Legal and Criminological Psychology (2012)

The British Psychological Society

www.wileyonlinelibrary.com

Applying the Cry of Pain Model as a predictor of deliberate self-harm in an early-stage adult male prison population

Karen Slade[1]*, Robert Edelmann[2], Marcia Worrall[2] and Diane Bray[2]

[1]HM Prison Service, London, UK

[2]Psychology Department, University of Roehampton, London, UK

Purpose. Deliberate self-harming behaviour is more prevalent within the prison environment than in community samples, with those in the first weeks of imprisonment at greatest risk. Research in this area has been largely atheoretical and a unifying model may improve the predictability of assessment and the development of intervention approaches. This study applied William and Pollock's (2001) Cry of Pain model as the theoretical process of deliberate self-harm in the early stages of imprisonment.

Methods. A prospective study of new arrivals at an adult male prison. Participants (n = 181) completed questionnaires and it was hypothesized that the factors derived from the model (perceived stress, defeat, entrapment, and absence of rescue factors) would be predictive of future deliberate self-harm. Prisoners with active psychosis and non-English speakers were excluded. All participants were followed up for 4 months for instances of self-harm. Eighteen participants engaged in self-harm during this period.

Results. The Cry of Pain model was supported in the analysis. Hierarchical binary logistic regression confirmed that all features of the model were supported as predictive of future self-harm in prison, even after controlling for previous self-harm, depression, and hopelessness.

Conclusion. The Cry of Pain model is supported as a predictive model for deliberate self-harm in prison. Suggestions are offered as to the impact on assessment and intervention directions in prison.

There is a continued need for a comprehensive exploration of the area of deliberate self-harm (DSH) within prison settings due to notably higher rates of DSH than within community samples. The levels of DSH in prison are rising beyond that which would be expected from the rising prison population. The rate of DSH in prison by male prisoners has risen by 45% between 2004 and 2010 in comparison with a prison population increase of 14.6% (Ministry of Justice (MOJ), 2010). Research in prisons has almost exclusively been based on identifying risk factors and there is a need for the development and testing

*Correspondence should be addressed to Dr Karen Slade, Division of Psychology, Nottingham Trent University, Rm 4113 Chaucer Building, Nottingham NG1 4BU, UK (e-mail: karen.slade02@ntu.ac.uk).

DOI:10.1111/j.2044-8333.2012.02065.x

of theory to aid prediction and intervention with this high-risk group. In addition, the early stage of imprisonment is a critical time, where distress is often at its highest (Liebling, 2005); however, the literature has been limited in its exploration of this experience and its links with DSH. This research aims to address this by studying those newly imprisoned, with a focus on those who engage in DSH during the early stage of their imprisonment.

Figures suggest that the rate of male DSH in the UK community varies between 287 and 3,200 per 100,000 population (Hawton, Casey, Bale, Shepherd, & Bergen, 2009; Madge *et al.*, 2008). This is in comparison with a prison population, with the rolling 3-year average in male prisons reported as 15,505 incidents per 100,000 prisoners (MOJ, 2010). This is between four and fifty times the rate reported in community studies. The critical time for highest risk of DSH is during the first few days and weeks of imprisonment, up to the first 3 months (MOJ, 2010), however, there is a paucity of research that explores this high-risk time. In addition, and in keeping with community findings, DSH methods used by men in prison are more often related to the more lethal methods such as ligatures, which may be a result of the prison environment limiting access to methods of self-harm (Crighton & Towl, 2002). When considering that 92% of self-inflicted deaths in prison occur by ligature (National Confidential Inquiry into Suicide & Homicide by People with Mental Illness, 2011), the importance in understanding DSH by men in prison remains pertinent.

The definition of self-harm within the prison research literature encompasses a broad range of behaviour, including minor injuries. This is in contrast to some community research literature, which may define self-harm on the basis that hospital treatment has been received. In this article, the term 'DSH' will be used to describe all acts of injury to the self (including food refusal) irrespective of suicidal intent, unless specifically described as being exceptions to that definition. The following were excluded from the definition, as outlined by Dear (2006): phenomena that are explicit symptoms or classificatory criteria of other disorders, such as substance abuse; everyday behaviours such as unhealthy eating habits; and psychological self-harm such as deliberately engaging in an abusive partnership.

Lohner and Konrad (2007) in their review of self-harm behaviour within prisons noted that community sociodemographic predictors including unemployment, substance use, psychiatric history, or young age were also relevant in prison samples. Research in a range of populations has also confirmed that previous self-harm or suicidal behaviour, depression, and hopelessness have consistently been identified as linked with suicidal and non-suicidal self-harm (Bradvik, Mattisson, Bogren, & Nettelbladt, 2008, 2010; Fliege, Lee, Grimm, & Klapp, 2009; Foster, Gillespie, & McClelland, 1997). However, Lohner and Konrad (2007) suggest that these factors are so prevalent within the general prison population as to not have significant predictive value on their own and are only potentially useful in combination with other factors. Some investigations have emphasized the unique nature of DSH during imprisonment (Eyland, Corben, & Barton, 1997; Toch, 1975) with DSH reflecting a personal breakdown, resulting from a crisis of hopelessness, fear, self-doubt, or abandonment. In support of this, Lohner and Konrad (2007) also report additional risk areas specific to imprisonment including being on remand and in the early stages of imprisonment, prior incarceration, violent crime, and a poor support network.

The empirical literature on DSH is dominated by descriptions and evaluations of static risk factors (e.g., mental health diagnosis) with few dynamic (e.g., defeat) and protective factors (e.g., resilience) evaluated. As authors have identified (e.g., Fawcett, 2001; Rudd, 2003) the focus should now turn to acute or proximal risk factors as opposed to the more chronic factors. The focus on singular risk factors has limited utility in practice for

identification of risk or intervention and there remains a need for more studies to consider the interaction effects between risk factors for the onset of DSH, both suicidal and non-suicidal intent (as Fliege *et al.*, 2009 identify for DSH with non-suicidal intent). Theoretical models should be used to guide the research on proximal factors and these interactive effects. Critically, attempts at understanding self-harm and suicidal behaviour in prison have largely been atheoretical in nature (Johnson, Gooding, & Tarrier, 2008). As a result, while potential risk factors are identified, this is in the absence of any clear understanding of an underlying rationale or explanatory framework for why certain factors (such as mental health or substance misuse) create a risk in some but not in others (Liebling, 2005; O'Connor, Armitage, & Gray, 2006). Most studies focussing on DSH in prisons have been concerned with risk factors, prevalence or clinical or medical factors and are based on a retrospective methodology. They have also focused either on the profile of a 'vulnerable' prisoner and the idea of an 'imported vulnerability' or that imprisonment itself precipitates DSH and hence that the situational factors predominate (termed by some as the 'deprivation' model, e.g., review by Crighton & Towl, 2000; Liebling, 1992). A mixed model is gaining consensus, which includes individual vulnerabilities and how they interact with the environment as a way to aid understanding, identification and management (Liebling, 2005).

