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Running head: ASSESSMENT AND REPEAT DELIBERATE SELF-HARM

The Impact of Assessment on Repeat Deliberate Self-Harm

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Abstract

Deliberate self-harm is a pervasive issue that is the topic of worldwide clinical and research focus. Among the extensive research findings two salient issues emerge that provide the foundation for this study. The first is that a deliberate self-harm attempt is a significant risk factor for future attempts. The second is that a comprehensive assessment of a person presenting with an incident of deliberate self-harm can reduce further deliberate self-harming behaviour. A limitation of existing research is that no study has clearly identified the nature of assessments that impact on the likelihood of future self-harm attempts. The initial aim of this study was to replicate studies that explored the impact of an assessment after a deliberate self-harm episode, using Western Australian data. It was anticipated that the risk of a re-presentation will be reduced by increasing the likelihood that re-presentation would take longer if an assessment was undertaken. It was also anticipated that some types of assessment would be more beneficial than others. A further aim of this study was to determine what the relevant health professionals believed led to this outcome, in particular, if one type of assessment was more beneficial than the others. In order to achieve these aims the research team examined data of patients who presented to the emergency departments of three teaching hospitals in Perth, Western Australia between 1995 and 2004 and had reported a deliberate self-harm attempt. A total of 8656 files were examined, from a total of 13,500 presentations during this period. Cox proportional hazards regression showed that compared to patients who had no assessment, the time between initial presentation and any further presentation for a self harm episode at

one of the participating hospitals was significantly longer for those who received an assessment. Those who received either a social work assessment, or both a social work and mental health assessment, were significantly more likely to take longer to re-present. In an attempt to identify the content of the social work assessment that may have impacted on these findings the researcher interviewed six practitioners who undertook these assessments. These interviewees reported the relationship they established with patients; their exploration of the psychosocial context of the patient; and their conviction that the assessment is in itself an intervention, as the distinguishing factors of these assessments. Based on these findings, it is hypothesized that a psychosocial approach may be influential when conducting assessments of deliberate self harm. These assessments may benefit from a focus on developing a relationship with the client, combined with an attempt to resolve identified needs and should this occur during the assessment it may impact on future self harming behaviours.

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Submitted: AUGUST 2011

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Introduction and Literature Review

Deliberate self-harm is a serious problem experienced throughout the world, most obviously because it can lead to death (Claassen et al., 2006; Hawton et al., 2007; Steenkamp & Harrison, 2000; Thompson & Bhugra, 2000; Welch, 2001). This study examines the presentation of deliberate self-harm and the impact of assessment on subsequent self harming behaviours. Much research has examined the antecedents and consequences of deliberate self-harm with findings suggesting that further episodes of deliberate self-harm may be impacted by the role of assessment upon first presentation. This study replicates previous research to provide support for the role of assessment in ameliorating future deliberate self-harm behavior. In order to provide direction for clinical approaches to assessment, the study examines the nature of assessments in an attempt to identify factors that can assist emergency departments in their response to people who present with deliberate self-harm.

Skegg (2005) outlined various terminology used for deliberate self-harm, the related topic of suicidality, including intent and severity of attempts (Muehlenkamp, 2005) and the meanings of these terms. Skegg reported that the term *attempted suicide* is used widely and is employed regardless of whether there is a reference to intent or there is no reference to intent. The terms *deliberate self-harm* and *parasuicide* encompasses all episodes of self-inflicted injury that is survived, regardless of intent (Thompson & Bhugra 2000). The terms *self-mutilation* and *self-injurious behaviour* are referred to as bodily mutilation without suicidal intent. *Suicide* is the term used for deliberate-self harm resulting in death.

The different terms used makes it difficult to compare research findings because of the different inclusions and exclusions of data. Each of these terms has merit, but so as to encompass all possible meanings, the term deliberate self-harm will be employed in this paper. This term refers to episodes of bodily harm with or without suicidal intent, and that may or may not have caused death. The reason why the term deliberate self-harm will be used in this thesis, is because it is the common terminology used in Western Australia when discussing suicidal behaviour (Serafino, Somerford & Codde, 2000).

Epidemiology of Deliberate Self-Harm

Exact rates of deliberate self-harm are difficult to establish as many people keep their behavior hidden and many do not attend emergency departments where data about deliberate self-harm are often collected. For those that do attend an emergency department, not all are admitted, which means that detailed information is difficult to collect from those people not admitted. Additionally, when some people commit suicide the death may not be recognized as a suicide (Hawton et al., 2006). Internationally, report figures for Alberta, Canada in the year 2000-2001 showed nearly 250 presentations to emergency departments for deliberate self-harm per 100,000 (Colman et al., 2004). Data collected on the presentations of persons aged over 15 to hospitals in Oxford, Manchester and Leeds, England, were analysed for the period March 2000 to August 2001. Rates of deliberate self harm for Oxford were 285 per 100,000 for males and 342 per 100,000 for females; figures for Manchester were 460 per 100,000 for males and 587 per 100,000 for females; and Leeds figures were 291 per 100,000 for males and 374

per 100,000 for females (Hawton et al., 2007). In New Zealand, 2007 the rate of deliberate self-harm *hospitalizations* were 63.9 per 100,000 (Ministry of Health, 2009). During the period 2003 and 2004, there were 24,087 hospital admissions for deliberate self-harm in Australia, with 8,722 being male and 14,228 being female (Bradley & Harrison, 2006). This equates to 115.4 cases per 100,000 people in Australia, which are notably lower than those found in the United Kingdom and Canada. These figures are likely to under-represent the actual rate of deliberate self-harm cases in New Zealand and Australia as they are restricted to hospital admissions only.

Understanding Deliberate Self-Harm Behaviour

From a clinical perspective, although it is important to understand what makes a person engage in deliberate self-harm, it is almost impossible to prevent such behaviour unless those persons can firstly be identified. One available resource for identification of deliberate self-harm behaviour is emergency departments of hospitals. Researchers have found that a single episode of deliberate self-harm by any person is a major risk factor for subsequent deliberate self-harm behaviour (Owens, Horrocks & House, 2002). A Western Australian Department of Health study of 17 years of inpatient data (1981-1998) showed that 23% of all persons (all age groups) who presented to hospital emergency departments for deliberate self-harm re-presented with a further deliberate self-harm episode (Serafino et al., 2000). Further, 50% of these repeat hospitalizations occurred within the first year after initial discharge, with the risk of repeating highest within the first month after the initial discharge. This data highlights the

importance of how people are managed when they present to an emergency department, and given Serafino et al.'s (2000) research, suggest the following month is crucial and may represent an opportunity to explore preventative factors.

In examining predictors of self-harm behavior, Vajda and Steinbeck (2000), found, that risk factors associated with an one-off attempt may differ from predictors of repeat self harm behavior. Although the risk of a further attempt is one hundred times greater within a twelve month period, the majority of people who deliberately self-harm do not die, and do not repeat this behaviour. It is important to identify, therefore, what it is that makes a person engage in repeat deliberate self-harm behaviour. Vajda and Steinbeck (2000) conducted a study to determine potential risk factors associated with repeat suicide attempts among adolescents aged between 13 to 20 years. This was a retrospective study, where medical records between 1994 and 1996 from Royal Prince Alfred Hospital in New South Wales were reviewed. Results showed that 87% of patients presented with a drug overdose, 76% of patients attempted suicide in the context of a relationship dispute or break-up, and 76% of patients had at least one psychiatric disorder (depression, drug abuse, alcohol abuse). The variables predicting repetition within 12 months were drug abuse, alcohol abuse, non-affective psychotic disorders and chronic medical conditions. (Vajda & Steinbeck, 2000).

Beautrais (2004), examined the rate of repeat deliberate self-harm behaviour among individuals engaging in medically serious deliberate self-harm in Christchurch and the Canterbury region of New Zealand. One aim of this study was to identify to what extent repeat deliberate self-harm behaviour could be predicted from characteristics gathered at the index or initial deliberate self-harm

episode. The data was drawn from a five year study of 302 individuals with information collected by personal interview and examined using survival analysis. Beautrais found that almost half of the individuals engaged in a further deliberate self-harm episode, both fatal and nonfatal, within five years. In relation to those who engaged in subsequent deliberate self-harm, but did not complete suicide, several significant associations and three significant predictors were identified. The three significant predictors of repeat deliberate self-harm in Beautrais' study were hopelessness, with higher hopelessness scores linked to increased risk, at least one deliberate self-harm episode within the five years prior to the index episode, and at least one admission to a psychiatric hospital.

Cooper et al. (2005) examined suicide rates following an episode of deliberate self-harm in four hospitals in northwest England between 1997 and 2001. The researchers aim was to identify factors such as socio-demographic and clinical predictors of deliberate self-harm within this cohort. This study used 7,968 presentations of deliberate self-harm at emergency departments. They found a 30-fold increase in the risk of suicide for the deliberate self-harm cohort compared to the general population. Suicide rates were highest within the first six months after the index deliberate self-harm episode. Independent predictors of subsequent suicide included avoiding discovery at the time of deliberate self-harm, not living with a close relative, previous psychiatric treatment, self-mutilation (cutting), alcohol misuse, and physical health problems (Cooper et al., 2005).

Skegg (2005) identified several risk factors for suicide after deliberate self-harm in her meta-analysis. These were older age, male sex, past psychiatric care, psychiatric disorder, social isolation, repeated deliberate self-harm, avoiding

discovery at time of deliberate self-harm, medically severe deliberate self-harm, strong suicidal intent, substance misuse, hopelessness and poor physical health.

Table 1

Predictors of Repeat Deliberate Self-Harm

•	Drug abuse
•	Alcohol abuse
•	Non-affective psychotic disorder
•	Chronic medical conditions / poor physical health
•	Previous psychiatric treatment
•	Feeling of hopelessness
•	Avoiding discovery at time of deliberate self-harm
•	Not living with a close relative
•	Cutting
•	Older age
•	Male
•	Social isolation
•	Medically severe deliberate self-harm
•	Strong suicidal intent

Assessment and Deliberate Self-Harm

Previously discussed predictors of repeat deliberate self-harm are set out in Table 1 above. Assessment provides an opportunity for these predictors to be identified at the index or initial episode. Primary care settings are common settings for assessments, where predictors can be identified, and therefore

intervention determined so as to reduce the likelihood of a further episode (Hirschfeld & Russell, 1997; McNiel & Binder, 1997).

Dower et al. (2000) evaluated medical records for all cases of non-fatal deliberate self-harm among young people aged 18-24 attending the emergency department of a major Queensland metropolitan hospital for the period June 1998 to March 1999. Almost one half of those presentations re-presented with a further episode of deliberate self-harm within three months. Dower and colleagues found that a noteworthy proportion of this study group did not receive an assessment by the 'mental health team' (p. 33). No description of the assessment was provided in this paper, however. The researchers emphasized the importance of conducting an assessment on all people who presented with deliberate self-harm, as a matter of good practice. As noted, assessment provides the opportunity to identify predictors for subsequent deliberate self-harm, which assessment did not occur for almost one half of this study population and for which almost one half re-presented. Based on the above evidence, assessment appears to be important in identifying predictors.

Hickey, Hawton, Fagg and Weitzel (2001) examined the characteristics and outcome of 145 deliberate self-harm patients who were discharged directly from an accident and emergency department without undergoing a 'psychiatric assessment' (p. 89) versus 101 deliberate self-harm patients that did undergo a psychiatric assessment. In relation to outcome, repeat deliberate self-harm occurred in 37.5% of the non-assessed patients. For those who did receive a psychiatric assessment, repeat deliberate self-harm occurred in just 18.2% of the patients as a comparison. Hickey et al's. (2001) findings demonstrated that a

psychiatric assessment was superior to no assessment in terms of reducing repeat deliberate self-harm. However, the researchers did not describe the components of the psychiatric assessment, other than defining that the assessment was a psychiatric assessment. Nor did they provide information about why some patients received a psychiatric assessment, and some did not. As with Dower et al's. (2000) findings, this study cannot be used to help identify or understand what components of assessment are beneficial.

Hickey et al. (2001) and Dower et al. (2000) did not provide any descriptions of the assessment in their papers. It could be surmised that the name given to the assessment refers to the assessment content. For example, a psychiatric assessment would explore areas psychiatric in nature such as the person's mental health status. These two studies, therefore, provide support for the use of assessment in reducing repeat deliberate self-harm, but they do not identify what it is about assessment that makes it beneficial. Being able to identify the beneficial components of assessment would be advantageous, as well as whether assessments address identified predictors of repeat deliberate self-harm.

Theoretical Approaches to Assessment

The lack of clarity around assessment may be because there is a lack of common ground in relation to the clinical practice of managing deliberate self-harm behaviour (Jobes, 2000). This lack of common ground reflects the differing understandings and approaches to deliberate self-harm. A review of the literature revealed that there are at least four, not necessarily mutually exclusive, theoretical approaches used to guide the assessment process in this area. These are the

medical model, the biopsychosocial model, the crisis model and person-centred model, and they are described below.

Medical model.

The medical model has historically been the dominant model used in assessment and management of disease (Engel, 1977). The medical model assumes disease occurs when a “deviation from the norm of measurable biological variables” (Engel, p. 130, 1977) occurs. Symptoms were somatic or physical in order to be measurable. This medical model, which is an approach to pathology that aims to find treatment for symptoms, does not take into account symptoms that are not physical and therefore not measurable, such as frustrated needs (Hawton & Catalan, 1987). That is, measurable symptoms, such as a cut or amount of poison ingested, determine the care pathways taken. The greater the medical severity, the greater the risk level at triage (Auditor General, 2001). In the Auditor General’s report regarding the management of deliberate self-harm in young people in Australia, it was also found that as the risk level at triage increased, so to did the import of the assessment process. An increased risk level at triage reflected the physical severity of the deliberate self-harm episode.

It makes sense in a hospital setting that lethality of a wound influences the care given. However, the severity of measurable symptoms does not necessarily reflect the emotional experience of a person who has engaged in deliberate self-harm. People who present to hospital with a less medically severe problem may have lacked the means to complete suicide, or a lack of knowledge or understanding in this area. In fact, the degree of suicidal intent at the time of the

attempt has been found to be more important in determining the kind of help that should be offered to the patient rather than the medical severity of the deliberate self-harm behaviour (Hawton & Catalan, 1987). The medical severity of deliberate self-harm is important, but it is only one component that should drive care management.

Biopsychosocial model.

In an attempt to try and combat the limitations of the medical model, the biopsychosocial model emerged. Engel (1977, 1980) proposed an expansion of the dominant medical model used in health care, to include psychological and social factors:

...inclusion of somatic and psychosocial factors is indispensable ... or more pointedly, ... concentration on the biomedical and exclusion of the psychosocial distorts perspectives and even interferes with patient care ... The boundaries between health and disease, between well and sick, are far from clear and never will be clear, for they are diffused by cultural, social and psychological considerations (pp. 131-132, Engel 1977).

The biopsychosocial model was constructed in an attempt to take into account the missing elements of the medical model, and it is based on a systems approach (Engel, 1980). Proponents of the systems approach treats sets of related events collectively, and holds that all levels of organization have a linked

hierarchical relationship, and that change in one organization effects change in the others. Therefore, the biopsychosocial model includes the patient and the illness. Engel used diabetes and schizophrenia to explain how the biopsychosocial model encompassed the person and the systems, whereas the medical model focused on the biomedical disease components only.

Santrock (2007) described the biopsychosocial model as understanding a person's physical health, internal well-being and relationships to others and their environment. There is an interaction between the body, the mind and the environment. In terms of the body, biological influences include physical illness and medication. In terms of the mind, psychological factors include cognitions and behaviour. Finally, in relation to the environment, these influences include relationships, occupational situation and current living situation (Kleespies, Deleppo, Mori, & Niles, 1998).

In relation to deliberate self-harm, this model allows a framework within which to assess the many details often presented at assessment. Focusing on only one area, say the biological factors, prevents a clinician from having a broader picture of how the crisis came about. The biopsychosocial model reflects the whole person and reflects the complexity of human behaviour (Gatchel & Oordt, 2003). In relation to the social aspect of this model, Jobes (2000) contended that deliberate self-harm was a relational phenomenon. Jobes stated that key relationships, or the lack thereof, can cause or prevent deliberate self-harm from occurring. At the assessment stage, this highlights the importance of understanding the quantity and quality of relationships that a person has.

