32 (27.17)	56.64 (28.78)	60.89 (25.05)
Dysthymic	79.53 (16.80)	62.64 (23.08)	54.94 (23.05)
Alcohol abuse	82.32 (12.96)	71.86 (19.96)	53.67 (18.52)
Drug abuse	91.68 (15.98)	84.00 (18.84)	67.94 (12.93)
Psychotic thinking	68.10 (13.26)	61.79 (13.34)	52.33 (17.14)
Psychotic depression	64.26 (14.39)	51.07 (19.17)	43.89 (19.57)
Psychotic delusions	62.74 (15.93)	55.86 (20.85)	52.78 (19.42)

Millon (1983) recommended a cut-off score of 75 to suggest the "presence" of a disorder and a cut-off score of 85 to suggest the disorder has "prominence". Given this, the profile of the clinical syndrome scores for the three groups can be viewed in Figure 7. While the self-mutilators' anxiety subscale score differed significantly only from the normal control group, it is the self-mutilators alone whose score suggests the presence of a disorder. The

dysthymic subscale score also is suggestive of the presence of a disorder for the self-mutilators alone. Although the self-mutilators did not significantly differ from the prisoner controls on the alcohol abuse subscale, it is only the score for the self-mutilators that suggests the presence of a disorder. For the drug abuse subscale, the self-mutilators' score reached prominence. The significant differences between groups for the psychotic thinking and psychotic depression subscales lose importance as no group scores reach the cut-off suggestive of the presence of a disorder.

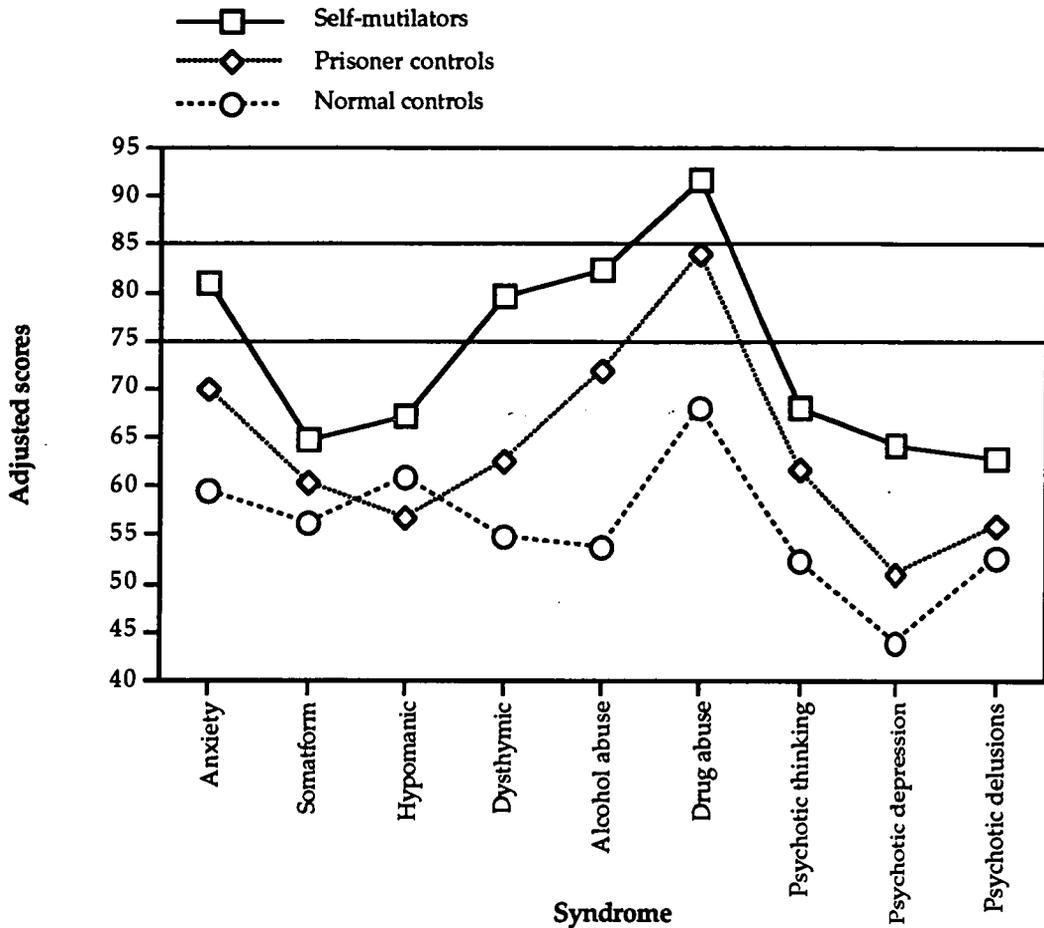


Figure 7: The profile pattern for the clinical syndromes of the MCMII for the three groups.

10.3.8 Personality

Examination of the basic personality patterns of the MCMII evidenced significant results for four of the eight subscales. The means and standard deviations for these subscales are presented in Table 14. The self-mutilators scored higher than the normal controls, as did the prisoner controls on the schizoid subscale ($F(2,48)=11.21, p=.000$) with no difference being evident for the two prisoner groups. The self-mutilators scored higher than the normal control group on the avoidant subscale ($F(2,48)=8.01, p=.001$) with the prisoner

controls not differing significantly from the other two groups. The normal controls scored the highest on the compulsive subscale ($F(2,48)=10.47, p=.000$) with the self-mutilators reporting the lowest score. Post hoc analyses demonstrated significant differences between the self-mutilators and the prisoner controls, and the self-mutilators and the normal controls. However, the difference between the two control groups was not significant. The self-mutilators scored the highest on the passive-aggressive subscale ($F(2,48)=9.68, p=.000$). Significant differences were evident between all groups.

Table 14: The mean scores and standard deviations for the basic personality pattern scales of the MCMI for the three groups.