In recent years, there has been a move to develop and test new theoretical models, which have yet to be fully tested in the prison environment. The use of theory in prison research would aid the development of a more holistic view of imprisonment and DSH, a direction supported by Her Majesty's Chief Inspector of Prisons (HMCIP, 1999). Two recent theories have been supported for consideration for suicidal behaviour: the Cry of Pain (CoP) model (Williams & Pollock, 2001) and the Interpersonal-Psychological Theory of suicidal behaviour (Joiner, 2005). This latter theory outlines factors linked to the capacity and desire to commit suicide and has recently been tested in prison with suggestions having been made of a revised model for female prisoners (Ireland & York, 2012).

The CoP model is a broader biopsychosocial model and includes biological processes, psychological aspects, and social interactions within one model. The CoP model was initially developed for suicidal behaviour and has shown its utility in understanding and predicting general suicide risk and within patients with schizophrenia, as well as for depression and anxiety (O'Connor, 2003; Rasmussen *et al.*, 2010). Critically, this model also allows for consideration of the process underlying self-harm behaviour without suicidal intent and its use has been supported in a range of settings. For example, the model has been supported for DSH in hospital and adolescent samples (Rasmussen *et al.*, 2010; Scoliers *et al.*, 2009).

The CoP model builds on the previous work of Baumeister (1990) and his Escape Theory of Suicide and Gilbert & Allen's 'arrested flight' theory (1998). The CoP model links with Baumeister's (1990) conclusion that suicide is motivated by a desire to escape from self and the CoP model extends this suggestion to asserting that suicidal behaviour and DSH is also motivated by the wish to escape. The model asserts that all these behaviours are the end-product of a perception of being trapped in a stressful situation from which there is no escape and no rescue (Williams & Pollock, 2001). In explaining the model, Williams and Pollock (2001) propose that suicidal behaviour should be seen as a CoP rather than the traditional notion of a 'cry for help', defined as an expression of negative feelings without the intent of asking for help. It can be further argued that although DSH may be motivated by a wish to die or be a form of communication or punishment (Briere & Gil, 1998), another, more common theme, is a wish to escape from a

situation which the person finds unbearable (Hjelmeland & Groholt, 2005; Leenaar, 1996; Shneidman, Maris, Silverman, & Canetto, 1997). This theme of escape has also been confirmed as equally relevant for non-suicidal self-harm (Anderson & Crowther, 2012; Chapman, Gratz, & Brown, 2006). This common theme of escape as a function for both DSH (with or without suicidal intent) is adequately theoretically encompassed only within the CoP model. With relevance to this study population, this notion of escape as a key motivator in DSH has also been supported with a juvenile offending population (Penn, Esposito, Schaeffer, Fritz, & Spirito, 2003).

Williams and Pollock (2001) propose that, consistent with the 'arrested flight' approach, DSH is a response to a stressful situation and has three main components, which act alongside the presence of a stressor to increase the risk of self-harming behaviours. Therefore, in this model, there are four key components that should be present to place an individual at high risk of suicide or self-harm: The presence of stressors; the presence of defeat; perception of entrapment; and a perceived absence of rescue factors (e.g., presence and perception of available social support resources and their importance) with feelings of social isolation. Williams and Pollock (2000, 2001) have proposed that psychological variables determine, at least partially, the judgements made regarding the perception of stress, defeat, entrapment, and rescue. For instance, stress may take the form of environmental factors (e.g., prison deprivations) or negative life experiences (e.g., being imprisoned). When coupled with feelings of a loss of social rank and humiliation, the individual is vulnerable to feelings of defeat. Unsuccessful attempts at solving their problems can then lead an individual to feel powerless in escaping from that situation and the predicted response would be less use of approach-coping strategies and greater use of avoidant-coping strategies. This is supported by the finding of Milnes, Owens, and Blenkiron (2002) that 66% of patients hospitalized after an incident of self-harm report a chronic problem as 'unsolvable', and hence would utilize less active problem-solving strategies. This sense of entrapment may intensify a sense of hopelessness, especially if the individual feels little opportunity for rescue. In the CoP model, the perception of rescue factors reduces the sense of inescapability from entrapment and one such rescue factor is social support. The stress-buffering effect of perceived social support has been reported in relation to attempted suicide (Thompson, Kaslow, Short, & Wyckoff, 2002) and has been linked to DSH without suicide intent (Tuisku, Pelkonen, Kiviruusu, Karlsson, & Ruuttu, 2009). When all these components are present, Williams and Pollock (2001) state that the 'biologically mediated helplessness script' is activated, where the nature of the DSH behaviour is determined by a combination of factors such as whether there is an available means to harm themselves or the effects of modelling from others. There have also been a number of studies indicating that the perceptions of defeat and entrapment are associated with depression (Gilbert & Allan, 1998; Goldstein & Willner, 2002) and social anxiety (Aderka, Weisman, Shahar, & Gilboa-Schechtman, 2009). These factors, which have been consistently linked with DSH, suggest that the CoP model potentially provides a strong theoretical basis for their study.