Crisis model.

The origins of crisis theory came from Lindemann's (1944) study of grief reactions. Lindeman identified that acute grief reactions presented a predictable course, and that these reactions were transitory adjustments to loss. Drawing on Lindemann's work, Caplan formulated crisis theory in 1964 (Ewing, 1978), which is based on the concept of emotional homeostasis. Basically, people will be confronted by threatening situations, which will upset their emotional homeostasis. Each individual will use habitual problem-solving strategies to master the threat, based on previous experience. Sometimes, however, the threat may be great and habitual problem-solving strategies may be unhelpful. This is when an individual will experience a crisis (Ewing, 1978). According to Callahan (1998), the threat can be appraised as being a crisis by the individual, although it may not necessarily objectively constitute as one. An example of a threatening situation is the loss of a loved one. When an individual perceives a situation as threatening the satisfaction of some fundamental need or needs, and the person's problem-solving strategies are inadequate, tension and upset will increase and an individual's functional abilities will be compromised (Ewing, 1977). It is at this stage the person almost always becomes open to novel methods of coping, and these novel methods can be both constructive, for example seeking support, or destructive, for example attempting to deliberately self-harm. As a crisis generally lasts for a relatively short period, the person either returns to their pre-crisis psychological equilibrium or adjusts to a new level of psychological equilibrium. This new level of functioning may be higher or lower than before (Hayley, 1987).

Rapoport (1962) noted that an individual's reaction to a present threat is therefore directly affected by past experience with threats to basic needs.

The crisis model provides a framework within which to use when developing assessment and intervention practices (Bassuk & Gerson, 1980). For example, Callahan (1998) reported that individuals are more open to receiving professional assistance during a crisis, but are less likely to seek help if there was no crisis. Lindemann (1944) posited that crisis intervention, at the acute stage, could help the individual master the psychological tasks created by the loss, and prevent possible psychopathological sequelae. According to Ewing (1978), crisis intervention is:

the informed and planful application of techniques derived from the established principles of crisis theory, by persons qualified through training and experience to understand these principles, with the intention of assisting individuals or families to modify personal characteristics such as feelings, attitudes, and behaviours that are judged to be maladaptive or maladjustive (p. 6).

This crisis intervention was seen as a preventive intervention. Further, this definition highlights the import of the therapeutic relationship, in that the client and therapist are aware and agree upon various aims. As people present to the emergency department setting during a crisis, this is a place where there is potential for positive change to occur.

Person-centred model.

The person-centred model used by mental health professionals (Mischel, 1999) is based on the work of Rogers (1951), who developed a theory of personality that emphasized the subjective experience of the person. Rogers posited that the way people perceive events, determines how they respond to them. Based on this position, that person is the best expert in understanding themselves. Further, Rogers believed that people experienced a universal need for positive regard. This need for positive regard means that a person will desire acceptance, and this acceptance will be either unconditional or conditional. When acceptance is conditional, people will experience incongruence between their self-concept and their perception of an event. This incongruence can lead a person to feel threatened, and engage in the use of the defences such as denial and perceptual distortion. Eventually, a person may become emotionally overwhelmed by their perception that they are not unconditionally accepted.

The aim in using the person-centred model is to attempt to facilitate a greater congruence between the individual's self-concept and their perception of an event (Gillon, 2007). This is achieved by three principles that a clinician must follow: unconditional positive regard; empathic understanding; and congruence. Unconditional positive regard means the clinician accepts the individual non-judgmentally. The individual is free to explore anything they believe is important, without having to fulfill the clinician's requirements. Empathic understanding involves the clinician accurately reflecting back to the individual, the individual's feelings and thoughts, so that the individual's experience is validated and

accepted. Congruence refers to a clinician being genuine or authentic. The clinician does not present as a professional or as authoritative, but rather transparent.

If these principles are followed, then the individual, according to Rogers (1951), will experience therapeutic change. The person-centred model emphasizes the importance of the relationship between practitioner and patient. This is in stark contrast to the medical model, wherein the approach to assessment emphasizes practitioner as expert, and diagnosis and categorization occur.

Conclusion

Predictors of deliberate self-harm have been identified, as well as the finding that assessment is effective in reducing the risk of repeat deliberate self-harm. What has not been identified is what it is about assessment that makes it effective. Each of the above mentioned models are useful in terms of understanding various ways of working in relation to assessment in general. These theoretical approaches can also be used to help shape how to best manage deliberate self-harm behaviour. These models, however, have been developed to help understand human behaviour and experience in general, and are not specifically developed to understand and work with deliberate self-harm behaviour per se (Jobes, 2000). Therefore, in an attempt to understand deliberate self-harm behaviour specifically from a theoretical approach, Shneidman's (1976; 1987; 1992; 1996) psychological theory of suicide will be set out. From this understanding, and in conjunction with the four other theoretical models set out above and offered in an attempt to provide

an approach to assessment in general, guidelines will be offered for assessment of deliberate self-harm behaviour specifically.

Psychological Understanding of Deliberate Self-Harm

Shneidman's (1976; 1987; 1992; 1996) theory of suicide has become a focus in recent literature and can be of assistance to practitioners (Cutcliffe & Stevenson, 2008; Ellis & Rutherford, 2008) who work in the field of managing deliberate self-harm. Shneidman (1987; 1992) listed some 13 possible contemporary approaches to the study and management of suicidal phenomena, which included taking a biological approach and taking a philosophical approach. In relation to the psychological approach, Shneidman's model helps to examine the relationship between psychological needs, psychological pain, which pain Shneidman termed psychache, and deliberate self-harm behaviour.

Shneidman (1987) argued that to understand suicide, "one must understand human behaviour and mentation and the multiple reasons ... that lie behind or accompany a suicidal event" (p. 152). Shneidman postulated that people who make deliberate self-harm attempts experience psychological pain because their psychological needs are being frustrated. They feel hopeless and helpless and they see death as the only way of escaping their pain. There is empirical support for this position (Beautrais, 2004; Cooper et al., 2005; Skegg, 2005). Research conducted (Fergusson et al., 2000; Hawton, Harriss, Simkin, Bale & Bond, 2004; Hepp, Wittmann, Schnyder, & Michel, 2004) has shown that higher scores on measures of black and white thinking (viewing an event in terms of extremes, that is, either perfect or absolutely terrible), for example, can make an individual more

prone to using deliberate self-harm. If people experiencing psychological pain understood their situation to be hopeless, they may see deliberate self-harm as the only way of escaping the psychological pain. This is normally a part of a lifelong pattern of behaviour for dealing with problems by trying to avoid them and escape. According to Owens et. al. (2002), for example, if someone has used deliberate self-harm as a coping strategy on one occasion, there is a greater likelihood that it will be used again, and other empirical evidence supports (Beautrais, 2004; Skegg, 2005). This is because the ability to see an alternative option is constricted, not because they really wish to die, in fact, Shneidman believes they are ambivalent about death.

Shneidman (1987) listed ten psychological commonalities in suicide. First, the common purpose of suicide is to seek a solution, and it can be understood as a problem-solving behaviour. Second, the problem to which the person is seeking a solution is that of overwhelming pain that is causing severe suffering. The common goal of suicide is therefore cessation of consciousness of this pain. The person is not willing to tolerate the overwhelming psychological pain and sees suicide as an act that will put an end to the problem. Third, the common stimulus in suicide is unendurable psychological pain, which is both the experience of pain and the unwillingness to endure that pain. Fourth, the common stressor in suicide is frustrated psychological needs. Therefore, suicide can be understood as an act intended to escape the pain caused by the frustration of those needs. Those needs are varied and complicated and the person may believe it is necessary to die if they are not met. Shneidman referred to several of Murray's (1938) needs as being particularly pertinent to suicide and these are explored later. Fifth, the common

emotion experienced by deliberate self-harmers is helplessness-hopelessness. This involves a belief that nothing can be done and that no-one can help. Sixth, the common cognitive state toward suicide is ambivalence. This involves having a simultaneous contradictory position whereby the person thinks they have to commit suicide to escape the pain, but they are also hopeful of an intervention that will cease the pain and keep them alive. Seventh, the common perceptual state is constriction, of affect and intellect. In fact, the constriction is one of dichotomous thinking, a total resolution or death. The common action in suicide is escape. Eighth, the person wants to depart from distress and see death as the only route. Ninth, the common interpersonal act in suicide is communication of intent. The person may in advance emit verbal or behavioural clues. Lastly, problematic lifelong coping patterns are employed consistently. This is reflective of crisis theory (Ewing, 1977), wherein a person's reaction to a present threat is directly affected by past experience. This also refers to a person's past propensity for dichotomous thinking, escapism, or other ways of thinking and acting during a crisis (Beautrais, 2004; Skegg, 2005).

Cubic model of suicide.

Shneidman (1987) then goes on to amalgamate these ten commonalities into a more succinct theoretical model, with three components: press, pain, and perturbation, and which he termed the cubic model of suicide (see Figure 1.). Press refers to both psychological pressures and environmental pressures. These pressures can be both real and perceived. Examples of real press include the loss of a loved one or poverty. An example of perceived press is experiencing

rejection when a person says no to a request. Press is rated from low (one) to high (five). Pain or psychache refers to the psychological pain experienced from frustrated psychological needs. Murray's (1938) list of needs is used to describe what these psychological needs are. This pain is rated from low (one) to high (five). Perturbation refers to the individual's response to psychological pressures, or the experience of being upset. These responses are rated from low (one) to high (five). Impulsivity, and constriction of affect and intellect can occur as a result of experiencing press, pain and perturbation. Dichotomous thinking, for example, would mean a person can see just two, and at the worst, only one way of managing their psychache. When high levels of each of the three components are found, the risk of suicide is greater. Further, Shneidman (1987) asserted that every person who actually commits suicide would be placed at the five-five-five corner of the cube in Figure 1 below. Shneidman stated:

... I believe the central feature of suicide is pain, and the key to suicide prevention lies in the reduction of that individual's psychological pain. All else – demographic variables, family history, previous suicidal history – is peripheral except as those factors bear on the presently felt pain. Ultimately, suicide occurs when there is the co-existence of intolerable pain, intense negative press, and extreme perturbation with perceptual constriction and an irresistible penchant for life-ending action (Shneidman, 1987, pp. 176-177).

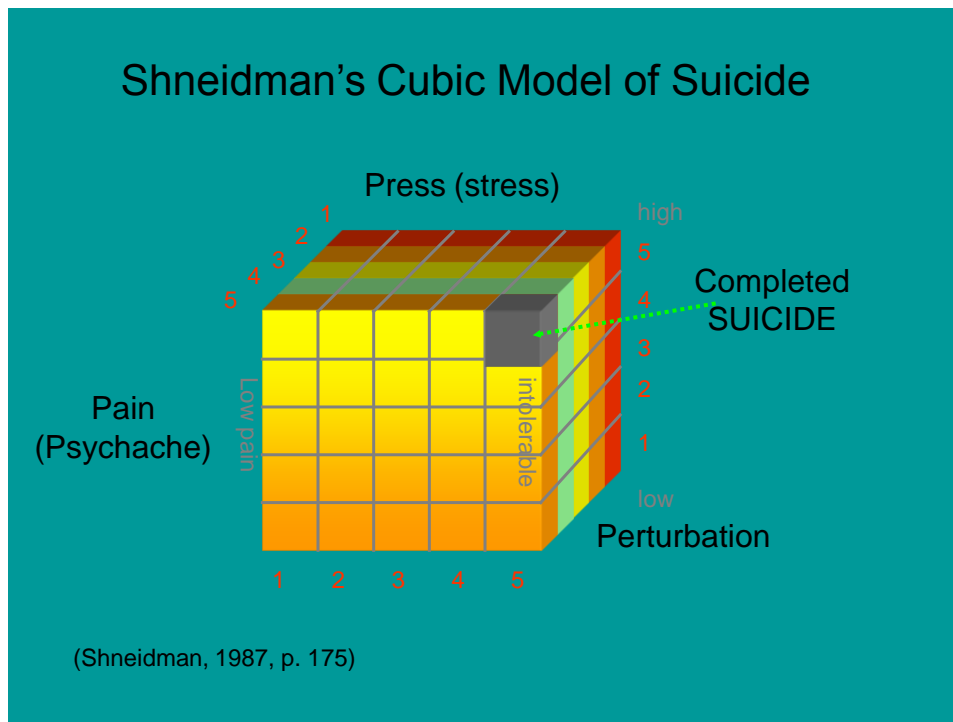


Figure 1. Shneidman's cubic model of suicide.

Based on this theoretical model of suicide, psychological pain derives from not having one's psychological needs met (press), which leads to a state of upset and action, which action can include coping strategies that have the potential to result in death. Understanding the function of deliberate self-harm is important. Deliberate self-harm appears to be a coping function in response to frustrated psychological needs. Therefore, in an attempt to reduce the risk of deliberate self-harm, it would make sense to firstly identify what psychological needs have been frustrated, so that people's pain can be understood, and then coping responses addressed. The psychological construct of needs as used by Shneidman was first described in Murray's (1938) work.

Psychological needs.

In his book, *Explorations in Personality*, Murray (1938) stated that his theory of personality focused on both observable behaviours and latent factors, such as unconscious wishes. This differed from other personality theorists such as Freud, who focused predominantly on latent factors. Further, Murray offered a conceptualization of suicide in his book, *Personality in Nature, Society and Culture* (Kluckhohn, Murray, & Schneider, 1949). Murray, when describing the major functions of personality, stated that many of the processes that humans engage in:

are not functional in the conventional sense; that is, they do not lead to psychological well-being, satisfaction, happiness, survival, but, instead, to pain and misery, and in some desperate people, to suicide (Kluckhohn, Murray & Schneider, p. 33, 1949).

Murray was influenced by the tension-reduction model in his conceptualization of suicide:

...we seem to have arrived at a general formula applicable to a large number of needs: tension -> reduction of tension; and so ...we might say that one function of regnant processes is the periodic appeasement of different needs, or more generally, the satisfying reduction of tension. Thus we are provided with an explanation of suicide and of certain other apparently anti-biological effects as so many forms of riddance of

intolerable suffering. Suicide does not have adaptive (survival) value but it does have adjustive value for the organism. Suicide is functional because it abolishes painful tension (Kluckhohn, Murray & Schneider, pp. 35-36, 1949).

Murray described suicide as a process undertaken to reduce tension. Tension could also be understood as a frustrated need. Needs were considered to be the motivational forces that make up personality. Murray (1938) and colleagues conducted a study, exclusively of men, in an attempt to put forth a theory of personality. Murray acknowledged that personality could not be categorically understood, but out of the study came a theory of personality, which included a taxonomy of manifest psychological needs. These psychological needs are set out in Table 2 below.

These needs have been studied extensively, and have been represented among other personality classifications (Costa & McCrae, 1988). Murray (1938) defined a need as:

a construct ... which stands for a force ... in the brain region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation (pp. 123-124).

Table 2

A List of Murray's Psychological Needs

Abasement	To comply and accept punishment
Achievement	To strive and reach goals quickly
Affiliation	To form friendships
Aggression	To hurt another
Autonomy	To strive for independence
Counteraction	To overcome defeat
Defendance	To defend and justify oneself
Deference	To serve gladly
Dominance	To control or influence others
Exhibition	To excite, shock, self-dramatize
Harm avoidance	To avoid pain and injury
Humiliation avoidance	-
Nurturance	To aid or protect the helpless
Order	To achieve order and cleanliness
Play	To relax
Rejection	To reject disliked others
Seclusion	To be distant from others
Sentience	To obtain sensual gratification
Sex	To form an erotic relationship
Succorance	To ask for nourishment, love, aid
Superiority	To overcome obstacles
Understanding	To question and think

(Mischel, 1999, p. 103).