Basic personality pattern	Self-mutilators	Prisoner controls	Normal controls
Schizoid	79.26 (17.79)	72.14 (24.42)	43.17 (29.41)
Avoidant	82.26 (27.28)	64.79 (26.04)	45.17 (30.60)
Dependent	61.68 (33.42)	60.57 (30.12)	55.61 (27.22)
Histrionic	68.53 (20.47)	68.00 (18.11)	72.22 (19.52)
Narcissistic	69.00 (21.61)	69.29 (21.54)	71.56 (21.26)
Antisocial	75.05 (22.39)	67.57 (25.80)	68.56 (17.07)
Compulsive	23.95 (19.18)	40.21 (23.15)	53.11 (16.34)
Passive-aggressive	88.63 (24.71)	69.77 (29.61)	50.94 (24.44)

The profile of the basic personality pattern subscales is illustrated in Figure 8. The self-mutilators were the only group reaching the cut-off for the presence of a personality disorder. The significant differences between the groups for the compulsive subscale lose importance as no group achieved a mean score suggestive of the presence of a disorder. The high score for the self-mutilators on the passive-aggressive subscale indicated the disorder to be prominent in this group.

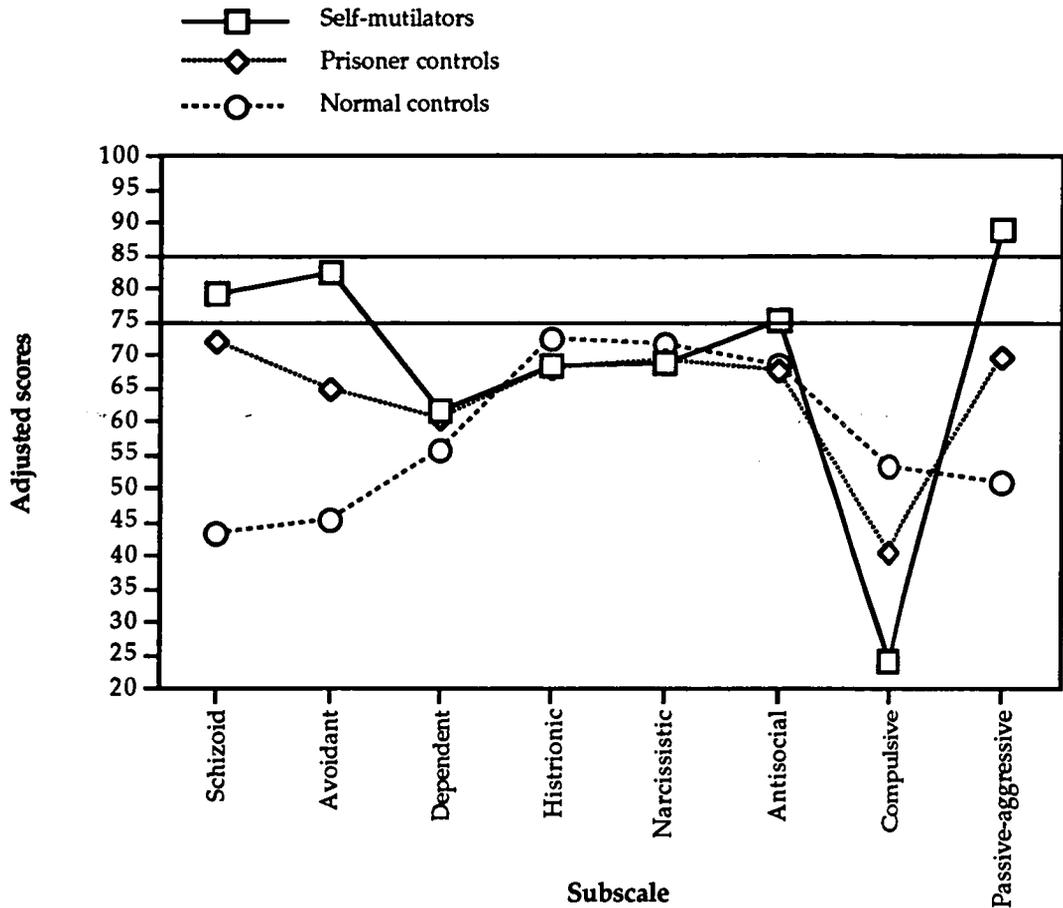


Figure 8: The basic personality pattern profile of the MCMI for the three groups.

The MCMI provides three pathological personality disorder scales. The mean scores and standard deviations for the three groups are presented in Table 15. The schizotypal and borderline subscales demonstrated a significant effect with the paranoid subscale showing a trend towards significance. The self-mutilators scored significantly higher than the normal controls on the schizotypal subscale ($F(2,48)=4.21, p=.021$) whereas the prisoner controls did not differ from the other groups. For the borderline subscale, the self-mutilators scored significantly higher than both control groups ($F(2,48)=8.12,$

p=.001). The two control groups had comparable scores. There was a trend on the paranoid subscale for the self-mutilators to score higher than the normal controls ($F(2,48)=2.70, p=.077$).

Table 15: The mean scores and standard deviations for the pathological personality disorder scales of the MCMI for the three groups.

Pathological disorders	Self-mutilators	Prisoner controls	Normal controls
Schizotypal	61.42 (13.63)	58.29 (11.88)	48.06 (16.98)
Borderline	69.05 (12.67)	58.50 (14.98)	49.44 (16.67)
Paranoid	74.16 (14.04)	65.29 (20.49)	61.29 (16.65)

Figure 9 illustrates the profile of pathological personality disorder subscale scores for the three groups. Despite the significant differences between groups, no score reached the cut-off for the presence of a disorder.