The concept of entrapment within a prison setting, which provides external control to all prisoners, may require some additional consideration than for community samples. In the CoP model, the sense of being trapped and unable to escape is a key aspect of the perception of entrapment. A number of avenues can be suggested as possible moderators and concepts, which require consideration. An external locus of control has been linked with 'learned helplessness', which is described as a failure to escape having learnt that a situation is uncontrollable or inescapable (McClure, 1985; Pittman &

Pittman, 1979) and so has clear overlap with the concept of entrapment. There have been repeated studies, which suggest a relationship between an external locus of control and increased suicide risk (Evans, Owens, & Marsh, 2005; Lauer, de Man, Marquez, & Ades, 2008; Topol & Reznikoff, 1982). This may be due to locus of control playing a role in perceptions of entrapment, and this requires testing as part of the CoP model. Research has also shown that resilience is relevant to the stress-self-harm process and is considered a protective factor (Campbell-Sills, Cohan, & Stein, 2006; Hjemdal, Friborg, Stiles, Rosenvinge, & Martinussen, 2006). Research in prisons has also highlighted the finding that prisoners who engage in DSH are more likely to use avoidant-coping strategies than those who do not self-harm (Dear, Thomson, Hall, & Howells, 1998; Slade & Gilchrist, 2005). The research considering the CoP model would therefore suggest that an external locus of control, ineffective coping and low resilience would increase the sense of entrapment, and these potential aspects of the entrapment concept require testing.

The application of a theoretical model with a male, high-risk population of newly incarcerated prisoners is long overdue as a basis for guidance to practice in the correctional services. The CoP model's solid theoretical and research base, evidence of its utility in a range of populations, as well as its theoretical applicability to the escape function of DSH, provide a strong case for its application to DSH in this population.

To apply the model in the prospective study reported here, all new receptions into prison were approached for participation. All participants completed questionnaires linked directly to aspects of the CoP model. All participants were followed up for 4 months for any incident of DSH in prison.

It was hypothesized that, in line with the CoP model, those who engaged in DSH within prison would have the following in comparison with those who did not engaged in DSH:

- Presence of stressors: higher scores for perception of perceived stress (PS).
- Presence of defeat: scores indicating higher levels of perceptions of defeat.
- Perception of entrapment: higher scores for entrapment, lower scores for approach-coping strategies, and higher scores for avoidant-coping strategies, lower scores for resilience and a more external locus of control.
- Perceived absence of rescue factors: lower perceived levels of social support.

Due to the strong research base in relation to previous DSH and suicidal behaviour, depression and hopelessness, these aspects would be controlled for in analysis. It was hypothesized that those who self-harmed within prison would have the following in comparison with those who did not self-harm: greater history of DSH and increased feelings of depression and hopelessness.

Method

Participants

One hundred and 81 adult male (over 21) prisoners participated in the study (mean age 32.7 years, *SD* 9.8). Eighty four (46.4%) were on remand, 22 (12.2%) were convicted but not yet sentenced, 59 (32.6%) were sentenced, 5 (2.7%) were on immigration detention or awaiting extradition, and 9 (5%) were recalled following breach of licence conditions.

Seventy-two (39.8%) of the participants were first time prisoners, 33 (18.2%) of the participants had been in prison only once previously, 15 (8.4%) twice previously, 11 (6%) three times previously, 10 (5.5%) four times previously, and 7% did not answer the

question. The remaining 31 (17%) had been in prison more than four times up to a maximum of 25 previous prison sentences.

Fifty-two (28.7%) reported having previously self-harmed, 8 (4.4%) participants were on a self-harm or suicide management form (referred to as an Assessment, Care in Custody and Teamwork [ACCT] form) at the time of first-stage procedure. A further 8 (4.4%) had ACCTs opened by the research team due to responses indicating suicidal ideation.

Ethical approval

Ethical Approval and permission to conduct the study were obtained from the National Offender Management System (London Region), the Governor of the prison and the University; written consent was obtained from all participants prior to undertaking the study.

Procedure

A prospective study was undertaken to evaluate predictors of engagement in DSH in prison. Over a 3-month period, all newly arrived prisoners at a London (Category B Local[1]) prison were approached at the induction session, the morning after arrival at the prison. If a prisoner was unable to participate (due to illness, detoxification from substances, or mental health concerns), he was approached by the researcher, in liaison with the medical staff, up to a maximum of 4 days after arrival. The questionnaires were completed in a group setting with a private room available. Participants completed the questionnaires in paper format. If required, due to literacy difficulties, each question was read verbally with the researcher recording their responses (n = 12). In the second prospective stage, the NOMS national Incident Reporting System and local prison records were checked for any participants who were recorded as having engaged in DSH during the follow-up period. The follow-up period was limited to four months as this included the high-risk periods for self-harm (MOJ, 2010).

Measures

Demographic information

A demographic data sheet was administered asking for ethnic category and how many times they had previously been in prison.

PS Scale (PSS)

The PSS (Cohen, Karmarck, & Mermelstein, 1983) is a 14-item self-report measure of self-appraised stress. Participants are asked to rate the extent of agreement with these items across a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*very often*). Higher scores reflect elevated levels of stress. In the current study, the Cronbach Alpha coefficient was .82. The PSS was chosen as it measures perceived (rather than physiological or life-event) stress as in the CoP model. It has also previously been used to test the CoP model, allowing for comparisons to be made (O'Connor, 2003).

[1] *Local prisons serve the courts and most prisoners will arrive directly from court.*

Defeat Scale

The Defeat Scale (Gilbert & Allan, 1998) is a 16-item self-report measure of feelings of defeat (designed to capture sense of failed struggle and losing rank). Participants are asked to rate how well each statement reflects how they have felt in the last 7 days on a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*always*). Higher scores reflect higher levels of feelings of defeat. In the current study, the Cronbach Alpha coefficient was .93. It was utilized in this study as it is the sole scale designed to directly measure the defeat concept of the CoP model.

Entrapment Scale

The Entrapment Scale (Gilbert & Allan, 1998) is a 16-item self-report measure of feelings of entrapment. Participants are asked to rate how much each statement is 'Like You' on a 5-point Likert-type scale ranging from 0 (*not at all like me*) to 4 (*extremely like me*). High scores indicate a higher level of feelings of entrapment. The Entrapment Scale measures two factors of entrapment: internal entrapment (related to escape motivation triggered by internal feelings and thoughts; external entrapment (related to perception of things in the outside world that induce escape motivation). In the current study, the Cronbach Alpha coefficient for the full scale was .92; for external entrapment, it was .85, and for internal entrapment it was, .89. It was utilized in this study as it is a scale designed to directly measure the entrapment concept of the CoP model.