Murray's (1938) classification of needs fell into two categories: primary or viscerogenic needs, and secondary or psychogenic needs. The difference is that a primary need refers to observable, physical states, whereas a secondary need refers to emotional states. Murray argued that the psychogenic, or psychological needs were influenced by environmental forces, which played a significant role in the exhibition of these motives. Murray called these environmental forces press, referring to the pressure that forces one to act. Examples of negative press include the death of a parent, or maltreatment, and positive press examples include networks and friendships.

Murray (1938) stated that these psychological needs can be inter-related in some ways, in that certain behaviours can meet more than one need. Murray stated that people placed different levels of importance on these psychological needs. If a person has a high need for autonomy than another person, for example, and this need was thwarted, than the psychological pain experienced by that person would be greater than another person who was low on this need. This helps to explain the difficulty in extrapolating a cause-effect flow in relation to predicting suicide (Maddi, 2001). That is, the impact of thwarted needs is influenced by the importance of each need to an individual, within the context of protective factors, previous behaviour, and environmental presses.

These psychological needs heavily influenced Shneidman's work. In relation to Murray's (1938) list of needs, Shneidman (1987) found that six were particularly pertinent to suicide, one of which fell into the primary or viscerogenic needs category (the need to avoid pain). These were the needs for achievement,

autonomy, recognition, succorance (social support, affectionate care), the need to avoid humiliation and shame, and the need to avoid pain. These six psychological needs identified by Shneidman as pertinent to suicide are explored below.

Need for achievement.

According to Murray (1938), the need for achievement involves the need:

To overcome obstacles, to exercise power, to strive to do something difficult as well as quickly as possible (p. 80).

This need included excelling and surpassing others and enhancing self-regard by the accomplishment of this need (Maddi, 2001). Research demonstrates that if the need for achievement is frustrated, then the risk of deliberate self-harm behaviour increases (e.g., Skegg, 2005). Unemployment, and low income for example have been found to increase the risk of deliberate self-harm behaviour, particularly among young people (Australian Institute for Suicide Research & Prevention, 2003). Low socio-economic status, financial problems, and poverty fall under the frustrated need for achievement, and increase the risk of someone engaging in deliberate self-harm (Bucca et al., 1994; Beautrais, 2001a; Fergusson et al., 2000; Gaynes et al., 2004; Hepp, Moergeli, Trier, Milos, & Schnyder, 2004; King, Segal, Kaminski, & Naylor, 1995; Skegg, 2005).

In a study conducted in Genoa, Italy, for example, Bucca et al. (1994) studied the relationship between socio-demographic conditions and suicidal risk. The researchers compared 377 cases of suicide committed between 1985 and

1988, compared to a random control group. They found that the risk of suicide was two times higher among low socio-economic individuals, compared to individuals who came from a higher socio-economic status.

Need for autonomy.

According to Murray (1938), the need for autonomy is:

To resist influence or coercion. To defy an authority or seek freedom in a new place. To strive for independence (p. 82).

Maddi (2001) explained this need is about standing strong, resisting others, being independent, and being free to act impulsively or even irresponsibly. Again, if this need is frustrated then it increases the risk that a person will engage in deliberate self-harm. One example of a frustrated need for autonomy is poor physical illness, such as epilepsy and HIV infection (Cooper et al., 2005). Research has demonstrated that the risk for deliberate self-harm significantly increases in persons suffering from a physical illness (Cooper et al., 2005; Heisel, & Flett, 2008).

Heisel and Flett (2008), for instance, examined a sample of 107 older adults (older than 65 years), who were measured in relation to suicide ideation, depression, perceived physical health problems, psychological well-being, meaning in life, social network, and religious affiliation. A positive association was found between suicide ideation and perceived physical health problems. Heisel and Flett found the greater the severity of physical health problems, the

more important the need to assess for suicide ideation.

Need for recognition.

This need relates to gaining approval and social status (Murray, 1938).

According to Murray, the need for recognition is:

To excite praise and commendation. To demand respect. To boast and exhibit one's accomplishments. To see distinction, social prestige, honours or high office (p. 81).

The need for recognition can be linked into other needs, including the need for achievement and the need to avoid shame and humiliation. The need for recognition is also linked to social status, and the need to avoid shame and humiliation can be linked to the loss of social status. Again, research has demonstrated that the risk of deliberate self-harm behaviour increases if this need is frustrated. For example, an examination of suicidal behaviour was carried out by Pridmore and McArthur (2009). They explored two time periods, one of antiquity and one a recent period (1994-2008) and selected prominent suicides from each period. They examined precipitating circumstances and probable emotions. Amongst the findings, public disgrace or loss of social status was common in both historical periods in relation to suicide. One example of suicide was that of Vlado Stojiljkovic who died in 2002 aged 65 years. He was the Vice-Prime Minister of Serbia who was charged with crimes against humanity. Based on his suicide note, the researchers concluded that he was distressed by his loss of

status.

Need for succorance.

This need refers to the need for affection. According to Murray (1938), this need means:

To seek aid, protection or sympathy. To cry for help. To plead for mercy. To adhere to an affectionate, nurturant parent. To be dependent (p. 83).

It refers to being supported, loved, forgiven and consoled (Maddi, 2001). This need includes affiliation, nurturance and play. If one's need for succorance is not met, then this has been found to be related to the onset of deliberate self-harm behaviours (Guthrie et al., 2001). The death of a loved one and interpersonal conflict with family or friends are examples of the frustrated succorance need. Parental psychopathology is another example, because the parent may be unable to offer protection or provide support for the child's needs. Parental substance abuse, a family history of suicidal behaviour, impaired child-parent relations, poor attachment or bonding, exposure to physical and sexual abuse, and a lack of social support are further examples of the frustrated need for succorance (Fergusson et al., 2000; Gaynes et. al., 2004; King et. al., 1995; Moscicki, 1997). Interpersonal difficulties, such as parental disharmony and divorce has been shown to increase the risk of deliberate self-harm by eleven times, compared to married people (Skegg, 2005). Guthrie et al. (2001) reported that approximately 70% of all

episodes of deliberate self-harm are precipitated by interpersonal problems. This finding is consistent with other studies that have shown high rates of interpersonal difficulties precipitate deliberate self-harm episodes (Beautrais, Joyce & Mulder, 1997).

An example where the need for succorance in the form of protection is frustrated is where people are abused. Shaunesey, Cohen, Plummer and Berman (1993) investigated the effects of abuse history, both physical and sexual, on measures of suicidality on 117 hospitalised adolescents. Those adolescents who had experienced any form of abuse were significantly more likely to deliberately self-harm, and had a higher percentage of previous deliberate self-harm attempts, compared to the control group. Further, in a pilot study comparing a sample of sexually abused and demographically matched controls conducted by De Bellis, Lefter, Trickett and Putnam (1994), the researchers found that the sexually abused group had a greater incidence of both suicidal ideation and deliberate self-harm attempts.

Need to avoid humiliation and shame.

Murray (1938) named the need to avoid humiliation and shame *infavoidance*. He described this as the need:

To avoid failure, shame, humiliation, ridicule. To refrain from attempting to do something that is beyond one's powers. To conceal a disfigurement (p. 81).

Maddi (2001) described this as meaning to avoid situations that may lead to belittlement or scorn and to refrain from acting due to a fear of failure. Specific examples of a frustrated need to avoid humiliation and shame that have been shown to increase the risk of deliberate self-harm include legal and disciplinary problems, and sexual orientation worries (De Leo & Heller, 2004; McDermott, Roen, & Scourfield, 2008; Skegg, 2005). In a qualitative study conducted by McDermott, Roen and Scourfield (2008) in England, for example, the researchers explored the connection between sexual identities and self-destructive behaviours including deliberate self-harm amongst lesbian, gay, bisexual and transgender youth. A strong link between homophobia and self-destructive behaviours was identified. The researchers found that a number of participants experienced self-disgust and shame regarding their sexuality, which in turn increased their risk of engaging in deliberate self-harm behaviours.

Need to avoid pain.

Murray (1938) referred to this primary or viscerogenic need as *harm avoidance*, and defined it as:

The tendency to avoid physical pain: to withdraw, flee or conceal oneself from injuring agents. It includes 'startle' and 'fear' reactions generally, to loud noises, loss of support, strangers (p. 77).

If this need is frustrated and one is unable to avoid such pain, the risk for deliberate self-harm has been demonstrated to increase. Physical illnesses that are related to increased deliberate self-harm include epilepsy, cerebral disease, Huntington's chorea, Parkinson's disease, cancer, gastrointestinal disease, renal disease and AIDS (Myers & Neal, 1978). In a study conducted by Matthews and Gabor (1981) in England in relation to epilepsy and deliberate self-harm, it was found that the risk of suicide was 5.4 times greater for those who had epilepsy compared to the general population. Further, females suffering from epilepsy were two times more likely to commit suicide than males. One explanation given for the difference between those who had epilepsy compared to the general population was that if the epilepsy was not controlled, then this may have increased suffering.

Studies show that people suffering from cancer are 15 to 20 times more likely to commit suicide than people who do not have cancer (Hensen & McAleer, 1984; Lynch, 1996). Lynch (1996) noted one possible reason why people with cancer engaged in deliberate self-harm behaviour was that it was a reaction to the pain and suffering caused by having cancer that was not adequately controlled by medication or other means.

Conclusion

Shneidman (1987; 1992) provides a psychological perspective of deliberate self-harm, and therefore also provides a theoretical model for the assessment process. One limitation of Shneidman's work, however, is that it is not a comprehensive assessment guide, but rather a theoretical approach to understanding deliberate self-harm behaviour. Put together, the four theoretical

approaches to assessment, and Shneidman's theory of suicide can be used to develop an approach or model at the assessment level to attempt to reduce repeat deliberate self-harm behaviour specifically. For example, identifying and addressing frustrated needs during assessment could reduce the likelihood of repeat deliberate self-harm behaviour.

Guidelines for Assessment

In relation to empirical evidence, a number of authors have developed guidelines for the assessment of deliberate self-harm patients (for e.g., Hawton & Catalan, 1987; New Zealand Guidelines Group & Ministry of Health, 2003). Both these studies were chosen because they relate to emergency department data, as well as providing comprehensive and specific guidelines. Further, Hawton and Catalan's (1987) guidelines are referred to in many recent articles as guidelines with which to refer to (Owens & House, 1995; Dear, 2003). The New Zealand Guidelines Group & Ministry of Health (2003) study provides up to date and culturally relevant information.

Hawton and Catalan (1987) put forward several guidelines regarding assessment. These were understanding the attempt in relation to reasons and goals, degree of intent measured by a scale, current risk, repetition risk, acute and chronic current problems, precipitants, presence and impact of a psychiatric disorder, coping resources, as well as interviewing relatives and other informants. These guidelines are reflective of previously identified predictors of repeat deliberate self-harm (Beautrais, 2004; Cooper et al., 2005; Skegg, 2005). These guidelines also recommend that current problems be addressed, which is reflective of Shneidman's model of suicide in relation to identifying frustrated needs

(Shneidman, 1992). Hawton and Catalan (1987) also emphasized that service providers needed to be trained in how to deal with special problems, such as interview refusal, a threat of discharge, refusal of further help, chronic repetitions, whether the person is a survivor of a suicide pact, the risk of delayed complications, and age.

Hawton and Catalan (1987) point out that sufficient time needs to be available to engage in an adequate assessment, in appropriate surroundings. Timing of the assessment is also important. It should occur post-medical treatment, but as near to the crisis as is possible so that patient gives an accurate account of the situation. This is reflective of the crisis model, wherein Lindemann (1944) posited that crisis intervention at the acute stage helps people to manage the loss appropriately to prevent subsequent deliberate self-harm attempts. Hawton and Catalan reported the therapist's attitude needs to be positive, open and understanding and that a semi-structured interview approach allows flexibility and structure. Further, it is important that the patient takes an active role in problem-definition and appropriate treatment options. These qualities are reflective of the person-centred model, wherein the therapist must demonstrate positive regard towards the patient, a need that Rogers (1951) stated is crucial. They offer a stage approach to the assessment interview, which is set out in Table 3.

Hawton and Catalan (1987) provide a comprehensive explanation of the importance of the clinician's experience and training in conducting an assessment. For example, they highlight the importance of time, timing, and the clinician's attitude. Guidelines are proffered both in relation to content exploration, and context.

Table 3

Stages in the Assessment Interview

Establishing rapport	Introduction by name and explanation of the purpose of the interview.
Understanding the attempt	<ol style="list-style-type: none"> 1. Detailed account of events in the 48 hours preceding the attempt. 2. Circumstances surrounding the act – degree of planning, isolation, suicide note, reasons, action after attempt, and whether alcohol was taken. 3. Previous attempts.
Clarification of current difficulties	<ol style="list-style-type: none"> 1. Nature of problems and their duration, and recent changes. 2. Areas to be covered – psychological and physical problems, relationship with partner and other family members, children, work, friends, and consumption of alcohol.
Background	<ol style="list-style-type: none"> 1. Relevant family and personal history. 2. Usual personality.
Coping	<ol style="list-style-type: none"> 1. Current coping and resources – personal resources and external resources (such as friends, social agencies, and GP). 2. Previous ways of coping with difficulties.
Assessment of mental state at interview – especially mood and cognitive state.	
List of current problems – formulated with patient.	
Establishing what further help is required	<ol style="list-style-type: none"> 1. What the patient wants and is prepared to accept. 2. Who else should be involved (e.g. the partner or other relatives).
Contract	Terms of further involvement of the therapist or other agencies are made explicit and agreed.

(Hawton & Catalan, 1987, p. 46.)

These guidelines reflect Roger's (1951) belief that the therapeutic relationship is crucial for assessment. Hawton and Catalan's guidelines also link into the crisis model. That is, timing of assessment is important, and coping methods should be investigated. Also taken into account is the importance of understanding the patient's perspective, particularly in relation to the function of the deliberate self-harm behaviour. This component fits into Shneidman's (1987; 1992) psychological model of suicide. If an understanding of why the patient engaged in the behaviour can be extrapolated, effective interventions can be developed.

More recently, the New Zealand Guideline's Group and Ministry of Health (2003) set out guidelines for assessment of deliberate self-harm. The purpose of these guidelines was to help those working in emergency department settings provide appropriate assessment and early management for those people who present with deliberate self-harm behaviour. The authors set out an 'evidence and recommendation grading system', which grades their findings based on evidence. Some guidelines are evidence-based, but there is an absence of research evidence for other guidelines provided. In the absence of research evidence, the recommendations are based on the working party's expert opinions. In relation to the guidelines offered for the assessment by mental health services, evidence-based guidelines include identification of any co-morbid psychiatric conditions which include major depression, substance abuse, schizophrenia, Borderline Personality Disorder or Antisocial Personality Disorder. This guideline is supported in other studies (Beautrais, 2004; Cooper et al., 2005; Skegg, 2005). The use of screening measures is also an evidence-based guideline for assessment,

particularly the use of the Beck Hopelessness Scale. Other guidelines not evidence-based, but recommended by expert opinion, are that upon presentation to an emergency department, a person should be triaged by an emergency department nurse. They purported that patients should be classified into one of four risk categories. Triage code one presents an immediate and definite danger to life and the person should be seen immediately. Triage code two presents probable risk of danger to self or others and the person should be seen within 10 minutes of arrival. A person falling under triage code three presents with possible danger to self or others and ought to be seen within 30 minutes of arrival. Finally, triage code four is classified as semi-urgent, where a person is in mild to moderate distress and should be seen within 60 minutes. This would involve placing a person in a special room, monitoring, appropriate medical treatment, assessment of suicide risk, family members' concerns, previous psychiatric history, previous treatment received, and mental health services contacted. The triage system is reflective of the medical model, which focuses on physical symptoms to identify the level of importance of a presentation (Engel, 1977). Post-triage, a comprehensive assessment is recommended for all presentations and this should be carried out by a mental health clinician. This guideline is supported in other studies (Hickey et al., 2001; Dower et al., 2000). In their guidelines, the New Zealand Guideline's Group and Ministry of Health (2003) label the assessment a *psychiatric/psychosocial* assessment. Table 4 sets out what is included in the guidelines for the psychiatric/psychosocial assessment.