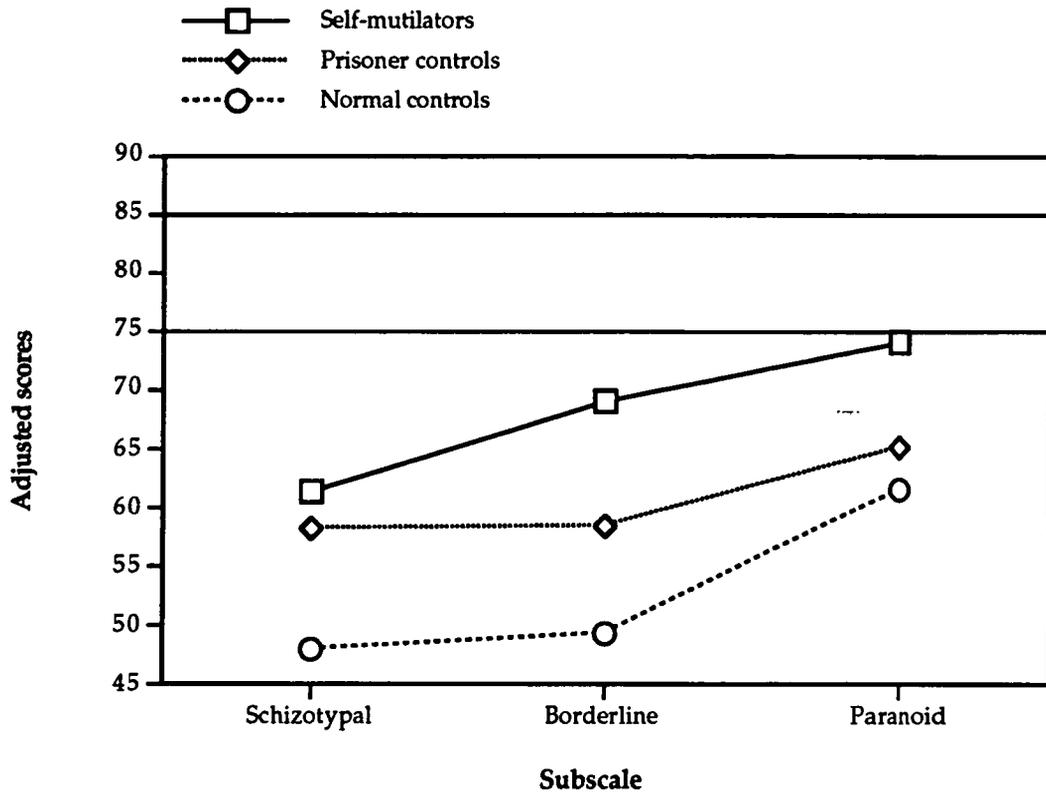


Figure 9: The profile of the pathological personality disorders subscales of the MCMI for the three groups.

10.3.9 Aggression/hostility

In addition to the hostility subscale of the SCL-90-R, an additional scale, the HDHQ, was used to determine the nature and extent of hostile feelings. The mean scores and standard deviations of the three groups on the subscales are included in Table 16. There were significant differences between all groups for the total hostility score ($F(2,48)=23.95, p=.000$). Self-mutilators reported the highest scores, followed by the prisoner controls and finally the normal controls. The highest score for the Urge to Act Out Hostility subscale was evident for the self-mutilators ($F(2,48)=16.20, p=.000$). This group scored higher than both the control groups. The scores of the two control groups

were comparable. There were significant differences between all groups for the Criticism of Others subscale ($F(2,48)=11.46, p=.000$) with the self-mutilators scoring highest, followed by the prisoner controls. The Paranoid or Projected Hostility subscale demonstrated significant differences between the self-mutilators and the normal controls, and the prisoner controls and the normal controls ($F(2,48)=24.99, p=.000$). The scores for the two prisoner groups were comparable. Self-mutilators scored higher than the normal controls on the Self Criticism subscale ($F(2,48)=3.32, p=.044$). No other differences were evident. The Guilt subscale demonstrated significant differences between the self-mutilators and both control groups ($F(2,48)=18.16, p=.000$). The self-mutilators scored significantly higher than the controls with these groups' scores being comparable. All groups recorded scores of outward or extrapunitive hostility. No significant differences between the three groups on this subscale were evident ($F(2,48)=1.93, p=.156$).

Table 16: The mean scores and standard deviations to the subscales of the Hostility and Direction of Hostility Questionnaire for the three groups.

Hostility subscales	Self-mutilators	Prisoner controls	Normal controls
Urge to act out hostility	9.16 (2.36)	6.29 (3.15)	4.61 (1.88)
Criticism of others	9.53 (1.50)	7.71 (2.49)	5.83 (2.89)
Paranoid hostility	4.16 (2.01)	3.36 (1.60)	0.61 (0.92)
Self criticism	6.37 (2.34)	4.57 (3.34)	4.17 (2.64)
Guilt	5.00 (1.60)	2.79 (2.22)	1.56 (1.50)
Total hostility score	34.21 (7.02)	24.71 (9.53)	16.78 (6.67)
Direction of hostility	-4.53 (5.70)	-5.43 (7.03)	-1.17 (7.19)

10.3.10 Alcohol and drug dependence

The high scores on the substance abuse subscales of the MCMI were further investigated with the MAST and the drug screening instrument. Table 17 presents the mean scores and standard deviations for the three groups on the MAST. All groups significantly differed ($F(2,47)=21.90, p=.000$), with the self-mutilators achieving the highest score and the prisoner controls the intermediate score.

Table 17: The mean scores and standard deviations on the MAST for the three groups.

	Self-mutilators	Prisoner controls	Normal controls
Mean	29.333	20.357	4.778
SD	13.856	13.183	4.965

Significant differences between groups were evident for scores on the drug abuse screening instrument ($F=(2,47)=13.36, p=.000$). Both prisoner groups scored significantly higher than the normal controls but did not differ from each other. Figure 10 depicts the percentage of subjects in each group reporting use of drugs in each category. More subjects than statistically expected in both prisoner groups reported using tranquilizers ($\chi^2=17.29, df=2, p=.000$) and hypnotics ($\chi^2=7.14, df=2, p=.028$) than the normal controls. More self-mutilators than statistically expected reported using stimulants ($\chi^2=14.46, df=2, p=.001$) and hallucinogens ($\chi^2=8.47, df=2, p=.014$) than both control groups.