Resilience Scale (RS)- 25

The 25-item RS (Wagnild & Young, 1993) is a self-report questionnaire to measure resilience. Participants are asked to rate the extent of their agreement with the items on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores reflect higher levels of resilience. In the current study, the Cronbach Alpha coefficient was .92. This measure was chosen due to adequate reliability and validity and because it is a widely used scale across different populations. No other comparable measure could be identified that had been widely used or tested within the prison population.

Coping Responses Inventory-Adult Form (CRI- Aadult)

The CRI – Adult Form (Moos, 1993) is a measure of eight different types of coping responses to stressful life circumstances. These responses are measured by eight scales: Logical Analysis, Positive Reappraisal, Seeking Guidance and Support (SG), Problem Solving (PS), Cognitive Avoidance (CA), Acceptance or Resignation, Seeking Alternative Rewards, and Emotional Discharge. The first set of four scales measures approach coping; the second set of four scales measures avoidance coping. The first two scales in each set measure cognitive coping strategies; the third and fourth scales in each set measure behavioural coping strategies. Each of the eight scales is composed of six items, totalling 48 items on this self-report measure. Individuals select and describe a recent stressor and use a 4-point scale varying from 0 (*not at all*) to 3 (*fairly often*) to rate their use of each coping strategy. Higher scores reflect greater use of each strategy type. In the current study, the Cronbach Alpha coefficient for the eight sub-scales ranged between .63 and .71). This measure was chosen because it has been used with prison populations in different countries (Australia, Spain, and the UK) with published normative data (Dear *et al.*, 1998; Mohino, Kirchner, & Forns, 2004; Slade & Gilchrist, 2005).

Locus of Control of Behaviour (LCB)

The LCB Scale (Craig, Franklin, & Andrews, 1984) is a 17-item scale designed to measure the level of perceived personal control and responsibility that participants have in relation to their behaviour. Participants are asked how strongly they agree or disagree with statements ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate a more external locus of control and lower scores a more internal locus of control. In the current study, the Cronbach Alpha coefficient was .80. The LCB scale was chosen for this study over other Locus of Control measures as this scale focuses on personal aspects of control instead of the more general locus of control. It is therefore more relevant to a sense of personal entrapment. An adapted LCB scale has also been utilized extensively with the UK prison and probation populations as a measure used in the evaluation of accredited offending behaviour programmes (McDougall, Clarbour, Perry, & Bowles, 2009).

Depression, Hopelessness and Suicide Screening (DHS)

The DHS Form (Mills & Kroner, 2004) is a screen for the presence of depression, hopelessness, and indicators of current and prior risk of suicide. It was designed for use by and is widely used with a Canadian offender population. It is a 39-item self-report measure and participants are asked to rate whether statements are True or False in relation to themselves. Some items are reversed at scoring. Higher scores reflect the increased presence of depression, hopelessness, or suicide critical risks. In the current study, the Cronbach Alpha coefficient scores for the full scale, depression scale, and hopelessness scale were .94, .90, and .88, respectively. In addition to the Depression and Hopelessness scales, there is a Critical Item scale, which includes a sub-scale: previous suicidal behaviour or self-harm (termed in this study: History of DSH). In the current study, the Cronbach Alpha co-efficient for this sub-scale was .88. The Beck depression inventory is a widely used measure of depression, but has been found to have reduced specificity within an offender sample (Boothby & Durham, 1999). The DHS was therefore chosen for this study due to its reliability, validity, and available prison normative data.

Social Support Appraisals (SS-A) Scale

The SS-A scale (Vaux, Phillips, Holly, Thomson, & Williams, 1986) is a 23-item scale designed to identify the extent to which an individual believes that he or she is loved by, esteemed by, and involved with family, friends, and others. Participants are asked to rate the extent to which they agree or disagree with statements ranging on a 4-point scale from 1 (*strongly agree*) to 4 (*strongly disagree*). Three scores can be computed: SS-A total (sum of all 23 items); SS-A family (sum of eight family items); and SS-A friends (sum of seven friend items). Some items are reversed in scoring. Higher scores reflect a lower perceived level of social support. In the current study, the Cronbach Alpha coefficient scores for the full scale, family, and friends scales were .92, .84, and .89, respectively. SS-A measure was chosen for this study as it measured perceived social support (in contrast to actual social support), had adequate reliability and validity; no other valid prison-specific measures were identified.

File information

Demographic Information on all participants was gathered from the prison computer system (Local Inmate Database System [LIDS]). Data relating to age, remand or

conviction status were collected; the LIDS was also used to ensure that questionnaire completion occurred within the first 4 days. The information gathered was date of birth, date received into the prison, conviction or sentence status, sentence length, and religion. Information on whether an ACCT (self-harm management) form was open was also recorded as the associated ACCT process and interventions may influence the risk of future self-harm.

Results

Of the 181 participants, 177 were included in the analysis; those excluded had not fully completed all questionnaires. Preliminary analysis was undertaken between measures to ensure no violation of the assumptions of multicollinearity and linearity. One measure was identified that violated the assumption of linearity of the logit, the LCB Scale. In the logistic regression in this study, the LCB Scale was significant and as such, no further adaptation was required to increase the power of the variable.

Hierarchical binary logistic regression was performed to assess the impact of eighteen factors on the likelihood that participants would engage in DSH whilst in prison. The first step of the model contained three factors. History of DSH, DHS: depression and DHS: hopelessness were entered at Step 1, and the model was statistically significant, $\chi^2(3, 177) = 25.9$, $p < .001$, Nagelkerke $R^2 = .24$, indicating that predictors, as a set, reliably distinguish between DSH in prison and no-DSH in prison. The model as a whole correctly classified 88.7% of cases. Only one of the independent variables made a unique statistically significant contribution to the model (History of DSH), recording an odds ratio of 2.154.

The final model contained the dependant variable 'DSH while in prison after completion of the baseline measures'. Eighteen independent variables were contained in the model (RS, Entrapment Scale, Defeat Scale, PSS, CRI [eight coping strategies], SS-A [family and friends], and LCB) after controlling for History of DSH or suicidal behaviour, depression and hopelessness.