Table 4

Comprehensive Psychiatric/Psychosocial Assessment

- * Identifying data: name, gender, age, ethnicity, marital status, sources of history and reliability of historian / informants
- * Presenting problem(s): in the person's own words
- * History of present illness/episode
- * Past psychiatric history
- * Past medical and surgical history
- * Current medications and recent past medications
- * Drug allergies / sensitivities
- * Medical systems review
- * Substance use history
- * Forensic history
- * Family history
- * Psychosocial history
- * Mental state examination
- * Physical examination
- * Differential diagnosis
- * Formulation
- * Working diagnosis
- * Treatment plan

(New Zealand Guideline's Group & Ministry of Health, 2003, p. 55)

The New Zealand Guideline's Group (2003) provide a more comprehensive breakdown of what to explore during the assessment, compared to Hawton and Catalan (1987). They also clarify which components are evidence-based, and which are experience-based. The New Zealand Guideline's Group are more so

reflective of the biopsychosocial model, in that these guidelines set out the importance of investigating physical, psychiatric and psychosocial components. Together, both these guidelines offer a very clear outline of what to cover in an assessment, and how to conduct the assessment.

Rationale

As has been identified, deliberate self-harm is a pervasive transdiagnostic factor that is the topic of worldwide clinical and research focus. One influential theoretical explanation for understanding the psychological process of deliberate self-harm comes from Shneidman (1987) and his model of suicide. Shneidman stated people will experience psychache if important psychological needs are frustrated. These psychological needs were understood by referring to Murray's (1938) work. Shneidman identified several of Murray's needs as being particularly pertinent to suicidality. Depending on the personal value placed on frustrated needs, and coping repertoire, a person may engage in an act of deliberate self-harm in an attempt to escape from the psychological pain. Further, research has demonstrated that a deliberate self-harm attempt is a major indicator of future attempts.

This information could help provide direction in terms of the development of appropriate assessment tools and guidelines to address deliberate self-harm episodes. It has been demonstrated that assessment is integral to the prediction and prevention process of deliberate self-harm (Hickey et al., 2001), however it has been more difficult to elucidate what it is about an assessment that makes it effective. A limitation of the existing research is that although guidelines have been developed that set out best practice, no researcher has clearly demonstrated

whether these guidelines do in fact reduce future deliberate self-harm attempts.

To date, there has not been any large scale attempt to examine from a clinical psychological perspective the role assessment plays in the management of deliberate self-harm presentations in Western Australia, and whether assessment can reduce the likelihood of a person re-presenting to hospital with deliberate self-harm. An opportunity to examine outcome variables over a nine year period post-presentation to hospital arose through the Self Harm Intervention Project (SHIP). This project was established to help manage rates of deliberate self-harm in Western Australia (Auditor General, 2001). The SHIP was operated in three teaching hospitals in Perth, and information was collected of all presentations to the emergency departments of deliberate self-harm, whether or not these led to a hospital admission, for the period 1995-2004. The current study applied a clinical psychological perspective to an examination of the socio-demographic variables, clinical feature variables, care pathway variables and outcome variables of 8,656 persons comprising 13,500 emergency department presentations for deliberate self-harm in three Perth teaching hospitals for the period 1995-2004 in an attempt to explore whether assessment did play a role. Specifically, the research questions were:

1. Does a formal assessment influence time till representation with a deliberate self-harm episode?
2. Is the time till representation different for different types of assessment?
3. If so, which components of these assessments do health professionals consider to be important?

Stage One

Method

Research design.

A quantitative study was undertaken to examine research question one. A prospective case-series study was undertaken of 13,500 presentations of 8,656 patients at hospital emergency departments between 1995 and 2004. The study investigated the association between socio-demographic variables, clinical feature variables and care pathway variables, and the time until a subsequent deliberate self-harm re-presentation at an emergency department. While the research question is focused on the role of a formal assessment, the other care pathway variables as well as socio-demographic and clinical features variables were also investigated. These other variables were identified from previous research as potential risk factors for deliberate self-harm and could act as confounding variables. All variables were investigated to see which of them played a significant role in further deliberate self-harm presentations.

As the focus of the investigation was further deliberate self-harm presentations, the data were split into two groups. The first group consisted of patients who had an index (first recorded episode in this data) presentation to hospital with an act of deliberate self-harm but did not subsequently re-present (the Non-Repeater group). The second group consisted of patients who did re-present (the Repeater group).

Ethics approval.

Ethics approval was obtained from the Edith Cowan University Ethics Committee in September 2005. This Committee was updated with Annual Reports. External ethics approval was obtained from Hospital B Human Resources Ethics Committee, which, through Reciprocal Agreements, enabled ethics clearances from both Hospital A and Hospital C. In addition, the Department of Health's then Confidentiality of Health Information Committee provided ethics clearance in September 2005.

Study population.

No recruitment of study participants was necessary for this stage of the project. This is because data of 8,656 persons who presented to hospital emergency departments for deliberate self-harm during the period 1 July 1995 to 31 December 2004 were used. However, for some persons there were missing data in relation to the number of days between the first and second admission, and these persons' data could not be utilized. This means that the data of 8,456 persons from the total of 8,656 persons were utilized in the analysis. A total of 1,835 persons did have at least one re-presentation; and 6,621 persons did not.

Data collection.

Data were collected from hospital paper files, and entered on a Self Harm Data Sheet (Appendix A). The Self Harm Data Sheet comprised of 19 questions that focused on demographic information, services provided, care pathways taken, and details surrounding the self harm incident. A research team (which included

the researcher) was involved in collecting the data from the hospital paper files, and entering that data onto the Self Harm Data Sheets. The researcher spent a total of 420 hours engaged in this process.

Amalgamation of the deliberate self-harm data from different hospitals.

Once data collection was complete at each hospital, the Self Harm Data Sheets were transported to the Ministerial Council for Suicide Prevention, located at the Telethon Institute for Child Health Research. The data from the three hospitals were then amalgamated and entered into a database to be used at the analysis stage. After identifying representations and linking them to the index presentation, the records were de-identified.

Variables.

The research team captured the data about the variables set out below on the Self Harm Data Sheets.

Socio-demographic variables.

These socio-demographic variables were included in the analysis because they were found, as highlighted in the literature review, to be risk factors for deliberate self-harm, apart from which hospital they attended.

1. Gender of client.
2. Age in years.
3. Source of income: job search; employed full-time; employed part-time; disability pension; supported by a parent; supporting parents benefit;

sickness benefit; austudy; other; no means of support; supported by another; missing.

4. Aboriginal or Torres Strait Islander.

Clinical feature variables at index presentation.

These clinical features were included in the analysis because they were found, as highlighted in the literature review, to be risk factors for deliberate self-harm.

1. Method of deliberate self-harm: drug overdose or poisoning; wrist slashing or stabbing or other laceration; hanging; CO or gas inhalation; shooting; suicidal ideation; other (e.g. jumping); missing.
2. Main precipitating stressor: relationship problem; family problem; adjustment to psych disorder; adjustment to medical disorder; substance abuse or addiction; alcohol problem; sexual abuse; PTSD; legal problems; financial problems; employment issues; reaction to recent death; grief and loss; education or school stress; self-esteem issues; social isolation; pregnancy; overdose or other pact; missing.
3. Borderline personality disorder: This information was initially included on the Self-Harm Data Sheets, but the variable was considered incomplete for the purposes of inclusion in the data analysis at this stage.
4. Involvement of alcohol and other drugs: Influence of alcohol on admission; alcohol definitely involved; other drugs involved or suspected; not applicable; missing.

Care pathway variables.

The following care pathways taken were included in the analysis because they were found, as highlighted in the literature review, to be risk factors for deliberate self-harm.

1. Assessment: no assessment, mental health assessment only; social work assessment only; both assessments.
2. Admission: no admission; intra- and inter-transfer; intra-transfer only; inter-transfer only.
3. Discharge planning: yes; no.
4. Any referral: yes; no; deceased.

Outcome variable.

The outcome variable was measured in terms of whether or not a patient re-presented to an emergency department of any of the three teaching hospitals after the index episode. Further, if a subsequent presentation was entered on the research database, length of time taken from index presentation to subsequent presentation(s) was also measured.

Statistical analysis.

Descriptive and univariate statistics.

Descriptive and univariate statistics were undertaken on the socio-demographic, clinical feature and care pathway variables for the Repeater ($n = 1,835$) and Non-Repeater ($n = 6,621$) groups to determine whether the data were complete and valid, and to decide which variables to include in the multivariate

analyses. Comparisons of patients in these two groups were made to assess the differences in socio-demographic, clinical features and care pathway variables at the index presentation. Chi-square analyses were used to determine whether the distributions of these variables were significantly different in the two groups and statistical significance was assessed at $p < .05$.

Multivariate analyses.

Survival analysis was used to analyze data on survival time, that is, the length of time between a well-defined time origin and the occurrence of a specific event (Chan, 2004; Harrell, 2001; Hosmer & Lemeshow, 1999). It describes the distribution of the length of time to this event. It is used to analyze data which includes cases where the event has already taken place as well as cases where the event has not taken place yet. Where the event has not taken place yet, this is called *censored data* (Afifi, Clark, & May, 2004). Censored data can also arise if a person is lost to follow-up, if other interventions were used, and also if the event does occur but for an unrelated reason. Where the event has already taken place, it takes the survival time into account, but where the event has not taken place yet, it takes the time at risk into account. The time at risk is the length or time from the time origin until the end of data collection, that is, the time in which the event could have occurred. The time interval between two events can depend on a variety of factors. In this case, the two events are discharge and any subsequent re-presentation to an emergency department with deliberate self-harm.

One of the techniques used for survival analysis is Cox regression (Harrell, 2001; Hosmer & Lemeshow, 1999). This can be used to compare the survival

times of two groups, and takes the influence of confounding variables into account. It was used to assess the survival time till re-presentation to hospital with a deliberate self-harm event, for groups with different care pathways, after adjusting for other variables that could confound the results. That is, do different care pathways change the time it may take for a person to re-present to hospital with a deliberate self-harm event, and can the care pathways taken predict the time it will take a person to re-represent.

The regression analysis provides a hazard ratio. If the hazard ratio is 1, there is no difference between the two groups in the time until re-presentation. If the hazard ratio is >1 , the group compared to the reference group, is likely to have a shorter time to re-presentation, and if it is <1 , the group compared to the reference group, is likely to have a longer time to re-presentation. See Appendix B for a full explanation.

Results

In order to assess the differences in socio-demographic variables for the Repeater and Non-Repeater groups, chi-square analyses were undertaken. Table 5 shows the socio-demographic variables of the Repeater and Non-Repeater groups. The results were significant for the gender, age and source of income variables. Although there were a greater number of females in both the Repeater (60.9%) and Non-Repeater (58.2%) groups, compared to the Non-Repeater group there was a higher proportion of females in the Repeater group, and lower proportion of males.

Table 5

Socio-demographic Variables of Repeaters and Non-Repeaters at Index Presentation

	<i>df</i>	Repeater (<i>n</i> = 1,835)		Non-Repeater (<i>n</i> = 6,621)		<i>X</i> ²	<i>P</i>
		<i>n</i>	%	<i>n</i>	%		
Gender	1					4.449	.035
Male		717	39.1	2,768	41.8		
Female		1,118	60.9	3,852	58.2		
Total		1,835	100	6,620	100		
Missing		0		1			
Age Group (years)	8					44.213	.000
5-14		15	0.8	42	0.6		
15-19		419	22.9	1,310	19.8		
20-24		453	24.7	1,407	21.3		
25-29		244	13.3	1,063	16.1		
30-34		202	11.0	704	10.7		
35-39		178	9.7	615	9.3		
40-44		128	7	466	7.1		
45-49		78	4.3	349	5.3		
50 and over		116	6.3	646	9.8		
Total		1,833	100	6,602	100		
Missing		2		19			
Income	10					71.069	.000
Job Search		334	31.3	984	24.2		
Employed full time		172	16.1	1,011	24.8		
Employed part time		76	7.1	339	8.3		
Disability pension		116	10.9	339	8.3		
Supported by a parent		107	10.0	360	8.8		
Supporting parents benefit		42	3.9	192	4.7		
Sickness benefit		60	5.6	135	3.3		
Austudy		44	4.1	178	4.4		
Other		78	7.3	369	9.1		
No means of support		16	1.5	52	1.4		
Supported by another		23	2.2	111	2.7		
Total		1,068	100	4,070	100		
Missing		767		2,551			
Aboriginal or Torres Strait Islander	1					1.649	.199
Yes		78	4.3	329	5.0		
No		1,753	95.7	6,268	95.0		
Total		1,831	100	6,597	100		
Missing		4		24			

Persons in the Repeater group were more likely to be younger. The Repeater group was also more likely to be on job search allowance, disability and sickness benefits, and less likely to be working full-time. However, this variable had missing values equivalent to 39% of the total sample, and therefore there were too many cases missing for this variable to be valid. The Aboriginal or Torres Strait Islander distribution did not differ significantly for the Repeater and Non-Repeater groups.

In order to assess differences in clinical feature variables for the Repeater and Non-Repeater groups, chi-square analyses were undertaken. Table 6 shows the clinical feature variables of the Repeater and Non-Repeater groups. The chi-square results were significant for method of deliberate self-harm, main precipitating stressor, and involvement of alcohol and other drugs. Both groups reported overdose as the principal method of deliberate self-harm, but the Repeater group was more likely to engage in wrist slashing, stabbing or laceration, and less likely to use gas inhalation. However, the recording of the method may not have been completely accurate. This can be seen if the drug overdose and poisoning method is compared with the involvement of alcohol and other drugs variable. While 6,087 used drug overdose or poisoning (71% of 8,453) as method of deliberate self-harm, alcohol or other drugs were only involved in 3,535 cases (41.8% of 8,453), if you combine all the positive categories for this variable. It was expected that this percentage would be much closer to that of the drug overdose or poisoning category of the method variable. However, even if the 5.7% of missing data is taken into account, the percentage where alcohol and other

drugs were involved is much lower than the 71% who used drug overdose or poisoning as method of deliberate self-harm. This comparison seems to support the research team's suspicion that the involvement of alcohol and other drugs were not recorded uniformly at the three hospital sites. However, inaccurate recording of the method variable may have contributed to the inconsistency between the two variables.

Table 6

Clinical Feature Variables of Repeaters and Non-Repeaters at Index Presentation

	<i>df</i>	Repeater (<i>n</i> = 1,835)		Non-Repeater (<i>n</i> = 6,621)		<i>X</i> ²	<i>p</i>
		<i>n</i>	%	<i>n</i>	%		
Method of DSH ^a	6					21.517	.001
Drug overdose/poisoning		1,314	73.1	4,773	74.3		
Lacerations		305	17.0	938	14.6		
Hanging		43	2.4	201	3.1		
CO or gas inhalation		22	1.2	160	2.5		
Shooting		1	0.1	5	0.1		
Suicidal ideation		7	0.4	35	0.4		
Other e.g. jumping		106	5.8	317	5.0		
Total		1,798	100	6,429	100		
Missing		37		192			
Main precipitating stressor	17					92.880	.000
Relationship problem		418	25.2	2,079	34.2		
Family problem		225	13.6	768	12.6		
Adjustment to psych disorder		511	30.8	1,446	23.8		
Adjustment to medical disorder		49	3.0	186	3.1		
Substance abuse/addiction		162	9.8	488	8.0		
Alcohol problem		76	4.6	208	3.4		
Sexual abuse		39	2.4	85	1.4		
PTSD		31	1.9	98	1.6		
Legal problems		32	1.9	137	2.2		

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	<i>df</i>	Repeater (<i>n</i> = 1,835)		Non-Repeater (<i>n</i> = 6,621)		<i>X</i> ²	<i>p</i>
		<i>n</i>	%	<i>n</i>	%		
Financial problems		32	1.9	120	2.0		
Employment issues		22	1.3	139	2.3		
Reaction to recent death		22	1.3	105	1.7		
Grief & loss		11	13.7	69	1.1		
Education/school stress		9	0.5	61	1.0		
Self esteem issues		8	0.5	50	0.8		
Social isolation		7	0.4	25	0.4		
Pregnancy		3	0.2	18	0.3		
OD or other pact		2	0.1	5	0.1		
Total		1,659	100	6,087	100		
Missing		176		534			
Borderline personality disorder	1					2.008	.157
Yes		440	31.6	1,608	29.7		
No		951	68.4	3,810	70.3		
Total		1,391	100	5,418	100		
Unknown		444		1,203			
Involve alcohol & other drugs	3					8.846	.031
Influence of alcohol		43	2.6	180	2.9		
Alcohol definitely involved		452	26.2	1,692	27.1		
Other drugs involved/suspected		290	16.8	878	14.0		
Not applicable		937	54.4	3,500	56.0		
Total		1,722	100	6,250	100		
Missing		113		371			

Note. ^a DSH = deliberate self-harm.