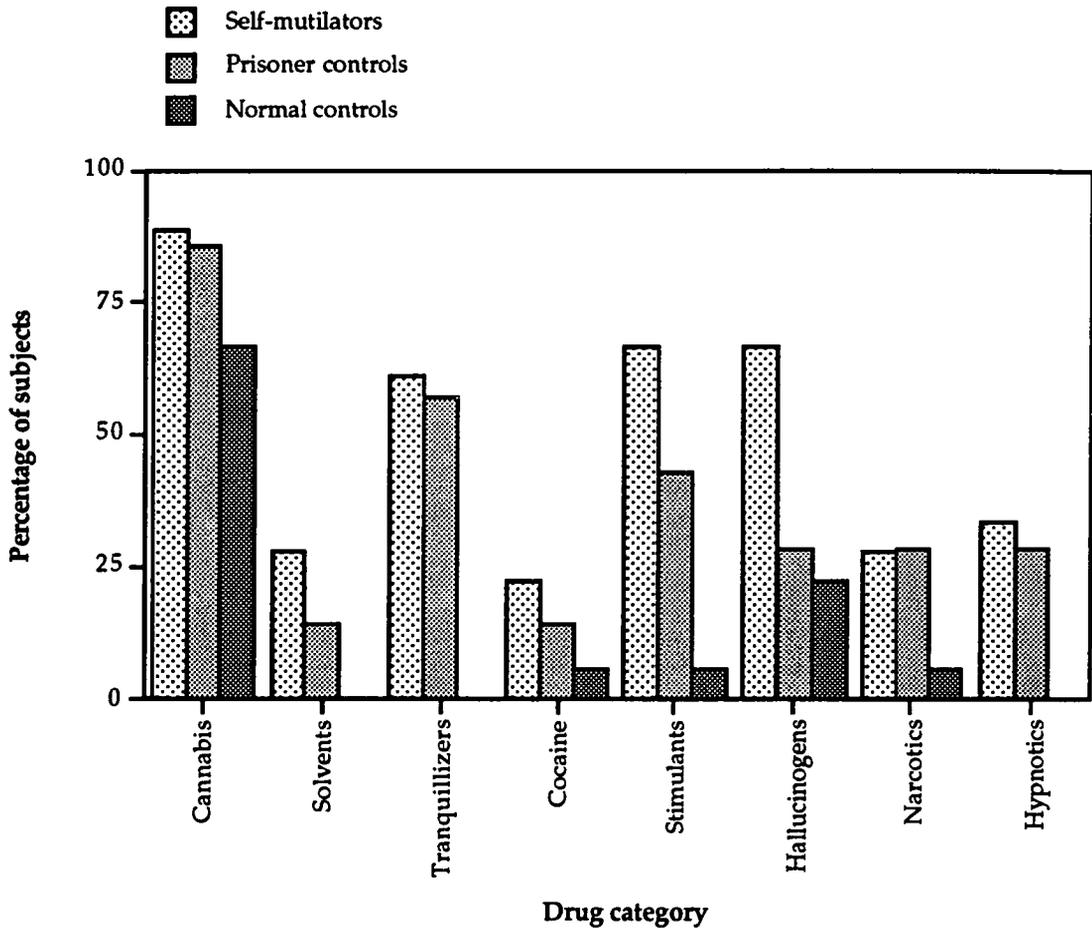


Figure 10: The percentage of subjects in each group reporting use of drugs in the various categories.

10.3.11 Family factors

Living arrangements during childhood were considered. Table 18 presents the percentage of subjects in each group. No subjects lived with a relative other than parents so this category was excluded from the table. Examination of the age at family disruption demonstrated a significant result ($\chi^2=17.79$, $df=6$, $p=.007$). More prisoner controls than statistically expected experienced family disruption between the ages of 5 and 9 years. Table 19

presents the age at family disruption for the three groups.

Table 18: The percentage of subjects in each group reporting the various childhood living arrangement categories.

Living arrangements	Self-mutilators	Prisoner controls	Normal controls
With both parents	61.11	35.71	83.33
With one parent	33.33	42.86	16.67
In a foster home	0.00	7.14	0.00
In a boys' home	5.56	14.29	0.00

Table 19: The percentage of subjects reporting family disruption in the various age categories.

Age at disruption	Self-mutilators	Prisoner controls	Normal controls
0-4 years	22.22	21.43	5.56
5-9 years	0.00	42.86	5.56
10-14 years	5.56	0.00	11.11

Consideration was given to the family environments of subjects. One prisoner control subject was excluded from the analysis as he was separated from his family at a young age and had no recollection of family life. The mean raw scores and standard deviations of the subscales of the FES for the three groups are presented in Table 20.

Of the relationship dimensions, self-mutilators scored significantly lower than normal controls on the Cohesion subscale ($F(2,46)=3.35, p=.044$) and significantly higher on the Conflict subscale ($F(2,46)=3.21, p=.049$). These

differences were minimal and no other differences were apparent on these subscales. On the Expressiveness subscale, the two prisoner groups scored significantly lower than the normal controls ($F(2,46)=3.56, p=.036$) but the two prisoner groups did not differ.

Of the personal growth dimensions, only the subscale of Intellectual-Cultural Orientation demonstrated a significant result. Both prisoner groups scored significantly lower than the normal controls ($F(2,46)=8.47, p=.001$) but the two prisoner groups did not differ from each other.

Of the system maintenance dimensions, a significant difference was evident for the Organisation subscale. Self-mutilators scored significantly higher than prisoner controls ($F(2,46)=3.51, p=.038$). No other differences were apparent.

Table 20: The mean raw scores and standard deviations of the three groups on the subscales of the Family Environment Scale.

Subscale	Self-mutilators	Prisoner controls	Normal controls
Relationship dimensions			
Cohesion	5.389 (2.404)	5.692 (2.057)	7.167 (2.007)
Expressiveness	4.278 (0.958)	3.923 (1.754)	5.389 (2.033)
Conflict	5.167 (2.771)	4.846 (3.023)	2.889 (2.867)
Personal growth dimensions			
Independence	6.778 (1.629)	6.846 (1.345)	7.056 (1.162)
Achievement orientation	5.667 (1.940)	4.308 (2.496)	5.556 (2.093)
Intellectual-cultural orientation	2.944 (2.127)	2.846 (1.725)	5.611 (2.593)
Active recreational orientation	5.444 (2.479)	4.923 (2.178)	6.000 (1.414)
Moral-religious emphasis	2.889 (1.079)	3.462 (2.145)	4.222 (3.001)
System maintenance dimensions			
Organisation	5.833 (1.654)	4.000 (2.041)	5.167 (2.036)
Control	4.167 (2.358)	3.846 (2.075)	4.222 (2.365)

Raw scores were converted to standard scores. Figure 11 depicts the profile of standard scores for the three groups.