The full model containing all eighteen of the predictors was statistically reliable against a constant-only model, $\chi^2(18, 177) = 88.41$, $p < .001$, indicating that the model was able to distinguish between participants who engaged in DSH in prison and those who did not engage in DSH in prison. The variance accounted for was impressive, with Nagelkerke $R^2 = .80$. Overall classification was positive with 97.7% of cases correctly classified, in comparison with a proportional chance accuracy of 80.6%. Specifically, 83.3% of participants in the DSH in prison group and 99.4% of participants in the no-DSH in prison groups were correctly classified.

As outlined in Table 1, eleven of the independent variables made a unique statistically significant contribution to the model: History of DSH ($p = .015$), DHS depression ($p = .027$), RS ($p = .040$), Entrapment Scale ($p = .006$), Defeat Scale ($p = .034$), PS ($p = .013$), CRI: SG ($p = .036$), CRI:CA ($p = .040$) SS-A: friends ($p = .022$), LCB ($p = .008$), and SSA: family ($p = .036$).

The strongest predictor was history of DSH recording an odds ratio of 48.74. Five other significant variables had an odds ratio above 1 point: SS-A: friends recorded an odds ratio of 2.34; PSS recorded an odds ratio of 1.66; LCB recorded an odds ratio of 1.63; Defeat Scale recorded an odds ratio of 1.49 and RS recorded an odds ratio of 1.1. These indicate that for every point on the scale, participants were more likely to self-harm by the ratio listed, controlling for other factors in the model.

Five factors had an odds ratio < 1: DHS depression recorded an odds ratio of .087, total entrapment recorded an odds ratio of .76; SSA: family recorded an odds ratio of 0.53; CRI:

Table 1. Hierarchical logistic regression predicting the likelihood of future engagement in self-harm in prison: full model

							95% CI for Exp (*B*)	
	B	*SE*	Wald	*df*	Sig.	Exp (*B*)	Lower	Upper
History of DSH	3.887	1.595	5.938	1	.015*	48.745	2.140	1110.484
DHS depression	−2.439	1.106	4.861	1	.027*	0.087	0.010	0.763
DHS hopelessness	0.017	0.386	0.002	1	.964	1.017	0.478	2.166
Resilience Scale	0.099	0.048	4.231	1	.040*	1.104	1.005	1.214
Entrapment Scale	−0.271	0.099	7.584	1	.006*	0.762	0.628	0.925
Defeat Scale	0.399	0.189	4.472	1	.034*	1.491	1.030	2.159
PSS	0.508	0.204	6.206	1	.013*	1.661	1.114	2.477
CRI:LA	0.264	0.263	1.011	1	.315	1.303	0.778	2.181
CRI:PR	0.240	0.210	1.304	1	.253	1.271	0.842	1.919
CRI:SG	−0.733	0.350	4.396	1	.036*	0.481	0.242	0.953
CRI:PS	0.433	0.382	1.285	1	.257	1.542	0.729	3.262
CRI:CA	−0.550	0.267	4.234	1	.040*	0.577	0.342	0.974
CRI:AR	−0.260	0.241	1.169	1	.280	0.771	0.481	1.236
CRI:SR	−0.358	0.214	2.798	1	.094	0.699	0.460	1.063
CRI:ED	0.497	0.254	3.830	1	.050*	1.644	0.999	2.703
SS-A family	−0.632	0.302	4.379	1	.036	0.532	0.294	0.961
SS-A friend	0.849	0.372	5.208	1	.022*	2.337	1.127	4.846
LCB	0.490	0.185	7.009	1	.008*	1.632	1.136	2.344

Note. AR = acceptance or resignation, CA = cognitive avoidance, CRI = Coping Responses Inventory, DHS = Depression, Hopelessness and Suicide Screening, DSH = deliberate self-harm, ED = emotional discharge, LA = logical analysis, LCB = Locus of Control of Behaviour, PR = positive reappraisal, PS = problem solving, PSS = Perceived Stress Scale, SG = seeking guidance and support, SR = seeking alternative rewards, SSA = social support appraisal.
Dependent variable = DSH in prison.
*$p < .05$.

CA recorded an odds ratio of .58; and CRI: SG recorded an odds ratio of 0.48. The odds ratio if less than 1 indicates that for every additional point on these measures, they were less likely to self-harm by the listed ratio, controlling for other factors in the model.

The model predictive of self-harm in prison is linked most strongly to the elements of history of DSH followed by level of self-reported feelings of depression, poorer social support by friends, lower use of cognitive avoidance and seeking guidance as a coping strategy, higher PS, greater external locus of control, lower and slightly lower feelings of entrapment, and higher perception of defeat, resilience, and greater support from family.

Discussion

This study is the first to confirm that the process of DSH in the early stages of imprisonment can be explained by the CoP model (Williams & Pollock, 2001). Hierarchical logistic regression was undertaken in this prospective study and significant predictors were identified, in the direction predicted by the CoP model, for those prisoners who engaged in DSH; even after history of DSH, self-reported depression and

hopelessness were controlled for. The support for the model provides a theoretically based approach to understanding DSH, which is relevant for the prison environment. In addition, the findings extend existing knowledge to be firmly applicable to DSH in addition to self-harm with suicidal intent.

These findings are in line with the CoP model as follows: (1) presence of stress, supported by the high level of PS; (2) presence of defeat is supported by the greater feelings of defeat; (3) perception of entrapment or no escape is supported by greater external locus of control and less seeking guidance; and (4) no perception of rescue supported by poorer social support by friends. Those measures predictive of self-harm, which were against the direction of the hypothesis, were self-reported depression, Entrapment Scale, coping strategy, cognitive avoidance, and social support from family.

In summary, the findings regarding high PS (presence of stress) and defeat (presence of defeat), external LOC, (perception of entrapment), and poor social support by friends (perceived absence of rescue factors) are all in keeping with the hypotheses. They also fully support the presence of all aspects of the CoP model as predicted. This support for the model provides for a confident move towards a theoretical model underpinning DSH, which is relevant for the prison environment. These findings also support previous research linking these different elements with self-harm (with or without suicidal intent) within prison and in the community (Eyland *et al.*, 1997; Fliege *et al.*, 2009; Lohner & Konrad, 2007; Toch, 1975). The findings that depression symptoms, entrapment (from the Entrapment Scale), and coping strategies do not fit with the direction of hypothesis raise avenues for further exploration about the emotional experience of prison, the differentiating aspects of entrapment, and the style of coping employed. The finding that reduced level of depression was linked with DSH indicates that it is possible that this differing experience of depression distinguishes DSH from suicidal behaviour – with the heightened presence of strong stress emotions, frustration, and ongoing agitation as being most relevant for self-harm (Snow, 2002; Klonsky, 2009; and for female remand prisoners (Coid, Wilkins, Coid, & Everitt, 1992). This is in contrast to the depressed emotional experience resulting in low agitation being more relevant within suicidal behaviour risk (Cassells, Paterson, Dowding, & Morrison, 2005).