The main precipitating stressor differed between the two groups. That is, the Repeater group was less likely to have had the relationship problem coded by the clinician as their main stressor than the Non-Repeater group (25.2% versus 34.2%). The Repeater group was more likely to have listed adjustment to a

psychiatric disorder (30.8% versus 23.8%), and grief and loss (13.7% versus 1.1%), than the Non-Repeater group. Only one precipitating stressor was recorded on the Self Harm Data Sheet. In reality, there could be half a dozen precipitating stressors to the deliberate self-harm episode, however a subjective decision had to be made, and the other precipitating stressors simply had to be excluded. Although a patient was not recorded as having a relationship problem as their main precipitating stressor, this did not mean that there was not a relationship issue. Therefore this variable is for descriptive purposes only.

The chi-square result for Borderline Personality Disorder was not significant, but there were too many missing cases for this analysis to be valid. Involvement of alcohol and other drugs differed between the two groups, with the Repeater group more likely to have other drugs involved or suspected (16.8% versus 14%). As stated above, there is concern about the validity of this variable, when comparing the percentages to the method variables.

In order to assess the care pathway variables for the Repeater and Non-Repeater groups, chi-square analyses were undertaken. Results are presented in Table 7 and were significant for the assessment and admission variables. However, the two groups did not differ significantly in relation to whether discharge planning had occurred. In relation to assessment, the Repeater group was more likely to have received no assessment (21.9% versus 18.7%). The Repeater group was also more likely to have received the mental health assessment only, although the difference is minimal. The Non-Repeater group was more likely to have received the social work assessment only (9.9% versus 7.3%), and more likely to have received both the social work assessment and mental health

assessment (26.7% versus 25.8%). In relation to admission, the Repeater group was more likely to have received an inter-hospital transfer (9.7% versus 5.7%), and both an intra- and inter-hospital transfer (12.4% versus 8.8%). However the Non-Repeater group was more likely to receive an intra-hospital transfer only (62.7% versus 55.6%).

Table 7

Care Pathway Variables of Repeaters and Non-Repeaters at Index Presentation

	df	Repeater (n = 1,835)		Non-Repeater (n = 6,621)		X ²	p
		n	%	n	%		
Assessment	3					18.784	.000
No assessment		402	21.9	1,239	18.7		
Both assessments		474	25.8	1,768	26.7		
Only mental health		826	45.0	2,959	44.7		
Only social work		133	7.3	655	9.9		
Total		1835	100	6,621	100		
Admission	3					65.909	.000
No admission		409	22.3	1,506	22.8		
Intra & inter hospital transfer		228	12.4	580	8.8		
Intra hospital transfer only		1,020	55.6	4,143	62.7		
Inter hospital transfer only		178	9.7	380	5.7		
Total		1,835	100	6,609	100		
Missing				12			
Discharge Planning	1					0.220	.639
Yes		1,561	85.3	5,376	84.4		
No		269	14.7	995	15.6		
Total		1830	100	6,371	100		
Missing		5		250			

To summarise, for the socio-demographic variables, the chi-square results were significant for the gender, age and source of income variables, but invalid for

the latter variable because of missing values. In relation to clinical feature variables, the chi-square results were significant for the method of deliberate self harm, main precipitating stressor and involvement of alcohol and other drugs. However, these three variables were found to be invalid, for the reasons outlined above. In relation to the care pathway variables, the chi-square results were significant for the assessment and admission variables.

Based on the results of the univariate analyses, the role of assessment in subsequent deliberate self-harm presentations was further investigated by means of multivariate analyses which could take the role of the confounding variables into account. The age, gender and admission variables were identified as valid confounding variables in the initial analyses.

The first analysis included the assessment, age and gender variables. Using Cox proportional hazards regression, the relationship between the type of assessment and the length of time in days to the next emergency department presentation for deliberate self-harm was modeled on both the Repeater and Non-Repeater groups. As a re-presentation to hospital for deliberate self-harm did not occur for the Non-Repeater group during the study period, this is considered to be censored data. Censored data has been explained in the multivariate analysis section at page 46 (Kellie, confirm this will be page 46) above. The regression produced hazard ratios for each level of the variable, with the reference category being those with no assessment. The analysis was adjusted for age (entered as a continuous variable), and gender (entered as an indicator variable). A small number of patients were known to have died while in the hospital, or while being

transferred to another hospital ($n = 11$). These were excluded from the analysis as they were no longer at risk of re-presentation.

The results are summarized in Table 8. They indicate that compared to the reference category of no assessment, patients who were given a social work assessment only were significantly more likely to have a longer period of time to re-presentation. If a patient had both the social work assessment and mental health assessment, then they were also significantly more likely to have a longer period of time to re-presentation compared to no assessment. Those patients who were given the social work assessment only were more likely to have a longer period of time to re-presentation than those patients who had both the social work and mental health assessments.

Table 8

Association Between Assessment Type and Time Taken for Re-presentation to the Emergency Department for Deliberate Self-Harm (1995-2004)

	<i>n</i>	%	Hazard ratio & CI	<i>p</i>
Type of assessment at index				
No assessment	1,627	19.3	Reference	
Social work only	785	9.3	0.623 (0.512, 0.759)	.000
Mental health only	3,772	44.8	0.948 (0.814, 1.069)	.384
Social work & mental health	2,233	26.5	0.839 (0.735, 0.959)	.019
Gender				
Female	4,946	58.8	Reference	
Male	3,471	41.2	0.896 (0.816, 0.985)	.023
Age			0.989 (0.985, 0.993)	.000

Note. 39 missing values.

There was no significant difference between the mental health assessment only and no assessment in terms of time to re-presentation. Males were significantly more likely to have a longer period of time to re-presentation compared to females. Further, for every unit increase in age, there was a small, but significant, increase in the likelihood that a re-presentation would take a longer time.

The Repeater group was more likely to have been transferred to another hospital, and therefore inter-hospital transfers were included in the multivariate models. Since inter-hospital transfers were mainly to psychiatric hospitals, it was considered that this binary variable would be an adequate *marker* for psychiatric morbidity. It was considered likely that the presence or absence of psychiatric morbidity would be a confounding (moderating) factor that would influence the association between type of assessment and presentation to an emergency department. That is, the association between type of assessment and re-presentation to an emergency department for deliberate self-harm may be confounded by the level of psychiatric morbidity in the patient.

The graph of the hazard function at the mean of the covariates is shown below in Figure 2. This graph clearly shows that after two years, 30 percent of the patients who were transferred to other hospitals had re-presented, whereas after two years only 18 percent of the patients without inter-hospital transfers had re-presented.

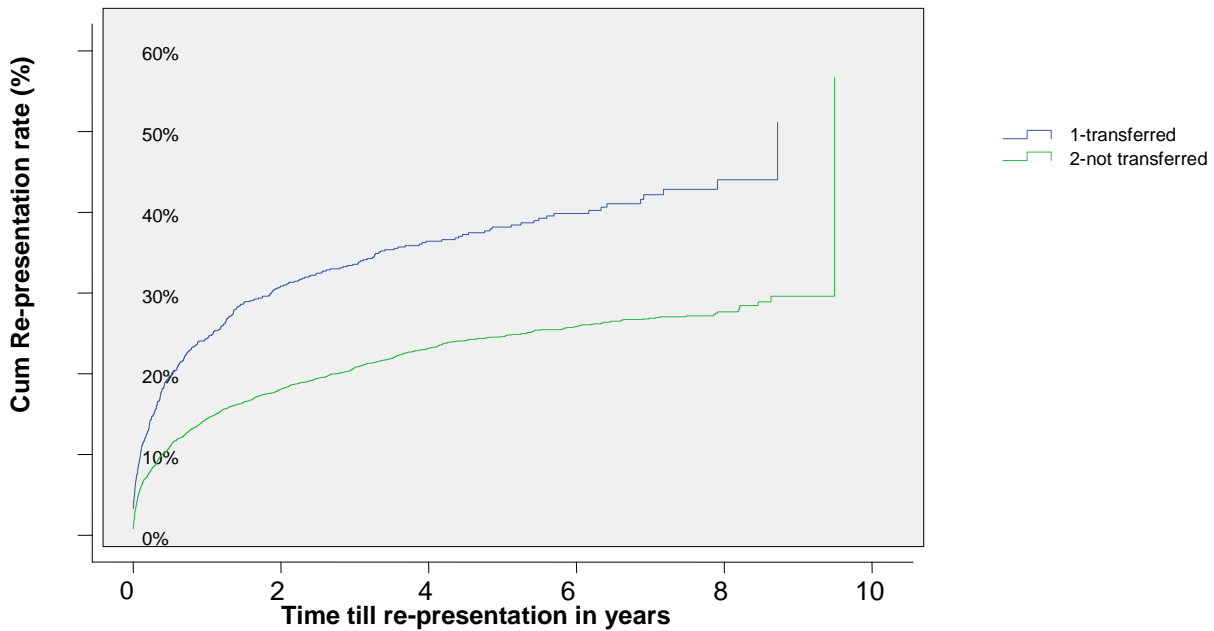


Figure 2. Re-representation rate over time for patients with and without inter-hospital transfers.

To further test that the relationship between type of assessment and time to re-representation was moderated by psychiatric morbidity, the sample was divided into those who did and did not have an inter-hospital transfer, and the Cox regression analysis was re-run separately for each group. The results of these two sub-analyses are presented in Table 9. For those with no inter-hospital transfer, and relative to patients with no assessment, the patients who had a social work assessment only were significantly more likely to have a longer time to re-representation, which was the same finding as in the previous analysis. However, for this same group of patients, the time to re-representation for those who had a mental health assessment only, or both a social work and mental health

assessment, did not differ significantly, from the time to re-presentation for those who had no assessment.

Table 9

Association Between Assessment Type and Time to Re-presentation to the Emergency Department for Deliberate Self-harm (1995-2004) Divided into No Inter-hospital Transfer Versus Inter-Hospital Transfer

	<i>n</i>	%	Hazard ratio & CI	<i>P</i>
No inter-hospital transfer patients (<i>n</i> = 6,886) (include intra-hospital transfers)				
Type of assessment				
No assessment	1,248	18.1	Reference	
Social work assessment only	747	10.8	0.740 (0.597, 0.918)	.006
Mental health assessment only	2,890	42.0	1.082 (0.935, 1.252)	.289
Social work & mental health assessment	2,001	29.1	0.973 (0.833, 1.137)	.730
Gender				
Female	4,072	59.1	Reference	
Male	2,814	40.9	0.959 (0.861, 1.069)	.449
Age			0.990 (0.986, 0.995)	.000
Inter-hospital transfer patients (<i>n</i> = 1,457)				
Type of assessment				
No assessment	362	24.9	Reference	
Social work assessment only	36	2.4	0.634 (0.342, 1.173)	.146
Mental health assessment only	840	57.7	0.663 (0.534, 0.821)	.000
Social work & mental health assessment	219	15.0	0.697 (0.519, 0.938)	.017
Gender				
Female	825	56.6	Reference	
Male	632	43.4	0.727 (0.597, 0.886)	.002
Age			0.981 (0.974, 0.988)	.000

Note. 113 missing cases.

Results were different for those patients who did receive inter-hospital transfers and were therefore presumed to have psychiatric morbidity. Patients who received a mental health assessment only, or both a social work and mental health assessment, were significantly more likely to have a longer time to re-presentation compared to those who had no assessment. For patients who received inter-hospital transfers, there was no significant difference between the social work assessment only and no assessment in terms of time to re-presentation, although it must be noted that there were only 36 patients in the social work assessment only category.

Discussion

The first research question was to determine whether an assessment after a deliberate self-harm episode reduced the risk of a re-presentation, by increasing the likelihood that re-presentation will take longer in a population of people who presented to a Western Australian teaching hospital. It was found that compared to patients who had no assessment, patients in all the other assessment groups were likely to take longer before they re-presented with another episode of deliberate self-harm. The social work assessment only was the most beneficial, followed by a social work plus mental health assessment, followed by a mental health assessment only. The finding that the social work assessment only was the most beneficial assessment is a new finding, and this has not been identified previously in the literature. Therefore, based on the analyses in Stage One, assessment does influence the length of time it may take for a subsequent deliberate self-harm

presentation, which supports Hickey et al.'s (2001) findings. More specifically, different types of assessment have different influences regarding the length of time to re-presentation. However, gender and age were found to be confounding factors in that males were more likely to have a longer time to re-presentation, and as people aged, it was more likely it would take longer for re-presentation.

The association between type of assessment and length of time to re-presentation to an emergency department for deliberate self-harm was moderated by the percentage of people who received an inter-hospital transfer. As explained earlier, the majority of inter-hospital transfers were to psychiatric wards and therefore this measure was considered to identify the presence or absence of psychiatric morbidity. It was found that after two years from index presentation, 30% of those patients who received inter-hospital transfers re-presented, whereas just 18% of patients who did not have an inter-hospital transfer re-presented. For patients considered to have psychiatric morbidity, no significant difference in time to re-presentation was found between the social work assessment only and no assessment. Patients who received the mental health assessment on its own, and the mental health assessment combined with the social work assessment, were significantly more likely to have a longer time to re-presentation than those who received no assessment. On the other hand, for patients who did not receive an inter-hospital transfer, the mental health assessment on its own was no different from no assessment in time to re-presentation. The social work assessment on its own, and the social work assessment combined with the mental health assessment, conferred a greater likelihood that patients would have a longer time to re-presentation.

Therefore, in addition to the finding that the time to re-presentation was likely to be longer for those who received an assessment compared to those who had no assessment, the type of assessment was also found to make a difference. Specifically, those who received a social work assessment only were most likely to have a longer time to re-presentation. However, if psychiatric morbidity is present, then the assessment process needs to be different from when psychiatric morbidity is absent. This finding supports the guidelines set out by the New Zealand Guidelines Group and Ministry of Health (2003), who stated that a patient should be triaged, and given an assessment as a way of screening prior to a comprehensive psychiatric-psychosocial assessment. It would be reasonable to surmise then, that assessment drives the overall care planning process and allows the clinician to plan for appropriate after-care or post-presentation services. This has been demonstrated by previous researchers, who have shown that good clinical management is driven by the type of the assessment (Auditor General, 2001; Dower et al., 2000; Gunnell, Bennewith, Peters, & House, 2004).

Therefore, the third research question needed to be addressed. That research question asked which components of these assessments health professionals believe to be important. As the social work assessment was found to be the most beneficial overall in terms of increasing time to re-presentation, it makes sense to explore the components that make up this assessment to find out which ones are important. Based on the clinical features variables, it was found that psycho-social issues, including adjustment to a psychological disorder, relationship problems and family problems, were common precipitating stressors. This is reflective of Shneidman's model of suicide (1987), where he also emphasized the link between

psycho-social issues and pain. According to Shneidman frustrated psychological needs lead to psychological pain, which lead to action, which action may be suicide. Murray's (1938) list of needs helps to explain what Shneidman means by frustrated psychological needs. In fact, there are several needs in Murray's list that are pertinent to suicide. These include the need for succorance (affection) and recognition, and the avoidance of pain. These two needs, for example, relate to the significant clinical features variable relationship issues in that a person's need for affection is not being met. Therefore, it is proposed that a social work assessment may be so effective because they tend to focus on the social components, such as relationship or family problems, which were found to be among the most frequent precipitating stressors (see Table 6). Unfortunately, the quantitative analyses did not provide information as to the structure, content, or focus, of any of the assessments. It would be beneficial to investigate whether the social work assessment in fact does address psychological needs. This would provide information that can be utilized to identify a suitable assessment structure to adopt for use where assessments of deliberate self-harm take place.