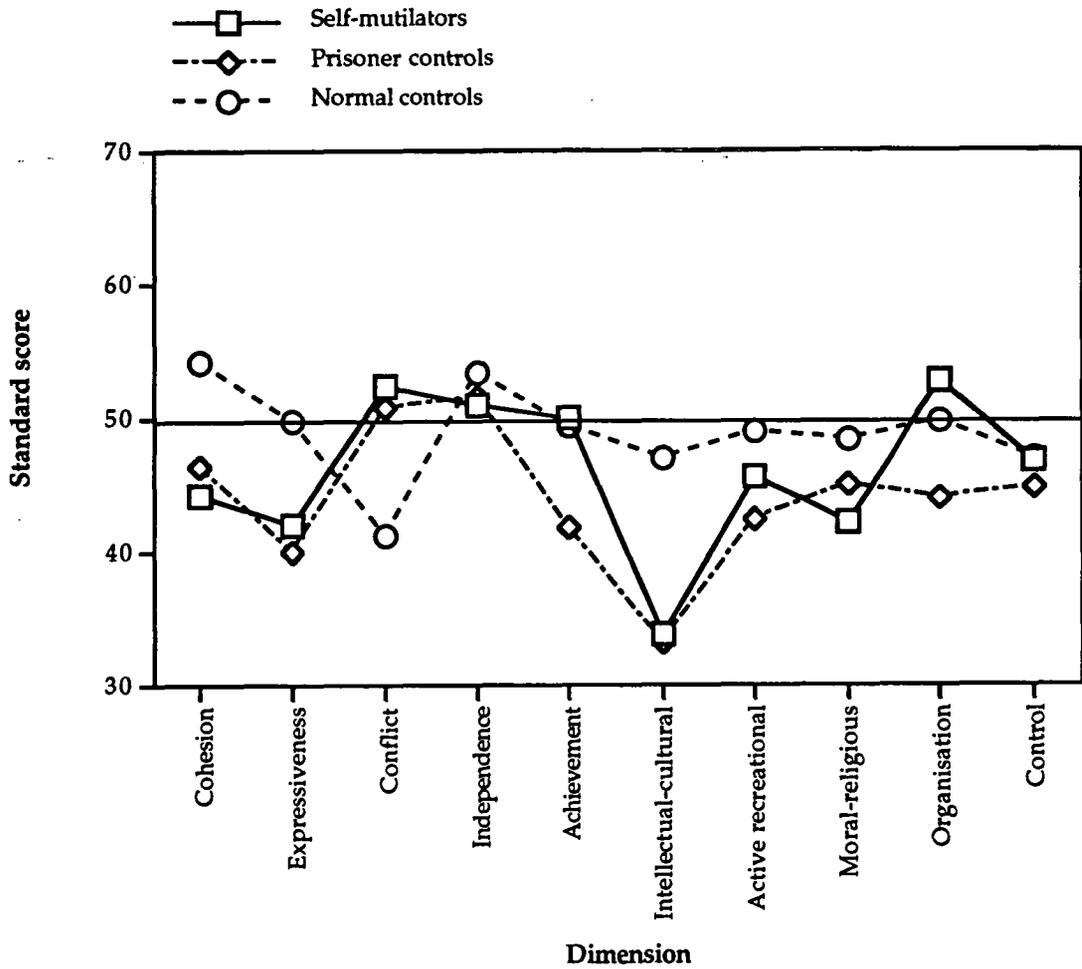


Figure 11: The mean standard scores of the three groups on the Family Environment Scale.

10.3.12 Sexual and physical abuse

Consideration was initially given to whether subjects had been physically punished as children. Ninety-four percent of the self-mutilators, 100% of the prisoner controls and 83% of the normal controls reported physical punishment (e.g., smacked when they were naughty). The three groups were comparable on this variable. The perceived degree of punishment was then examined. More self-mutilators and fewer normal controls than statistically expected perceived that the physical punishment they received during childhood exceeded that of most people ($\chi^2=14.85$, $df=4$, $p=.005$). The percentage of subjects in each category is presented in Table 21. Medical treatment as a result of physical abuse was received by 22.22% of self-mutilators, 21.43% of prisoner controls, and 5.56% of normal controls. These differences between the groups were not significant.

Table 21: The percentage of subjects in each group reporting the degree of punishment.

Degree of punishment	Self-mutilators	Prisoner controls	Normal controls
Less than most people	16.667	34.714	33.333
About as much as most people	27.778	28.571	66.667
More than most people	55.556	35.714	0.000

A history of sexual abuse was evident in the childhood histories of 20% ($n=4$) of self-mutilators and 5.56% ($n=1$) of normal controls. No such history was evident for prisoner controls. The differences between groups were not

significant. In all cases the perpetrator was male.

In each of the five cases, the sexual abuse was perpetrated by one abuser. One self-mutilator reported being abused by a stranger, two self-mutilators and one normal control were abused by a neighbour or family friend, and one self-mutilator was abused by his father. Three self-mutilators and the normal control subject were between the ages of 5 and 9 years at the onset of abuse, and one self-mutilator was between the ages of 10 and 14 years.

One self-mutilator and the normal control reported the abuse occurring approximately once per week while the other three self-mutilators reported the abuse occurring about once a month. One self-mutilator and the normal control subject reported a single episode of abuse. Another self-mutilator reported the abuse had persisted for 1-5 months. The remaining two self-mutilators reported a history of sexual abuse that continued for more than 3 years.

The nature of the sexual abuse is described in Table 22. The number of subjects experiencing each type of abuse is recorded. Violence was associated with the sexual abuse histories of three self-mutilators.