In considering the perception of entrapment, analysis indicated that although lowered scores on the Entrapment Scale and cognitive avoidance were predictive in the model, the presence of entrapment as a factor was indicated by other measures (locus of control and low seeking guidance). It is plausible that the entrapment scale, by including external entrapment, is unduly influenced by the prison environment, and that a sense of internal control may be more relevant in the model. Further testing of the concept of entrapment in prison would be helpful. The predictive significance of a lower use of the coping strategy, cognitive avoidance, has an alternative explanation as, in fact, being reflective of increased rumination where repetitive thoughts are the focus (Nolen-Hoeksema, 1991). Rumination has been suggested as being relevant in suicidal behaviour (Morrison & O'Connor, 2008) and non-suicidal self-harm (Selby, Connell, & Joiner, 2010). Future avenues of research should consider including the role of rumination in the CoP model. Finally, perception of no rescue, as assessed by the SS-A, is related to the perception of social esteem and involvement; the results indicate that a poorer sense of support from peer relationships and closer familial relationships are most predictive of later DSH, and therefore most relevant for the perception of no rescue. This finding requires closer exploration as it is the combination of being away from close family without peer support, which is of most importance in the effects of imprisonment on the perception of rescue.

The reasons for this were not explored in this study and may indicate an important distinction in defining the process for prisoners. The overall conclusions that can be drawn provide important potential avenues for future research, assessment, and intervention strategies. Critically, the picture emerges of interlinking aspects of the model as predictive of future DSH, which are measureable and dynamic. In this model, perceptions of stress and defeat are high, entrapment is high (defined by external locus of control), and the factor of no rescue can be measured through poor peer esteem and social support; however, the Entrapment Scale scores and especially self-reported depression are low. This pattern of external locus of control, high defeat, less feelings of depression may indicate that the DSH prisoner is identifiable by being overwhelmed by external forces rather than by internal forces. Further evaluation of the link between defeat, entrapment, and DSH in the absence of depressive symptoms should be undertaken to further consider its role in the model.

Of importance to practice is the classification of prisoners in the study findings when compared with the current ACCT process. For example, in a 7-month period at the time of the study, 39 (39%) of 100 prisoners who self-harmed were not on an open ACCT, indicating that risk was identified in 61% of cases. The classification of those who went on to self-harm through the logistic regression model in the study was 83.3%. This study has provided clearer focus for the identification of those prisoners at greatest risk of DSH on arrival at prison. When considered in combination, the results indicate that the presence of the CoP model factors (specifically measured by a combination of a previous self-harm or suicidal behaviour, high stress, feelings of defeat, external locus of control, and detached peer social support) should highlight a concern warranting further investigation.

The findings overall support the applicability of the CoP model in the prediction of DSH within a male prison population. By extending the evidence base to this population and the support of measures in measuring them in this population, we are able to continue to build an evidence base on which assessment and intervention provision can be developed. The current research suggests that clinical focus may be best given to the assessment and reduction of feelings of stress and defeat, encouraging a more internal sense of control to reduce perceptions of entrapment and developing supportive peer-support systems early in imprisonment. There are no cut-off points or bandings indicated within this study for any of the scales or their interactions, which place individual prisoners at greater risk. Further development of this area may assist prison staff in identifying those prisoners who require differing levels of assessment and intervention strategy.

A number of future research directions are suggested from the findings. Of most relevance is the confirmation that an interaction of factors is predictive of DSH risk in line with the CoP model as an underpinning theoretical rationale. The present study looked only at the early days of custody and it cannot be assumed that the results can be generalized to later stages of imprisonment. In addition, the follow-up period was 4 months from baseline measures, and future research could evaluate the optimum period over which results can be used to identify those at risk. A limitation of the study is the high turn-over of remand and short-sentenced prisoners with an increasing number of participants being released from prison, and hence limiting the follow-up period possible. The 4-month follow-up was used as the period of greatest risk; however, it is possible that some of the non-self-harm group who remained in prison may have eventually self-harmed, and a further or longer follow-up period would be informative. A notable limitation is the sample size in this analysis; given the large number of variables; some

factors may not have been identified and this should be considered in interpreting the findings.

Acknowledgements

We thank the Governor and Psychology staff in HM Prison Service, London Area, and NOMS HQ for all their assistance in this research.

References

Aderka, I. M., Weisman, O., Shahar, G., & Gilboa-Schechtman, E. (2009). The roles of the social rank and attachment systems in social anxiety. *Personality and Individual Differences*, *47*, 284–288. doi:10.1016/j.paid.2009.03.014

Anderson, N., & Crowther, J. (2012). Using the experiential avoidance model of non-suicidal self-injury: Understanding who stops and who continues. *Archives of Suicide Research*, *16*, 124–134. doi:10.1080/13811118.2012.667329

Baumeister, R. (1990). Suicide as escape from self. *Psychological Review*, *97*, 90–113. doi:10.1037/0033-295X.97.1.90

Boothby, J., & Durham, T. (1999). Screening for depression in prisoners using the beck depression inventory. *Criminal Justice and Behavior*, *26*, 107–124. doi:10.1177/0093854899026001006

Bradvik, L., Mattisson, C., Bogren, M., & Nettelbladt, P. (2008). Long-term suicide risk of depression in the Lundby cohort 1947 to 1997–severity and gender. *Acta Psychiatrica Scandinavica*, *117*, 185–191. doi:10.1111/j.1600-0447.2007.01136.x

Bradvik, L., Mattisson, C., Bogren, M., & Nettelbladt, P. (2010). Mental disorders in suicide and undetermined death in the Lundby Study. The contribution of severe depression and alcohol dependence. *Archives of Suicide Research*, *14*, 266–275. doi:10.1080/13811118.2010.494146

Briere, J., & Gil, E. (1998). Self-mutilation in clinical and general samples: Prevalence, correlates and functions. *American Journal of Orthopsychiatry*, *68*, 609–620. doi:10.1037/h0080369

Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, *44*, 585–599. doi: 10.1016/j.brat.2005.05.001

Cassells, C., Paterson, B., Dowding, D., & Morrison, R. (2005). Long- and Short-Term Risk Factors in the Prediction of Inpatient Suicide: A Review of the Literature. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *26*, 53–63. doi: 10.1027/0227-5910.26.2.53

Chapman, A. L., Gratz, K. L., & Brown, M. Z. (2006). Solving the puzzle of deliberate self-harm: The experiential avoidance model. *Behaviour Research and Therapy*, *44*, 371–394. doi:10.1016/j.brat.2005.03.005

Cohen, S., Karmarck, T., & Mermelstein, R. (1983). Global Measure of Perceived Stress. *Journal of Health and Social Behaviour*, *24*, 385–396.