Strengths and Limitations

The major strength of the Stage One analysis is that the data included all presentations of deliberate self-harm to emergency departments, rather than only presentations of deliberate self-harm that were then admitted to hospital. This allowed for a more comprehensive investigation of the phenomenon of deliberate self-harm that would be generalisable to a broader segment of persons with self-harming behaviour than prior studies which had been based on hospital admission data only.

The analysis undertaken in Stage One of the study focused on only a section of the possible areas that could be analysed from the gathered information. The researcher chose to focus on the area of assessment because it was identified from the literature review that assessment is effective in reducing the rate of subsequent deliberate self-harm episodes, but it has not been identified what components of assessment make it effective. Subsequent to analyses, a significant finding was that the social work assessment was more effective in increasing the time for a patient to re-present to hospital with a deliberate self-harm episode.

Although the results of the univariate analyses were significant for the socio-demographic variable income, the clinical features variables method of deliberate self-harm, main precipitating stressor, and involvement of alcohol or other drugs, they were not used in the multivariate analyses. Various recording and validity issues were identified, and these have been explained in the results section of Stage One. For example, the socio-economic status of the patient was measured in terms of source of income, however, it was incomplete for a substantial proportion of patients because the information was not found to be recorded in the patient file, and therefore could not be included in the analysis. Moreover, many were young persons at home and therefore the parental occupation would have been more useful. Coding based on location of residence at time of the deliberate self-harm presentation could have been done with data linkage, however, an application for receiving this data was made to the Department of Health and it was not available in time to be included in this thesis. If these issues could be rectified, then further multivariate analyses could be undertaken.

It is not known whether the association between type of assessment and time to re-presentation holds true for all types of patients. For instance, it is possible that other factors come into play if the patient has a certain type of psychiatric illness and though a marker of psychiatric co-morbidity was used in the analysis, it would be preferable to have the exact knowledge of the type of diagnosis that would be available through data linkage as explained above. Although the analysis took some account of psychiatric morbidity's moderation of the influence of assessment on re-presentation time, it was based on inter-hospital transfer and not direct knowledge. Further, some patients who were not transferred would have spent some time in psychiatric wards at the emergency department hospital. Therefore, these patients had some degree of psychiatric morbidity, albeit not as high a degree as those who were transferred.

A further limitation is that the number of deliberate self-harm episodes prior to the index presentation on the Self Harm Data Sheet was not recorded. Therefore, any previous presentations cannot be used in the analysis. A patient's index presentation for this study, could in actuality be that patient's second or third or any numbered presentation, and this may bias results.

Another limitation is that the reason some people did not re-present for deliberate self-harm was because they were deceased. This was captured on the Self Harm Data Sheet if the death occurred while in the hospital, or while on transit to another hospital, however nothing further is known about mortality status. Nonetheless suicide is a rare event, and though it is seriously elevated in persons who self-harm, it is expected that the numbers involved would probably not alter the overall findings.

Deliberate self-harm presentations were only recorded if they occurred at a teaching hospital. Therefore, if people later presented at a metropolitan regional or regional hospital, or at any private hospital, or at Princess Margaret Hospital, then the deliberate self-harm event was not recorded.

At one of the hospitals in the early years of the study period, all persons who presented for deliberate self-harm were recorded. However, in latter years, that hospital was no longer able to maintain this recording and subsequently only recorded cases if they were under 25 (some years) or under 29 (other years). Therefore it is expected that cases are missed at Hospital A, and repeat presentations are missed as they would not be recorded.

Recommendations and Future Research

It is recommended that the cases be linked to the Hospital Morbidity Database and the Emergency Department Information System for re-analysis. It would have been optimal to have been able to include historical and concurrent information about persons who have died, who have presented to emergency departments at other hospitals, and to have had the mental health service contacts and psychiatric diagnoses for the study population. However, this would have necessitated receiving linked data from the Department of Health, and though application has been made for this data, it was not available in time to be included in this thesis.

Stage Two

The results of Stage One demonstrated that the social work assessment was more effective than the mental health assessment and more effective than no assessment in increasing the time it will take for a patient to re-present to hospital with a further deliberate self-harm episode. The aim of Stage Two was to conduct in-depth research using qualitative methods to examine what it is about the social work assessment that might account for this efficacy.

In order to undertake Stage Two, it was initially planned that a focus group would be formed with social workers who had undertaken the relevant assessments in the three Perth teaching hospitals. The benefits of a focus group were gaining access to the workplace culture, stimulating memories or experiences by hearing others verbalized experiences, and capturing a common language (Lindlof & Taylor, 2002). It was not possible, however, to arrange a time where all participants were available due to differing work and personal commitments. Instead, six individual interviews were undertaken with social workers as representatives for the social work departments in each of the three Perth teaching hospitals. Specifically, the research question was which components of the assessment make the most important contribution to the outcome, which outcome in Stage One was increasing time to re-presentation?

Method

Research design.

A qualitative research design was employed in the current study with a phenomenological approach. Grbich (1999) postulated that a phenomenological approach is useful in gaining understanding and interpretation from an individual's subjective experience (Grbich, 1999). She described the process as removing "all theoretical perspectives, symbols and constructs, as well as her/his own preconceived ideas", and re-confronting the phenomena like "an alien from a distant planet" (p. 169).

Therefore, utilising qualitative methodology with a phenomenological approach allowed for an investigation of the understanding and interpretation of the participants' experiences of conducting the social work assessment. The principals of using a phenomenological approach is reflective of the aim of Stage Two of this study, which was to investigate which components of the social work assessment were believed to be more effective. The phenomenological approach enables an investigation of an individual's subjective beliefs and understanding in context. It was considered an appropriate theoretical orientation to adopt for this stage. According to Banister, Burman, Parker, Taylor and Tindall (2001), this type of approach allows interviewees to provide detailed, in depth accounts of their individual experiences. Therefore, this will provide a means of examining the interviewee's individual experiences of conducting these assessments, and their experiences of its effectiveness.

Participants.

A purposive sampling approach was adopted as there were limited numbers of people who had experience in the specific area being investigated (Marshall & Rossman, 1999). Social workers were recruited who had been employed within the social work department and had conducted the social work assessment at any of the three Perth teaching hospitals at any stage during the 1995-2004 period where the data for stage one had been collected. It was believed that restricting the study to participants who had worked within the settings where the data were derived, allowed for a sample that had the experience to provide an informed opinion of the elements of the assessment they believed were effective.

Materials.

An information letter (Appendix C) and an informed consent letter (Appendix D) was given to participants. A semi-structured interview schedule, described above, was utilised to guide the data collection (Appendix E). A voice recorder and transcriber were also used.

Procedure.

Prior to commencing Stage Two, approval was obtained from the Ethics Committee of the Faculty of Computing Health and Science at Edith Cowan University. Telephone calls were made by the principal investigator to each potential participant outlining the purpose of the research and enquiring whether they would like to participate. Based on their verbal consent, an information letter (Appendix C) and an informed consent letter (Appendix D) was mailed out to

them formally inviting them to participate. All invitations were accepted. Participants were advised they were free to withdraw their consent at any stage and to have any data they contributed destroyed. Upon obtaining participants' agreement and signed informed consent, face-to-face semi-structured, open-ended interviews were adopted to collect data for the research question, based on Marshall and Rossman's (1999) explanation of this method of interviewing. The purpose was to provide an explanation, or identify themes that could be related to the finding in Stage One, and to identify plausible relationships shaping the findings. Each interview took place at the participant's place of employment.

The semi-structured interview allowed the interviewer to lend some direction to the process, whilst also allowing the participants to elaborate and describe issues they believed were important. Interviews lasted between 45 and 60 minutes and were tape recorded. All interviews were conducted by the researcher to ensure consistency. Three interviews were transcribed by a contracted transcriber, and the researcher reviewed the tapes with the transcriptions for accuracy, and three interviews were transcribed by the researcher.

Analysis

According to Grbich (1999) adopting an iterative mode means conducting interviews, transcribing and then analysing the information to find out what is going on. This was adopted for Stage Two. More specifically, a thematic analysis approach was undertaken to identify any themes evident in the data and then to use them in a "theory-testing or theory-generating orientation" (Grbich, 1999, p. 234). Salient themes were generated and the interviews re-read to ensure they were

grounded in the data. This process involved continually refining the themes against the data to ensure they were validly represented and accurately represented the participants' understanding and subjective experience.

As suggested by Banister et al. (2001), member checks, whereby themes are reflected to all participants, were undertaken to further assist validity. The participants agreed that the identified themes were representative of their position.

Findings and Interpretation

Although each participant worked at a different setting and with patients who had diverse demographic backgrounds and needs, commonalities were identified during the analysis. After conducting qualitative analyses of six interviews, three common themes were identified as being important components in the social work assessment that the participants used in their workplace. The first theme identified was *the relationship*. Within this theme, descriptions such as listening to the patient's subjective experience, using a person-centred approach, spending time with the patient, and building trust and a therapeutic relationship, were found. The second theme that emerged was *psycho-social needs*. Exploring the psycho-social context of the deliberate self-harm event identified frustrated needs. Other descriptions within this theme included liaising with people identified as having an important and relevant relationship with the patient, as this helped to flesh out the psycho-social needs of the patient from alternative perspectives that were being thwarted, as well as giving insight into the social environment the patient would be returning to. The final theme identified was *assessment is intervention*. Intervention during assessment involved the use of

cognitive restructuring to help patients interpret things in an alternative way so as to facilitate hope and coping. Other interventions that occurred during assessment included dealing with practical issues, problem-solving and planning.

Table 10

Identified Themes

Number	Themes
1.	The relationship
2.	Psycho-social needs
3.	Assessment is intervention

The Relationship

The relationship between practitioner and patient was identified as a crucial component in the assessment process: “We are someone that is interested ...that really helps” (P1). This relationship between practitioner and patient relates to person-centred theory (Rogers, 1951). Person-centred theory refers to the import of unconditional positive regard, by accepting the patient’s subjective reality non-judgmentally.

Timing was identified by the participants as crucial in developing this relationship. By timing, one interviewee explained:

the sooner they get in the door, the more open they are, the more responsive and the ability to engage with them is (P4).

This is reflective of the crisis model, which posits that a person is more willing to accept help during the crisis period, but may minimize any need for help when the crisis has been alleviated (Ewing, 1978). The participants felt the relationship was enhanced through building rapport by spending time to get to know the patient:

It's so important in the beginning certainly, developing a rapport and taking some time to get to know that person and asking that person information about themselves... (P1).

In fact, the participants believed that timing may influence the quality of the information given, and the ability of the patient to connect on a more meaningful level:

If you are not engaged in an assessment with that person when they first come in, and you are the fifth person they are seeing, they have got very little energy to meet another person and engage with that person to maybe want contact with them (P4).

The participants believed if a positive relationship could be established this meant a patient was more committed to engaging in the assessment and intervention process, and that the quality of the information gathered was better and thereby more helpful in the development of an intervention plan. The

participants believed that connecting with the patient as soon as possible also positively influenced ongoing engagement. One interviewee stated:

... if we get in early and start that progressive process we were more likely to have successful outcomes in terms of continuing contact outside in the community (P1).

The Auditor General's (2001) report highlighted that many people who present to an emergency department with an act of deliberate self-harm and who are not seen in a timely manner, leave the hospital without even having an assessment conducted. If there are people who leave without an assessment, they are potentially at a greater risk of repeat deliberate self-harm or suicide (Beautrais, 2004). If the assessment process could commence as a matter of priority, then the likelihood of someone absconding would decrease, the greater the chance rapport would develop, and the greater the chance for being able to address the patient's needs:

... it differs from me being involved from the start and being involved during the day, to me being dragged in at the end just to say, 'hi, I'm [name], this is the list of services you can look at when you go home'. I was much less likely to engage because I don't have anything around

that, being able to convince someone to follow-up if they hadn't got to know me during the day and seen my face several times ... (P1).

In addition to timing, actual time spent was also believed to enhance the relationship between practitioner and patient. All participants purported that spending time with a patient further enhanced the quality of the relationship. One interviewee stated “we might spend a whole day” with a person “if we had to” (P5). In fact, it was a general consensus that the “assessments take however long” (P6). One interviewee stated “definitely being able to spend more time really made the difference” (P1), as it “relates to the therapeutic sort of relationship or the connection” (P1).

The participants who conducted the assessment reported this was possible because their roles allowed for this flexibility, as opposed to other staff who conducted assessments including the medical doctors, “the doctors don't have the amount of time that we do” (P5). Time is necessary to build trust with people, because for most people it takes time to trust an assessor, particularly in order to share personal details, “... maintaining that contact and saying that you're still here and available to help is obviously quite important” (P2). Deliberate self-harm is a very sensitive and intimate matter, and therefore limiting the time to conduct an assessment may negatively influence the richness of information gathered. This highlights resource implications, in that the amount of time taken for assessment would be dependent on staff availability and patient demand (Hamilton & Cook, 2000).

In addition to timing and time spent to help build the connection between practitioner and patient, the participants believed the patient experienced psychological relief when they felt heard and understood, and they were more responsive. The participants believed it was important for the practitioner to show interest in the patient:

... the fact that they have shared all these intimate details with someone, and the fact that you are invested in finding out how they are, this makes a big difference, them knowing that someone is interested and cares about what happens to them. They are not just another number. ... We are someone that is interested. Just being able to sit and talk about yourself is quite nice, even if you are upset. That really helps. For the patient, feeling heard, knowing someone is interested and taking the time out (P6).

According to the participants, “getting someone to tell that story and giving them time and space to do that, and to be asking the right questions” (P4), this process was helpful because it allowed the patient to develop a rapport with a professional who was in a position to address their needs. Murray’s (1938) need for succorance is reflective of what is being achieved by the relationship, in that the patient is receiving confirmation and validation:

Sometimes they have a sense that they shouldn’t be there and they are taking up our time because “everything else is more important”.

So my feeling was that you had to confirm that they were in the right place and it was great that they were there. We could do some work together now that they were there. So that was a confirmation, let's look at while you are here, don't minimize or dismiss it because it's important. So I thought that was always a good way to begin. So that you're just not making notes in a file that you can simply handover to the next clinician, you are actually probing a bit more with that story. ... try to get an understanding of how the patient felt they had dealt with things, what impact it was having on them emotionally, what their fears were about what could be possibly the outcome, and things like that (P4).

Being interested in the patient's story was important, and specifically listening to the patient's subjective experience: "you would ask for their story" (P4) rather than diagnosing. Again, this is reflective of Roger's (1951) person-centred model. Participants voiced their avoidance of labeling:

We are not looking for a diagnostic category....you wouldn't think ok this person is a borderline. It was something I didn't want to start with, giving that title. You would actually be looking at them, who has come (P3).

Rather, participants believed that in order to achieve a relationship between practitioner and patient, they needed to use:

... probably quite a bit of client-centred and client-directed work, so working with the client and working with the information that they provide us with (P1).

As one interviewee put it:

I don't see the point in saying to a girl who has broken up with her boyfriend, 'well, you know, it sounds like you would be better off without him'. You have to listen and respect them (P6).

The participants identified that the assessment process worked better if it was client-directed:

I have never found it helpful to sit down with a form, and tick the boxes. You still get the information you want, but it is at the patient's pace (P6);

and, it was more about “listening to the story they want to tell, not the story we want to hear about” (P3). In fact, the flexibility of the assessment process decreased the likelihood of the interviewee making assumptions:

...our strength is actually going where the client takes us rather than where the schedule takes us. The social work assessment is less

formalized... As the supervisor in this area, I would have a scheduled assessment under great pressure because I think the minute you have an assessment in front of you, that's where you will go. So I think that's our strength is actually going where the client takes us rather than where the schedule takes us... we tend to keep the framework in our heads rather than on a piece of paper (P3).