Table 22: The number of subjects reporting each type of sexual abuse during childhood.

Nature of abuse	Self-mutilators	Prisoner control
Non-contact, e.g., exposure, self-masturbation	1	0
Contact, e.g., fondling of genitals	3	1
Penetration other than with penis	1	0
Anal intercourse	2	0

DISCUSSION

Results demonstrated the extent of self-mutilative behaviour in the experimental group. The range of self-mutilative episodes was quite large with up to five hundred individual acts being reported. The median number of self-mutilative episodes at sixteen indicated the habitual nature of the behaviour. This is supported by the fact that, on average, these individuals had engaged in self-mutilative behaviour for six years, with one individual having performed self-injurious acts for twenty-two years. All subjects considered self-mutilation to be an ongoing problem despite that fact that one subject had not self-mutilated for over four years.

In accordance with the literature (Feldman, 1988a; Fruensgaard & Flindt Hansen, 1988; Ross & McKay, 1979), cutting was the most common form of self-mutilation. Also in accordance with the literature (Feldman, 1988a; Gardner & Gardner, 1975; Lion & Conn, 1982; Notovny, 1972; Schwartz et al., 1989; Simpson, 1976), the wrist and forearm were the most common sites of injury. The upper arms, torso and neck were the next most frequent sites with others sites being injured substantially less common. Only one subject had not cut his forearms although he had cut his upper arms. He explained that he preferred not to cut his forearms because of the stigma involved with wrist scars. However, he had inserted a knife through his cheek into his mouth. It is interesting to note that none of the self-mutilating subjects had engaged in the more severe Type IV self-mutilative behaviour.

The razor blade was the most common instrument of injury with knives and broken glass also reported with some frequency. The use of razor blades

(Feldman, 1988a; Harris & Rai, 1976; Novotny, 1972; Raine, 1982; Rosenthal et al., 1972; Schwartz et al., 1989; Takeuchi et al., 1986), knives (Harris & Rai, 1976; Rosenthal et al., 1972; Takeuchi et al., 1986) and broken glass (Novotny, 1972; Rosenthal et al., 1972; Schwartz et al., 1989; Simpson, 1976) have all been reported in the literature. As pointed out (Feldman, 1988a), the range and variety of instruments used to inflict injury points to the ingenuity of the self-mutilator. This point also was evident in this sample with pieces of wood and aluminium cans being used to inflict injury.

With regard to the suicidal intent of self-mutilative acts, the mean scores for the Circumstances and Self-Report subscales were comparable with mean scores for suicide attempters (Pierce, 1977). However, the Risk subscale score was considerably lower indicating that the behaviour presented little risk to life. A number of points should be made. With regard to the circumstances surrounding the act, 65% of subjects reported that they had timed the act so that intervention was either not likely or high unlikely. In addition, one half of the sample had taken some precautions against discovery and/or intervention. While this is no doubt the case, these factors do not indicate suicidal intent when the act of self-injury entails only superficial harm with the physical integrity of the individual not being threatened. In fairness, the author of the Suicide Intent Scale designed the test for use with suicide attempters and not self-mutilators. However, in the absence of any standardised measure of intent for self-mutilation, use has to be made of available instruments.

More importantly and possibly reflecting the confusion of many self-mutilators, in the Self-Report subscale, 35% stated that they thought the

injury would result in death with a further 30% being unsure if this was the case. However, when the risk of death was examined (Risk subscale), no subject thought that the predictable outcome of their action was certainly or likely to be death and only 5% thought that death would have occurred without medical intervention. The mediating factor might have been the fact that 30% of the sample stated that the intention of their action was death with a further 45% reporting some uncertainty about whether they wanted to live or die. It may be that if the intention of the act is stated to be death, then the individual must believe that the injury was serious enough to cause death, even though the medical seriousness of the action was low. Indeed, as discussed in previous chapters, it has been suggested that there are many and varied reasons for self-mutilators to exaggerate the seriousness of their actions (Favazza & Conterio, 1989; Walsh & Rosen, 1988). To find a means of determining the intention of the act of self-mutilation, this possible cognitive distortion or cognitive dissonance of self-mutilators when examining their actions should be investigated.

Self-mutilators have been demonstrated to engage in suicidal behaviour that can be differentiated from their self-mutilative behaviour (Favazza & Conterio, 1989; Feldman, 1988a; Grunebaum & Klerman, 1967; Schwartz et al., 1989; Simpson, 1975). This was also found in this sample with self-mutilators significantly more likely than prisoner and normal controls to have attempted suicide. Drug overdose was the most common method used to attempt suicide and this finding is in accordance with the literature (Fruensgaard & Flindt Hansen, 1988; Rosenthal et al., 1972; Schwartz et al., 1989). It was interesting to note that all self-mutilators had been hospitalised

because of a suicide attempt. This is in contrast to the fact that the majority did not seek any help following a self-mutilative episode. Indeed, 65% of the sample did not contact any potential helper following their self-mutilative behaviour. Clearly then, when their lives are threatened, they are well able to seek help. Therefore, they must be able to distinguish their suicidal behaviour from their self-mutilative behaviour.

When asked specific questions about the motivation for their self-mutilative behaviour, experimental subjects responded positively to questions relating to tension reduction, depression, alienation, avoidance and janus face (an ambivalent attitude towards life and death). The motivations are presented here in order of importance to this sample. Tension reduction was the primary motivation for the behaviour. High scores on depression and alienation subscales represent the feelings that commonly have been demonstrated to precipitate an act of self-mutilation (Feldman, 1988a; Gardner & Gardner, 1975; Graff & Mallin, 1967; Grunebaum & Klerman, 1967; Novotny, 1972; Rosenthal et al., 1972; Simpson, 1976). The high scores on the janus face subscale may reflect the confusion of the nature and intention of their behaviour.