Coid, J., Wilkins, J., Coid, B., & Everitt, B. (1992). Self-mutilation in female remanded prisoners II: A cluster analytic approach towards identification of a behavioural syndrome. *Criminal Behaviour and Mental Health*, *2*, 1–14.

Craig, A. R., Franklin, J. A., & Andrews, G. (1984). A scale to measure locus of control of behavior. *British Journal of Medical Psychology*, *57*, 173–180. doi:10.1111/j.2044-8341.1984.tb01597.x

Crighton, D., & Towl, G. (2000). Self-inflicted deaths in prison in England and Wales: An analysis of the data for 1988-90 and 1994-5. In G. Towl (ed.), *Suicide in prisons* (pp. 12–20). Leicester, UK: The British Psychological Society.

Crighton, D., & Towl, G. (2002). International self-injury (ISI). In G. Towl, L. Snow & M. McHugh (Eds.), *Suicide in prisons* (pp. 48–65). Leicester, UK: BPS Books.

Dear, G. E. (2006). *Preventing Suicide and other self-harm in prison*. Basingstoke, UK: Palgrave Macmillan.

Dear, G. E., Thomson, D. M., Hall, G. J., & Howells, K. (1998). Self-inflicted injury and coping behaviours in prison. In R. Kosky, H. S. Eskevari, R. D. Goldney & R. Hassan (Eds.), *Suicide prevention, the global context* (pp. 189–199). New York and London: Plenum Press.

Evans, W. P., Owens, P., & Marsh, S. C. (2005). Environmental Factors, Locus of Control, and Adolescent Suicide Risk. *Child and Adolescent Social Work Journal*, *22*, 301–319. doi:10.1007/s10560-005-0013-x

Eyland, S., Corben, S., & Barton, J. (1997). Suicide prevention in New South Wales correctional centres. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *18*, 163–169. doi:10.1027/0227-5910.18.4.163

Fawcett, J. (2001). Treating impulsive and anxiety in the suicidal patient. *Annals of the New York Academy of Sciences*, *932*, 94–105. doi:10.1111/j.1749-6632.2001.tb05800.x

Fliege, H., Lee, J.-R., Grimm, A., & Klapp, B. F. (2009). Risk factors and correlates of deliberate self-harm behavior: A systematic review. *Journal of Psychosomatic Research*, *66*, 477–493. doi:10.1016/j.jpsychores.2008.10.013

Foster, T., Gillespie, K., & McClelland, R. (1997). Mental disorders and suicide in Northern Ireland. *British Journal of Psychiatry*, *170*, 447–452. doi:10.1192/bjp.170.5.447

Gilbert, P., & Allan, S. (1998). The role of defeat and entrapment (arrested flight) in depression: An exploration of an evolutionary view. *Psychological Medicine*, *28*, 585–598.

Goldstein, R. C., & Willner, P. (2002). Self-report measures of defeat and entrapment during a brief depressive mood induction. *Cognition and Emotion*, *16*, 629–642. doi:10.1080/02699930143000473

Hawton, K., Casey, D., Bale, E., Shepherd, A., Bergen, H., & Simkin, S. (2009). *Deliberate self-harm in Oxford 2008*. Oxford, UK: Centre of Suicide Research.

Hjelmeland, H., & Groholt, B. (2005). A comparative study of young and adult deliberate self-harm patients. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *26*, 64–72. doi:10.1027/0227-5910.26.2.64

Hjemdal, O., Friborg, O., Stiles, T. C., Rosenvinge, J. H., & Martinussen, M. (2006). Resilience predicting psychiatric symptoms: A prospective study of protective factors and their role in adjustment to stressful life events. *Clinical Psychology and Psychotherapy*, *13*, 194–201. doi:10.1002/cpp.488

HMCIP (1999) *Suicide is everyone 's concern: A thematic review by HM chief inspector of prisons for England and Wales*. London: HMSO.

Ireland, J., & York, C. (2012). Exploring application of the Interpersonal-Psychological Theory of Suicidal Behaviour to self-injurious behaviours among women prisoners: Proposing a new model of understanding. *International Journal of Law and Psychiatry*, *35*, 70–76. doi: 10.1016/j.ijlp.2011.11.006

Johnson, J., Gooding, P., & Tarrier, N. (2008). Suicide risk in schizophrenia: Explanatory models and clinical implications, the schematic appraisal model of suicide (SAMS). *Psychology and Psychotherapy-Theory Research and Practice*, *81*, 55–77. doi:10.1348/147608307X244996

Joiner, T. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Klonsky, E. D. (2009). The functions of self-injury in young adults who cut themselves: Clarifying the evidence for affect-regulation. *Psychiatry Research*, *166*, 260–268. doi:10.1016/j.psychres.2008.02.008

Lauer, S., de Man, A. F., Marquez, S., & Ades, J. (2008). External locus of control, problem-focused coping and attempted suicide. *North American Journal of Psychology*, *10*, 625–632.

Leenaar, A. A. (1996). Suicide: A multidimensional malaise. *Suicide and Life-Threatening Behavior*, *26*, 221–236. doi:10.1111/j.1943-278X.1996.tb00608.x

Liebling, A. (1992). *Suicide in prisons*. London: Routledge.

Liebling, A. (2005). *The effects of imprisonment*. Cullumpton, UK: Willan Publishing.