Participant 2 stated "...they're trying to communicate something ...". Information gathered in this respect would help the interviewee gain insight into what a patient was trying to achieve, and the resources available to that patient because, as one participant stated:

...understanding what the purpose of the self-harming behaviour is, is really important. You actually have to have some sort of shared experience and understanding of what their reality is (P3).

Participants described that understanding the purpose of the behaviour was important in terms of gauging risk about possible future deliberate self-harm behaviour. Understanding the subjective experience allowed for a greater understanding of the function of the behaviour. As set out in the literature review (Auditor General, 2001; Jobes, 2000), medical severity should not be the sole indicator of a patient's suicidality, as the physical symptoms may merely be due to means or knowledge. Rather, the participants thought that understanding the patient's internal state helped to contextualize the function of the behaviour, and

the capacity of the patient to engage in constructive coping strategies. They believed the quality of the relationship would influence the genuineness of the information gathered, and resultant likelihood that a patient would remain engaged.

Psycho-Social Needs

As identified in the literature review, Shneidman (1987) postulated that people who engage in deliberate self-harm behaviour experience psychological pain because their psychological needs are not being met, which needs can be understood by the work of Murray (1938). The participants described that focusing on psycho-social needs was important in the assessment process.

... the social workers involved would be looking for psycho-social factors. ... So we don't just assess the person, we also assess what's going on around them (P3).

Participants described some of the areas of investigation:

... why they came, what their family history was like, what the social history was, had they had previous admissions, were they linked in to any other services, family history of mental illness, medication history, what issues were presenting on that particular occasion ... (P6).

A focus on psycho-social needs refers to understanding a person's internal well-being, relationships with others, and their environment. One participant stated:

We were the people who could deal with all the fuzzy stuff, mental health or emotion laden ... so we took a large number of that fuzzy grey stuff ... like a relationship failure (P4).

The participants described focusing on psycho-social needs, particularly relationship needs, to understand the context of a deliberate self-harm episode. All participants described taking a systemic approach to assessment, by investigating the environmental context within which the patient lives.

We'd probably go into family and social history in a lot more detail ... more in depth around family and social and further involvement (P1).

Specifically, an interest in the social context, and interpersonal relationships, helped to identify the patient's needs. Participant 1 stated it was important to "find out about the family and the social stuff, knowing what they're going back to". It appeared that a social focus was adopted because:

...many presentations with self-harm don't actually involve major psychiatric illness. It often revolves around interpersonal conflicts, relationship breakups (P2).

A randomized control trial conducted by Guthrie et al. (2001) found that approximately 70% of all episodes of deliberate self-harm were precipitated by interpersonal conflict, which is reflective of Murray's (1938) need for succorance. This was also reflected in the results in Stage One wherein relationship problem was the number one stressor. Participant six remembered:

If you look at the reason why this person is upset, it's because the boyfriend has just dumped them. That sticks in my mind as being the number one reason (P6).

Exploration of various systems, including relationships with partners, family members, important others or health professionals, was a part of assessment:

I think the assessment is probably more in depth in a sense that it overlooks, it crosses everything, you know, the social issues, and the psychosocial issues ... I think that's what it is. Whereas maybe just a medical approach would just be looking at the medical component, I think. The psychiatrist is more looking at the more psychiatric issues ... So we don't just assess the person, we also assess what's going on around them. We use family systems theory. We acknowledge the person, their personality issues and the system (P3).

One interviewee reflected that the detailed investigation they undertook tended not to occur in the psychiatric assessment:

The psych assessment, because of the number of other referrals they get, I guess that the information they get from the patients is still sufficient to decide whether they need to be kept in hospital, or can they go home. But perhaps systems approach by looking at what has been going on in the past, who is involved, that tends to be left to the social worker (P6).

Not everyone who has a relationship breakdown engages in deliberate self-harm, however. Participants described understanding the individual and the wider groups they belong to, for example, the family, helped to identify why it is that this particular patient has engaged in deliberate self-harm:

...if you are dealing with a young male who has very limited social networks and recently become unemployed and his girlfriend has decided it's finished – you know, you just know that that sort of picture is quite high risk. ... Why is it that this person is particularly vulnerable? Try to have some curiosity about, you know I mean a lot of people have relationship breakdowns, what was it that was significant for this person (P4).

The needs for affiliation, achievement and succorance are highlighted in the above quote, particularly the import of relationships. One interviewee stated:

Relationships are quite at the core. ... They could cope quite well if they had someone in their life. I would ask them why has that link broken down ... But then their lives have just turned to shit and everything has just gone wrong and I just couldn't see a way out. It got beyond that point where they thought they could pick up the phone – oh I don't want to burden my friends. Well, I think your friend would have rather had that phone call than heard that you've ended up in hospital (P5).

The participants stated understanding the patients' relationships with important others was crucial in gaining a clearer picture of the support networks available, and the impact others were having on the patient. This was termed "collateral information" by participant one. Collateral information refers to information received by other persons involved with the central person. This might include family members, partners, friends, work colleagues, or professionals involved in the central person's care. Gathering this information is helpful in understanding relevant systems: "We try to get the collateral information to support what the client is telling us..." (P1). Of course, this would be dependent on the demographics of the person, the context of the situation, and gaining consent from the patient:

It is a more robust picture. The patient might not have insight enough on how their behaviours have been displayed in recent months. I think a carer can give a much better picture, or clearer picture, or another side of the story. I think it is very important to get that other side (P4).

Collateral information was important in the intervention planning because information was being gathered that “might affect a good outcome” (P1). This offers insight into the environment the patient would be returning to, “... looking at what support there is, what is going on at home” (P1). This would be informative in terms of how various systems could be used beneficially for the formulation of a care plan, and informative in relation to realistic expectations. For example, identifying whether there are family members who would be able to help the patient manage daily tasks, and whether the patient is linked to any services already:

It was definitely important to interview family. Most of the time, family or good friends were critical in the ongoing care. I think the people that did best, and this is my take, those who had at least one person who was able to be quite supportive, and check in on them. ... They often felt better because they had a really important role to play. They could make good things happen (P5).

Assessment is Intervention

The third theme, assessment is intervention, emerged clearly from the transcripts, “we tend to do interventions whilst we’re doing assessments” (P3). In fact, the assessment was described as an intervention in and of itself:

I think the whole thing about assessment is that it is a quite therapeutic intervention in its own right, getting someone to tell their story. ... it was really a therapeutic counseling intervention (P4).

In addition to the patient being able to tell their story and getting therapeutic value from doing so, steps were being identified in terms of what needed to occur:

The assessment is an intervention and that’s why it takes so long, because you’re not just getting the story. You are actually thinking through steps (P6).

It appeared that the assessment process was an opportunity to make immediate change:

We are really looking at a treatment modality. What can we do right now with this person to help this person cope better. It is a pretty simple question. ... It is actually acknowledging that you can be doing something right there with what’s happening (P4).

Therefore, the assessment process was identified as an intervention on two different levels. The first level of intervention was at a cognitive level, by changing the way a patient perceived their situation, thereby creating hope. The second level of intervention was at a problem-solving and often practical level, which occurred during assessment and in conjunction with the patient. The participants described taking steps to intervene during the assessment where possible, and to make steps to intervene at a later stage if immediate change was not possible.

According to the principles of crisis theory (Callahan, 1998), a patient is more open to receiving help during a crisis. In relation to the first level of intervention, part of this help includes the use of cognitive restructuring during the assessment process. This was said to help in two ways, firstly to help the patient identify alternative ways to cope with their situation, and secondly by engendering hope:

When a person is in crisis they're much more open to looking at other ways of coping with a situation as well. So the assessment phase even is an opportunity to actually explore, to explore other ways of coping with that scenario or cognitive restructuring – so encouraging the person to rethink, 'well what's another way of looking at this' or 'what's another way of responding'. So even though part of that social work assessment is assessing, there is intervention in that also where you're educating or restructuring the person's thinking, even in a small way, within that short period of time. ... So part of the

intervention often with individuals who are suicidal is actually engendering some sense of hope (P2).

According to participant two, the impact that this had on the patient was that it positively shifted the sense of helplessness:

A lot of our work was to give our reassurance ... certainly trying to create some sort of hope, that things can change and there is a plan whereby that change will occur ... (P2).

It became evident that it was putting the patients' needs before the practitioners' needs regarding information required. Another important aspect of the theme assessment is an intervention, was that the participants would take steps during the assessment process to problem-solve the situation, offer alternative coping strategies, and make practical changes: "A lot of our work is to give our reassurance and explain what will be put in place ..." (P6). For many patients, they needed someone to offer solutions to their needs that didn't include deliberate self-harm, as they were unable to do that at the time of crisis:

What can we do right now with this person to help this person cope better. It is a pretty simple question. It's not like, well I'm going to get as much detail in this story and then I'll give it back to the doctor, or give it back to the psychiatrist. It is actually acknowledging that you can be doing something right there with what's happening. And if

not, at least providing a few options about what happens next for the patient (P5).

However, making the practical changes was even more effective according to the participants:

For whatever reason, if we ... were able to do the most urgent social factors, or welfare factors if possible to take the edge off, that would help (P5).

It makes sense that if the participants were able to actively change something in the patient's environment immediately, then this could possibly reduce the crisis:

Sometimes there are practical things that need to be happening at the same time so, you know, if it's a child issue we might be involving Family Services with it or the Police or others if there are other things going on (P3).

As one interviewee pointed out:

You are dealing with a crisis, so problem-solving is important...the practical things can be stressful to the person in the extreme, but we can help them straight away (P6).

This third theme refers to doing something about the psycho-social needs that are identified during the assessment process, addressing the patients' needs. In fact, participant five reflected on taking practical steps during assessment in relation to psychology:

You need to feel safe, and warm and the whole Maslow's Hierarchy of Needs is just so critical. If you have food, shelter, clothing, you can cope with other things so much better. ... And the emergency is now. I used to say to people what is number one need right now. What will take the edge of feel so suicidal right now – it might be they need somewhere to live, or I haven't had food in three days I'm absolutely starving. Well, let's get you a food parcel. Just really basic stuff often. It's an intervention. I think it is about the intervention and dealing with the basics. I think it's all very well client's determination, but if a person is so exhausted or overwhelmed and you give them a phone number and say here ring Homeswest, and then you ring Centrelink – which is a nightmare in itself – people are already overwhelmed. We say ok, would you like me to assist with this why you are feeling this way. Literally do the phone calls with the people. Often people are just so relieved, there are a series of events that overwhelm you (P5).

Discussion

In Stage Two, an attempt to identify which components of an assessment make the most important contribution to reducing the risk of re-presentation by increasing the time to re-presentation, was carried out. Three themes emerged, which will now be discussed with reference to Shneidman's (1992) model of suicide, incorporating Murray's (1938) list of psychological needs, and the various approaches to working with suicidality. The findings in Stage Two provide support for the importance of understanding deliberate self-harm from a psychosocial point of view, as well as providing support for the use of a psychosocial approach to the assessment process.

Theme one.

Theme one, quality of the relationship between assessor and patient, was believed by participants to provide several positive outcomes. The participants stated if they showed unconditional positive regard, acceptance of the patient's subjective reality, and interest in their situation, then this positively influenced the quality of the relationship. If there was a stronger connection between the assessor and patient, then the participants believed the patient was more genuine and open when discussing their situation with the assessor. The participants thought a stronger connection also benefited ongoing engagement, and compliance with intervention plans. The way participants described developing a relationship with patients, is reflective of Roger's (1951) person-centred model. Rogers believed that people experienced a universal need for positive regard. Timing of contact and time spent with patients was also identified as influencing the quality of the

relationship. In relation to time spent with patients, the participants acknowledged that their role allowed them the flexibility to spend as much time as was needed with the patients. One problem, however, is that the length of time needed in order to complete an assessment means that it would be difficult to set a timeframe for extrapolating this information if the assessment is not structured. Roger's person-centred model was also used by participants in the actual assessment process. That is, participants described encouraging the patients to talk about what was important to the patient, rather than asking the patients to answer a set of specific questions. This in turn, positively influenced the relationship.

This first theme supports the use of Roger's (1951) person-centred model in the assessment process. The participants believed the information gathered was of a higher quality, and that the patients were more connected to the process because they were validated. Timing was identified as an important aspect of developing a quality relationship, and Ewing's (1978) crisis model is useful in understanding why. According to Ewing, a person is much more willing to accept help at the time of the crisis. If a person is admitted to hospital, but not assessed until some time after their presentation, then the crisis phase may be over, and the patients' willingness to engage may be reduced.

One further important benefit of the relationship can be understood within the context of Shneidman's (1992) psychological understanding of suicide and Murray's (1938) list of needs. The relationship addresses an important need, the need for succorance, or the need for nourishment, love, and aid. As identified in the literature review, and based on findings in Stage One, interpersonal conflict or relationship breakdowns, are the number one precipitator for deliberate self-harm

(Guthrie et. al., 2001). The relationship provides an important connection for patients who are in a crisis. This relationship does not address the thwarted needs that precipitated the deliberate self-harm behaviour per se, but it fulfills a need that has been identified as particularly pertinent to deliberate self-harm behaviour (Shneidman, 1992).

Theme two.

In relation to theme two, the participants reported that exploring the patient's psycho-social needs was crucial in gaining a contextual and relational understanding of a deliberate self-harm episode. This exploration helped to identify what needs were being thwarted, using a systemic approach. That is, focusing on psycho-social needs assesses the patient's needs across all the systems they are involved in. The different systems include the individual's internal world, relationships with others including peers and family, and environmental systems including housing, the community and society (Fergusson et al., 2000; Heisel, 2006; Skegg, 2005).

Shneidman's (1987; 1992) psychological understanding of suicide, which model includes Murray's (1938) list of needs, highlights that thwarted needs cause psychological pain, which in turn may lead to deliberate self-harm behaviour. Particularly pertinent to suicide, according to Shneidman, were the needs for achievement (to strive and reach goals quickly), recognition (accomplishments), autonomy (to strive for independence), succorance (to ask for nourishment, love, and aid), infavoidance (concealing a handicap or failing) and harm avoidance (to avoid pain and injury). The participants described that patients talked about

several of these needs, including the need for achievement and succorance, as well as the need for affiliation.

The focus on psycho-social needs is reflective of the biopsychosocial model (Engel, 1977). This focus takes into account two of the three areas of investigation using Engel's model. It seems reasonable to assume that the biological area would be addressed by medical staff and the biological component was identified in the literature review as just as important as the psychological and social areas. The fact that the participants did not identify the biological area of investigation as important may be due to role delineations, and the fact that the medical needs would have been addressed.

One other component identified within this theme was collateral information. According to participants, collateral information offered benefits in two ways. The first way was that alternative perspectives were identified, which according to the participants helped them to gain a fuller, clearer picture of the patient's situation. The second way was that it helped to identify appropriate people in the patient's life that could be involved in addressing the patient's thwarted needs. The importance of collateral information was highlighted in the coronial findings of the Charmaine Dragun case (Coroner's Court of New South Wales, 2010). The coroner outlined "vitally important aspects relating to the assessment and treatment of depression" (p. 173), which included the importance of involving family members or important others to monitor any side-effects of medication that the person may not be able to recognise themselves.

Theme three.

In relation to theme three, assessment is intervention, the participants described actively addressing various needs that were identified during the assessment process. Needs were addressed in two ways. The first way was at a cognitive level, and the second way was at a problem-solving level. In relation to the cognitive level, participants described patients as unable to think of any other alternative way, other than to deliberately self-harm, to reduce the overwhelming distress the patients experienced. In relation to the problem-solving level, the participants stated they were able to *do* something to change the patient's current situation that the patient was unable to do. Participants would, for instance, call Homeswest at the time of conducting the interview to arrange housing if housing was identified as a need.