Of less importance to this sample were the operant or manipulative and extrapunitive motivations. Although the desire to punish significant others with self-mutilative behaviour and the need to control relationships with the behaviour have been reported in the literature (see Walsh & Rosen, 1988), these motivations were of secondary importance to this sample and played only a small role in the decision to self-mutilate. The final motivation category, modelling, was of very little relevance to this sample. Although

the behaviour has been demonstrated to occur in epidemics in some group settings (Gardner & Gardner, 1975; Graff & Mallin, 1967; Lester, 1972; Matthew, 1968; McKerracher et al., 1968; Ross & McKay, 1979; Simpson, 1976; Walsh & Rosen, 1985, 1988), the fact that the majority of prisoner self-mutilators began the behaviour prior to incarceration and the very low score for modelling from the motivation scale indicate that some factor other than modelling was responsible for the onset and maintenance of the behaviour.

Self-mutilators in this sample were characterised by severe psychopathology that was not associated with the stress of being incarcerated. Neither of the prisoner groups reported high levels of stress related to the prison environment. In terms of statistically significant differences between groups, only Depression, Hostility and the GSI subscale scores of the SCL-90-R of the differentiated self-mutilators from controls groups. For Anxiety, Phobic Anxiety, Psychoticism and PSDI subscales, the self-mutilators differed only from the normal controls with the prisoner controls recording intermediate scores. Clinical interpretation of the data in terms of "caseness" demonstrated a different picture. The self-mutilators displayed a broad range of elevated scores with only the Somatization subscale falling below the standard score cut-off indicating severe and wide-ranging symptomatology.

Hostility was identified as a factor differentiating the self-mutilators from the control groups. This was supported when aspects of hostile feelings were examined. The impulse or urge to act out hostile feelings, critical feelings towards others, paranoid feelings of hostility and feelings of guilt differentiated the self-mutilators from the control groups. In addition, criticism of others also distinguished the prisoner controls from the normal

controls. Self-criticism, while differentiating the self-mutilators from the normal controls, did not distinguish either of these groups from the prisoner controls. The direction of hostility was extrapunitive for all groups. The hypothesis of self-mutilation representing aggression or rage turned inward (e.g., Menninger, 1935), was not supported in this sample. In addition, although more self-mutilators than prisoner controls were currently incarcerated for crimes involving robbery with violence, there was no significant difference between the two prisoner groups in the number of violent crimes such as assault and murder either currently or in the past.

Statistical examination of the clinical syndromes of the MCMI demonstrated that only the Dysthymic and Psychotic Depression subscales distinguished the self-mutilators from the control groups. Anxiety and Psychotic Thinking subscales distinguished the self-mutilators from the normal controls but the prisoner controls achieved intermediate scores that did not differ from the other two groups. Alcohol Abuse and Drug Abuse subscale scores distinguished the prisoner groups from the normal controls but did not differentiate the prisoner groups from each other.

However, the Dysthymic, Anxiety and Alcohol Abuse subscales reached clinical significance only for the self-mutilators. Results for the Alcohol Abuse subscale were supported by the MAST data with the self-mutilators scoring significantly higher than both control groups on this test. While both prisoner groups achieved scores above the cut-off for the presence of a disorder on the Drug Abuse subscale, data supported by the drug abuse screening instrument, the scores for the self-mutilators suggested prominence of a substance abuse disorder.

Therefore, in terms of symptomatology, the only factors that consistently distinguished the self-mutilators from both prisoner controls and normal controls were depressive/dysthymic, hostility and substance abuse symptoms. The depression finding was unequivocal. All measures suggested the presence of a depressive disorder in the self-mutilation group. Most aspects of hostility, with the exception of self-criticism and the direction of hostility, distinguished self-mutilators from the other groups. However, when comparing the nature of crimes committed by the two prisoner groups, the self-mutilators were not more likely to have committed an act of violence such as assault, rape or murder. In addition, while elevated scores in both groups were apparent, the extent of substance abuse was markedly more severe among self-mutilators.

A pattern of passive-aggressive, schizoid and avoidant personality styles distinguished the self-mutilators from the other groups. Interestingly, antisocial personality traits did not distinguish the prisoner groups from the normal controls. This is contrary to findings that prisoners in general are antisocial (Bland et al., 1990; Chiles et al., 1990; Herrman et al., 1991; Lightfoot & Hodgins, 1988), and self-mutilators are particularly so (van Moffaert, 1990; Virkkunen, 1976).

The passive-aggressive result cannot be ignored. Sixteen of the nineteen self-mutilators had evidence of this disorder. Examination of individual results demonstrated that fifteen of these subjects had a prominent disorder according to Millon's (1983) criterion. The passive-aggressive or negativistic personality is characterised by labile affectivity with moodiness, low frustration tolerance and explosive episodes. They display behavioural

contrariness in that they are often petulant and gain gratification by undermining the happiness of others. A discontented self-image leads to pessimism and disillusionment. Interestingly, the passive-aggressive personality is associated with deficient regulatory controls. They are impulsive and react inappropriately and negatively to external stimuli. Interpersonal relationships are difficult and characterised by swings between an acquiescent and dependent interpersonal style and assertive independence. They use sulky, unpredictable behaviours to engender negative feelings in others.

There is little information in the literature linking self-mutilation with passive-aggressive personality disorder. One study (Claghorn & Beto, 1967) reported this type of personality style in Negro prisoners and used the result to explain the low rate of self-mutilative behaviour in this ethnic subgroup. The authors of this study suggested that the outward direction of anger and aggression resulted in few self-harming episodes. However, the direction of hostility did not differentiate the three groups in this sample. Self-mutilators were as likely to display extrapunitive feelings as the two control groups.

Aspects of the passive-aggressive personality are congruent with the understanding the self-mutilative behaviour. In particular, the erratic moodiness, low frustration tolerance, explosive episodes and interpersonal difficulties fit with descriptions of the escalating negative feelings as a consequence of inability to cope with stresses and perceived interpersonal loss and rejection that precede the act of self-mutilation (Simpson, 1976). The impulsivity experienced by the passive-aggressive personality also is well documented among self-mutilators (Feldman, 1988a; Pao, 1969; Simpson, 1976).

While self-mutilators scored significantly higher than normal controls on the Schizotypal and Borderline pathological personality disorder subscales, neither reached clinical significance in terms of Millon's criterion. Indeed, only approximately one third of the self-mutilators achieved a score suggestive of the presence of a disorder. The severity of disorder for those exhibiting significant borderline traits was comparable to the prisoner control group.

Family disruption has been identified as a factor in the childhood histories of self-mutilators. In this sample, the disruption in the lives of the self-mutilators is secondary to that experienced by the prisoner controls. A greater percentage of prisoner controls came from broken homes and were raised outside the family. Of the self-mutilators who did report family disruption, the majority experienced the family breakdown before 5 years of age. More prisoner controls experienced family breakdown at the more vulnerable age of 5 to 9 years. These findings are contrary to the literature.

Examination of the relationship aspects of the families of self-mutilators demonstrated depressed scores for family cohesion, low levels of expressiveness and higher conflict scores. However, the level of conflict in the family was not excessively high and the pattern of relationships within the family did not differ from those found in the non-mutilating prisoner sample. Therefore, it could be said that this pattern is more predictive of criminal incarceration than self-mutilation. The presence of two non-prisoners in the self-mutilation sample is outweighed by the number of prisoner self-mutilators. In terms of personal growth dimensions, the only significant result was for the Intellectual-Cultural Orientation subscale with

both prisoner groups scoring significantly lower than the normal controls. This is hardly surprising in light of the fact that the normal control group was comprised of university undergraduates. The significant result for organisation among the system relationship dimension demonstrated higher scores for the self-mutilators compared with prisoner controls but the self-mutilators' scores were not significantly different from the normal controls.

Generally speaking, there is little in the family environment of the self-mutilators to suggest the presence of grossly dysfunctional childhood family experiences. While there is some evidence of low levels of cohesiveness and expressiveness in the family relationships, the depressed scores were not excessively so, and did not differ from the pattern found in the non-mutilating prisoner sample. Many aspects of personal growth were encouraged and the system maintenance scores were average. Again, this is contrary to large sections of the literature.

There is some evidence that the physical punishment received by self-mutilators during their childhood was more severe than the control groups although they were no more likely to have received medical treatment for physical abuse than controls. In addition, although in terms of percentages there were more cases of sexual abuse in the self-mutilation sample, the differences between groups were not significant. The severity of the self-mutilation for the sexually abused group did not exceed that of the non-abused self-mutilators.

Overall, the results of this study did not demonstrate grossly dysfunctional family environment, family disruption or childhood abuse as factors associated with self-mutilation in this sample. However, that is not

to say that these variables do not influence individual cases. The following case study demonstrates this point quite well.

D.R. was an 18 year old young man who reported a history of chronic sexual abuse which began when he was approximately 9 or 10 years old. The perpetrator of the sexual abuse was considered to be a family friend and held a position of status in the small community in which both D.R.'s family and the perpetrator lived. It was apparent that the perpetrator "groomed" D.R. for his role and this grooming is well established in the victimisation process of young sexual abuse victims (Berliner & Conte, 1990). Sexual abuse began on a once weekly basis but escalated over time. The child was given double messages about the abuse. He was told that "it was all right, everyone does it" and that if he disclosed the secret of the abuse he would not be believed, he would be accused of stealing and that his father, to whom D.R. was very close, would lose his job and would never find work in the community again. These types of threats are typical of the sexual exploitation of children (Summit, 1983). The perpetrator identifies the child's needs and a recognised theme is the exploitation of a child's need to protect parents (Berliner & Conte, 1990).

As sexual demands increased, D.R. found it more and more difficult to cope with the situation. As a consequence he began self-mutilating in an attempt to accommodate to this intolerable situation (see Summit, 1983). Self-cutting most commonly occurred immediately following an episode of abuse. D.R. reported feelings of anger, self-hatred and hurt that were brought under control by acts of self-harm. Self-mutilation continued for approximately 4 years and only ceased when D.R. began his first heterosexual

relationship at the age of 17 years.

It has been suggested that sexual abuse will continue until the victim is forcibly prevented from continuing. This typically occurs when the child finally discloses the abuse, usually at a time of crisis, or when the child reaches autonomy. This did not occur in this case. The sexual abuse continued until, after approximately 9 years and in excess of 400 abusive episodes, D.R. battered the perpetrator to death while in a severely depersonalised state. No premeditation for this act could be determined. The trial judge accepted that the history of sexual abuse was pertinent to the case and that the self-mutilative behaviour was a factor of the child sexual abuse accommodation syndrome (Summit, 1983). The charge of murder was reduced to manslaughter (R.v. Roetz, 1992).

D.R. is presently experiencing extreme post-traumatic symptoms. PTSD in relation to sexual abuse has been well documented (Deblinger, McLeer, Atkins, Ralphe & Foa, 1989; Rimsza & Berg, 1988). There has been no recurrence of the self-mutilative behaviour.

Summary

The psychopathology in this sample of incarcerated self-mutilators was marked. They displayed patterns of symptomatology that distinguished them from prisoners with no history of self-mutilation and from normal controls with no history of self-mutilation or criminal incarceration. However, the pattern of symptomatology they displayed was not entirely consistent with other reports in the literature. For example, while reported to be a concomitant of self-mutilation, levels of anxiety did not consistently distinguish the self-

mutilators from prisoner control subjects. In terms of personality, the antisocial, narcissistic and histrionic personality traits reported in the literature were largely absent in this sample. As a group, the self-mutilators did not display excessive borderline characteristics. Instead, this sample was characterised by passive-aggressive, schizoid and avoidant personality traits.

It would be reasonable to suppose that there are factors that influence the degree and type of psychopathology in one sample of self-mutilators that would not influence another sample. The element that links different samples of self-mutilators is the phenomenology of the behaviour. Therefore, it would follow that the occurrence of self-mutilation should be viewed as the primary consideration in understanding the behaviour with the differing patterns of psychopathology being understood as secondary and treated symptomatically. Indeed, attempts have been made to categorise self-mutilation in this way.

If self-mutilative behaviour is not a symptom of a specific disease or disorder, the nature of the behaviour must be able to be described in an alternative way. There is evidence that self-mutilative behaviour may represent a maladaptive but effective coping strategy.