When an individual perceives a situation as threatening the satisfaction of some fundamental need or needs, and the problem-solving strategies are inadequate, tension and upset will increase and an individual's functional abilities are compromised (Ewing, 1978). Callahan (1998) reported that individuals are more open to receiving professional assistance during a crisis, although they are less likely to seek help if there was no crisis. Therefore, if crisis intervention can be offered at this acute stage, the assessment stage, this could help patients see possible alternatives to deliberate self-harm, and create an expectation at the very least that their situation can change, thereby providing some relief and reducing an agitated state. Taking a problem-solving approach means the interviewee can offer alternative options that would potentially result in a reduction in suffering, and at the same time allow the person to remain alive. Therefore it would follow

that a person would respond favourably to being offered an alternative and more effective way of dealing with their pain. During the assessment, participants described being optimistic, and instilling hope by offering alternative solutions. In turn, this would provide the patient with skills that could potentially reduce the risk of re-presentation.

Summary

The findings in Stage Two have identified three themes the participants believed were important regarding the assessment procedure. Participants identified the importance of the relationship between assessor and patient. This relationship helped with engagement and follow-up and met the need for succorance. Focusing on psychosocial needs help to understand the person within the various systems they were a part of. This understanding helped to identify thwarted needs, and helped to understand the function of the deliberate self-harm behaviour. Finally, participants stated the assessment process provided an opportunity for them to address the specific needs that were identified, thereby changing the person's situation immediately.

It appears that taking a psychosocial approach to assessment made a difference. Furthermore, the participants described taking an eclectic approach to assessment because they used techniques grounded in various theoretical models. These findings support the use of Shneidman's (1987; 1992) psychological understanding of suicide, Murray's (1938) list of needs, Roger's (1951) person-centred model, Engel's (1977) biopsychosocial model, and crisis theory (Ewing, 1978). The final theme, assessment is intervention, provides support for the

position that assessment should be conducted by a mental health professional who has been trained in addressing various needs, such as those identified in Stage Two. Some of those needs included the need for succorance, as well as many practical needs including housing support and child support. Based on training, the role of assessor may be best served by social workers.

In relation to Stage Two of the study, there were only six participants available that had actually performed the social work assessments in the hospitals where the data was collected. It is therefore not known whether further themes may have been identified, but analysis of the interviews conducted demonstrated that saturation had been achieved because no new themes were presented.

General Discussion

In an attempt to replicate Hickey et al.'s (2001) findings in Western Australia, the first aim of this study was to determine whether a formal assessment of a deliberate self-harm episode influenced the time until a subsequent deliberate self-harm episode. If this was the case, the second aim was to determine whether the time till representation differed for different types of assessment. Lastly, the third aim was to identify which components of assessment health professionals believed were important.

In order to achieve these aims, a prospective hospital emergency department based case-series study of 8,656 presenting patients between 1995 and 2004, which included a total of 13,500 presentations, was carried out in Stage One. Cox proportional hazards regression was used to analyse the relationship between the type of assessment and length of time to a repeat deliberate self-harm event. It was identified that those patients who were given a social work assessment would take longer to re-present, compared to those patients who had no assessment, or a mental health assessment only, as well as both the mental health and social work assessments. Having both a social work and mental health assessment was the second most beneficial assessment process, followed by the mental health assessment only, compared to no assessment.

Psychiatric morbidity was considered to be a confounding factor (inter-hospital transfers were considered an adequate marker for psychiatric morbidity as explained in Stage One). For the group with no inter-hospital transfers, the social

work assessment only, followed by the social work assessment and mental health assessment, provided the longest time to re-presentation. The mental health assessment was virtually no different to no assessment. However, for the group who did receive inter-hospital transfers, a mental health assessment, compared to no assessment, with or without a social work assessment, resulted in a longer time to re-presentation, and the social work assessment only was not significantly different to no assessment for this group. Therefore, these results demonstrated that assessment does influence time to re-presentation. The information collected during Stage One identified that assessment plays a role regarding time from one presentation to a repeat presentation. However, the information collected did not reveal which components of assessment were effective.

Stage Two was undertaken, therefore, to qualitatively investigate which components of the social work assessment were effective. This qualitative investigation was conducted on six people who had experience in conducting the social work assessment in the hospitals where the data were derived from. Three main themes emerged as being important elements in the assessment, being the relationship, psychosocial needs, and the belief that assessment itself was in fact an intervention. These themes supported the use of a psychosocial approach to assessing deliberate self-harm (New Zealand Guidelines Group, 2003). Specifically, establishing a relationship between the practitioner and patient was beneficial in several ways, including offering the patient a space to be heard, validated, and supported. Spending time with the patient helped to build trust, and increased the likelihood of that patient staying engaged in both the assessment and intervention process. Using a client-centred approach validated the patient's

experience (Hawton & Catalan, 1987). In relation to identifying psychosocial needs, this theme was particularly important in addressing relationships and the social context, which were identified as being common precipitating factors in deliberate self-harm. Identifying psychosocial needs also helped in understanding external and internal pressures that the patient was experiencing, whether they were real or imagined. It also helped to identify what supports could be used in the development of an intervention plan. The third identified theme, assessment is intervention, was an element of the assessment that offered patients hope, strategies, and practical support. Therefore, it appears that the social work assessment is essentially a psychosocial assessment that brings together various theories, including psychological theories.

Both these studies have been useful in identifying that assessment is an integral part of managing deliberate self-harm in that certain components of assessment can increase the time from one presentation to a subsequent presentation. Of note, is that psychiatric morbidity may require a different type of assessment, as it was found in Stage One that the length of time from one presentation to a subsequent presentation was not influenced as much for those patients considered to have psychiatric morbidity when they undertook the social work assessment. Therefore, an investigation into the components of other assessments would be helpful. It may not be that a one size fits all model can be developed regarding assessment and management of deliberate self-harm. However, the results of this study provides support for the use of a psychosocial approach to assessment in that it was found that having a contextual understanding of deliberate self-harm, establishing a relationship with patients and problem-

solving at the time of assessment help to increase the time to a subsequent deliberate self-harm episode. The participants in Stage Two described using various theoretical approaches during assessment. These approaches were eclectic, and brought together psychological and social work models. It would make sense, therefore, for mental health professionals who were trained in person-centred theory, crisis theory, and biopsychosocial theory, to conduct these psychosocial assessments. Further, knowledge regarding practical supports available would be important. An understanding of psychological needs, based on the work of Shneidman (1992) and Murray (1938), would also be advantageous in being able to identify thwarted needs. A clinical social worker would be an appropriate mental health professional to conduct the assessment. Psychological and psychiatric issues identified at assessment could not be resolved during the assessment phase, and would require ongoing intervention post-assessment, but other thwarted needs could be addressed at the time of assessment. An example would be finding someone housing. This psychosocial approach to assessment has been identified as increasing the time to a subsequent deliberate self-harm episode, which has been identified as reducing the risk of suicide.

It would be advantageous to investigate what comprises the mental health assessment and to conduct a comparison in relation to these two assessments to further clarify effective components of assessment. The participants identified timing as an issue that may influence the impact of assessment. It was not possible to assess timing and investigation into this is a possibility for future research. Possible further research could involve further analysis of the data to investigate the impact of outcome from characteristics of the patient, and investigating the

comparison between the social work assessment and the mental health assessment.

Of course, this is research that could still be undertaken with this database.

Appendix A

SELF HARM DATA SHEET

Case No.			
Episode of Care			
Q1. Patient Identifying Information			
	UMRN		
	Surname	Given names	
	Address	Postcode	Phone
	Sex	Date of birth	
	Date of attendance	Hospital	
	Date project team aware		
Q2. Identified as Aboriginal or Torres Strait Islander	Yes	No	
Q3. Was the patient seen/treated	Yes	No	Patient deceased yes/no
Q4. Services provided in ED	Emergency medical	Yes	No
	Psychiatric/mental health assessment	Yes	No
	Social work assessment	Yes	No
Q5. If admitted, what was the next destination in the hospital			
Q6. If the patient was subsequently transferred elsewhere in the hospital indicate where			
Q7. Was the patient transferred to another hospital	Yes / No	If Yes, where	
Q8. Evidence in notes of a post discharge plan	Yes	No	
Q9. Has a specific referral been made for post discharge follow-up care	Yes If yes, when is the first follow-up appointment date	No	
Q9.1 Project team involvement	Yes If yes, date contacted	No	
Q9.2 CCDGP contacted	Yes / No	Q9.3 Wanneroo CST contacted	Yes / No
Q9.4 Family contacted	Yes / No	Q9.5 GP Name	Yes/No/Na

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Q10. Did this involve re-referral to an agency where the person had previously been seen	Yes Agency 1 Outcome Agency 2 Outcome	No If no, go to Q11.	
Q11. Did this involve a new referral	Yes Agency 1 Outcome Agency 2 Outcome	No If no, go to Q12.	
Q12. Nature of DSH social worker involvement with this presentation			
Q13. Date of discharge from hospital			
Q14. Principal method of self harm			
Q15. Drugs or alcohol involved in this attempt	Yes	No	
Q16. Main precipitating stresses			
Q17. Currently attending school	Yes Was school notified of attempt	No	
Q18. Current source of income			
Q19. Name of worker responsible for assessment / management of this DSH episode			

Appendix B

Survival Analysis

Survival analysis can be used to analyze data on the length of time it takes a specific event to occur. Survival analysis is a way of describing the distribution of the length of time to a given event. In this case, it will be the length of time between discharge and next presentation to an emergency department for Deliberate Self-Harm. The re-presentation density function can be denoted by $f(t)$. For any given time t , the area under the curve to the left of t is the proportion of individuals in the population who represent up to time t . As a function of time t , this is known as the cumulative representation distribution function and is denoted by $F(t)$. The area under the curve to the right of t is $1-F(t)$, since the total area under the curve is 1. This latter proportion of individuals, denoted by $S(t)$, is the proportion of those survival (i.e. not re-presenting) at least to time t and is called the survival function.

Cox proportional hazards regression function

Cox regression is a method of modeling the relationship between survival time and a set of explanatory variables. The Hazard function is denoted as $h(t)$. The (t) denotes that it is a function of time. Suppose that we use X , with no subscripts, as shorthand for all the X_i variables. Since the Hazard Function may depend on t and X , we now need to use the notation $h(t, X)$. The idea behind the Cox Model is to express $h(t, X)$ as the product of two parts: one that depends only on t and another that depends on the X_i only. In symbols the basic model is:

$$H(t, X) = h_0(t)\exp((\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p))$$

Where h_0 does not depend on the X_1 .

If all the X_i 's are zero, then the second part of the equation would be equal to 1 and $h(t, X)$ reduces to $h_0(t)$. For this reason, $h_0(t)$ is sometimes called the baseline hazard function. In order to further understand the model, suppose that we have a single explanatory variable X_1 such that $X_1 = 1$ if the subject is from group 1 and $X_1 = 0$ if the subject is from Group 2. For Group 1, the hazard function is

$$h(t, 1) = h_0(t)\exp(\beta_1)$$

Similarly, for Group 2, the Hazard Function is

$$h(t, 0) = h_0(t)\exp(0) = h_0(t)$$

The ratio of these two hazard function is:

$$h(t, 1)/h(t, 0) = \exp(\beta_1)$$

which is a constant that does not depend on time. In other words, the hazard function for group 1 is proportional to the hazard function for Group 2. This property motivated Dr Cox, the inventor of the model, to call it the proportional hazards regression model.

Appendix C

INFORMATION LETTER

“Deliberate Self-Harm Presentations at three Hospital Emergency Departments in Perth: What is the Outcome for Patients Who Are Admitted Versus Those Who Are Not Admitted For the Period 1995 to 2003”

This research project is being undertaken as part of the requirements of a Doctor of Clinical Psychology at Edith Cowan University.

Members of the research team are:

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The aims of the project are firstly to identify whether there is an association between re-presentation rates for patients who present to Emergency Departments with deliberate self-harm and treatment events, such as admission to hospital following presentation. The second aim of the project is to identify risk profiles for persons who present to Emergency Departments for deliberate self-harm in Western Australia between 1995 and 2003. The final aim of the project is to identify whether the association between re-presentation rates and treatment events differs according to the clinical profile and demographic of the person presenting for deliberate self-harm.

Description of the Research Project

You have been selected as a potential participant for stage two of this project. It has been identified at stage one of the project that the Social Work Assessment was the most effective treatment event in reducing re-presentation rates of deliberate self-harm episodes to hospital.

You are being requested to participate in stage two of the project, where the researcher aims to interview social workers who carry out this assessment, to explore what it is about the Social Work Assessment that is effective in reducing re-presentation rates of Deliberate Self-Harm episodes to hospital.

It is anticipated that you will participate in an interview conducted by the researcher. It is expected that the interview will run for approximately one hour during work hours at your choice of venue, at a time to be agreed upon.

Your participation in this interview would be of benefit to the project to gain a qualitative understanding of the Social Work Assessment by a social worker who conducts these assessments. This would afford greater insight into what aspects it is believed are most helpful when carrying out the Social Work Assessment.

If you would like to participate in the project, please sign the Informed Consent document attached and return it to Kellie Jones at the above address.

Confidentiality of Information

The information you provide during the interview will be recorded and transcribed. This data will be analysed and form part of the results and discussion sections of the project. Confidentiality and privacy will be ensured through the use of pseudonyms. Erasure of tape recorded interviews following transcription will occur. Participants must be informed, however, that there are legal limits to confidentiality. Data will be stored in a locked laboratory, on computer systems, and on back-up storage media at the Telethon Institute for Child Health Research. The information will be password secure on the computer system and the building is secure access only. Data will be stored in electronic form only, accessible to the Researcher and Supervisors only. The data will not be destroyed. Coding sheets will be returned to the three teaching Hospitals.

Results of the Research Study

The results of the project will be disseminated in thesis format and conferences. Please be assured that results will not include any information that may identify individual participants.

Voluntary Participation

Participation is voluntary and no explanation or justification is needed if you choose not to participate. At any time during the project you are free to withdraw your consent to further involvement in the project at any time, or withdrawal of information or material already collected.

If you have any queries or requests for further information about the project, please do not hesitate to contact Kellie Jones.

If you have any concerns or complaints about the research project and wish to talk to an independent person, you may contact:

Research Ethics Officer
Edith Cowan University
100 Joondalup Drive
JOONDALUP WA 6027
Phone: 6304 2170
Email: research.ethics@ecu.edu.au

The project has been approved by the ECU Human Research Ethics Committee.

Yours sincerely,

KELLIE JONES
CHIEF RESEARCHER

Appendix D

INFORMED CONSENT DOCUMENT

“Deliberate Self-Harm Presentations at three Hospital Emergency Departments in Perth: What is the Outcome for Patients Who Are Admitted Versus Those Who Are Not Admitted For the Period 1995 to 2003”

This research project is being undertaken as part of the requirements of a Doctor of Clinical Psychology at Edith Cowan University.

Members of the research team are:

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I, _____, have been provided with a copy of the Information Letter, explaining the research study. I have read and understood the information provided. I have been given the opportunity to ask questions and have had any questions answered to my satisfaction. I am aware that if I have any additional questions, I can contact the research team. I understand that participation in the research project will involve participating in stage two of the project, an interview, to explore what it helpful about the Social Work Assessment in reducing re-presentation rates of deliberate self-harm episodes to hospital.

I will participate in an interview conducted by the researcher. It is expected that the interview will run for approximately one hour during work hours at a venue of my choice, at a time to be agreed upon.

I understand that the information provided will be kept confidential, and that my identity will not be disclosed without consent. I understand that the information provided will only be used for the purposes of this research project, and understand how the information is to be used. I understand that I am free to withdraw from further participation at any time, without explanation or penalty and I freely agree to participate in the project.

Signature: _____

Date: _____

Appendix E

Semi-structured interview questions:

1. Can you describe your role as a social worker?
2. When / why is a social work assessment (assessment) undertaken?
3. When wouldn't and why wouldn't an assessment be undertaken?
4. Does a person need to be admitted before an assessment is undertaken?
5. At what stage is the assessment undertaken?
6. Describe the contents of the assessment.
7. Who takes part in the assessment?
8. Do you know what areas the assessment covers that are not covered by other assessments?
9. What is the protocol when a person has presented with deliberate self-harm on a second or subsequent occasion?
10. What are the elements of the assessment that you believe are important?
11. Has the social workers' role changed since 2004, and if so, how?

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