Lohner, J., & Konrad, N. (2007). Risk factors for self-injurious behaviour in custody: Problems of definition and prediction. *International Journal of Prisoner Health*, *3*, 135–161.

Madge, N., Hewitt, A., Hawton, K., de Wilde, E. J., Corcoran, P., Fekete, S., van Heeringen, K., . . . Ystgaard, M. (2008). Deliberate self-harm within an international community sample of young

people: Comparative findings from the Child and Adolescent Self-harm in Europe (CASE) Study. *Journal of Child Psychology and Psychiatry*, *49*, 667–677. doi:10.1111/j.1469-7610.2008.01879.x

McClure, J. (1985). The social parameter of "learned" helplessness: Its recognition and implications. *Journal of Personality and Social Psychology*, *48*, 1534–1539. doi:10.1037/0022-3514.48.6.1534

McDougall, C., Clarbour, J., Perry, A. E., & Bowles, P. (2009). *Evaluation of HM prison service enhanced thinking skills programme*. London: Ministry of Justice.

Mills, J. F., & Kroner, D. G. (2004). New instrument to screen for depression, hopelessness, and suicide in incarcerated offenders. *Psychological Services*, *1*, 83–91. doi:10.1037/1541-1559.1.1.83

Milnes, D., Owens, D., & Blenkiron, P. (2002). Problems reported by self-harm patients: Perception, hopelessness and suicidal intent. *Journal of Psychosomatic Research*, *53*, 819–822. doi:10.1016/S0022-3999(02)00327-6

Ministry of Justice (MOJ) (2010) *Safety in custody statistics 2009*. Retrieved from http://www.justice.gov.uk/safer-custody.htm

Mohino, S., Kirchner, T., & Forns, M. (2004). Coping Strategies in Young Male Prisoners. *Journal of Youth and Adolescence*, *33*, 41–49. doi:10.1023/A:1027382229951

Moos, R. H. (1993). *Coping Responses Inventory: Adult form professional manual*. Odessa, FL: Psychological Assessment Resources.

Morrison, R., & O'Connor, R. (2008). A systematic review of the relationship between rumination and suicidality. *Suicide and Life-threatening Behaviour*, *38*, 523–538. doi:10.1521/suli.2008.38.5.523

National Confidential Inquiry into Suicide and Homicide by People with Mental Illness. (2011). *A national study of self-inflicted deaths in prison custody in England and Wales from 1999 to 2007*. Manchester, UK: University of Manchester.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, *100*, 569–582. doi:10.1037/0021-843X.100.4.569

O'Connor, R. C. (2003). Suicidal Behavior as a Cry of pain: Test of a Psychological Model. *Archives of Suicide Research*, *7*, 297–308. doi:10.1080/713848941

O'Connor, R. C., Armitage, C. J., & Gray, L. (2006). Theory of planned behaviour and parasuicide: The role of clinical and social cognitive variables. *British Journal of Clinical Psychology*, *45*, 465–481. doi:10.1348/014466505X82315

Penn, J. V., Esposito, C. L., Schaeffer, L. E., Fritz, G. K., & Spirito, A. (2003). Suicide attempts and self-mutilative behavior in a juvenile correctional facility. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 762–769. doi:10.1097/01.CHI.0000046869.56865.46

Pittman, N. L., & Pittman, T. S. (1979). Effects of amount of helplessness training and internal/external locus of control on mood and performance. *Journal of Personality and Social Psychology*, *37*, 39–47. doi:10.1037/0022-3514.37.1.39

Rasmussen, S. A., Fraser, L., Gotz, M., MacHale, S., Mackie, R., Masterton, G., McConachie, S., . . . O'Connor, R. C. (2010). Elaborating the Cry of pain model of suicidality: Testing a psychological model in a sample of first-time and repeat self-harm patients. *British Journal of Clinical Psychology*, *49*, 15–30. doi:10.1348/014466509X415735

Rudd, M. D. (2003). Warning signs for suicide? *Suicide and Life-Threatening Behavior*, *33*, 99–100. doi:10.1521/suli.33.1.99.22790

Scoliers, G., Portzky, G., Madge, N., Hewitt, A., Hawton, K., deWilde, E., Ystgaard, M., . . . Van Heerington, K. (2009). Reasons for adolescent deliberate self-harm: A Cry of pain and/or a cry for help? Findings for the child and adolescent self-harm in Europe (CASE) study. *Social Psychiatry and Psychiatric Epidemiology*, *44*, 601–607. doi: 10.1007/s00127-008-0469-z.

Selby, E., Connell, A., & Joiner, T. (2010). The pernicious blend of rumination and fearlessness in non-suicidal self-injury. *Cognitive Therapy and Research*, *34*, 421–428. doi: 10.1007/s10608-009-9260-z

Shneidman, E. S., Maris, R. W., Silverman, M. M., & Canetto, S. S. (1997). *The suicidal mind Review of suicidology* (pp. 22–41). New York: Guilford Press.

Slade, K., & Gilchrist, E. (2005). How will I cope? Links between self-harm, reporting sick and coping strategies. *Forensic Update*, *83*, 10–15.

Snow, L. (2002). *Working with those who self-injure - a guide to reaction and response*. Leicester, UK: British Psychological Society.

Thompson, M. P., Kaslow, N. J., Short, L. M., & Wyckoff, S. (2002). The mediating roles of perceived social support and resources in the self-efficacy-suicide attempts relation among African American abused women. *Journal of Consulting and Clinical Psychology*, *70*, 942–949. doi: 10.1037/0022-006X.70.4.942

Toch, H. (1975). *Men in Crisis*. Chicago: Aldine.

Topol, P., & Reznikoff, M. (1982). Perceived peer and family relationships, hopelessness and locus of control as factors in adolescent suicide attempts. *Suicide and Life-Threatening Behavior*, *12*, 141–150. doi:10.1111/j.1943-278X.1982.tb00936.x

Tuisku, V., Pelkonen, M., Kiviruusu, O., Karlsson, L., Ruuttu, T., & Marttunen, M. (2009). Factors associated with deliberate self-harm behaviour among depressed adolescent outpatients. *Journal of Adolescence*, *32*, 1125–1136. doi:10.1016/j.adolescence.2009.03.001

Vaux, A., Phillips, J., Holly, L., Thomson, B., Williams, D., & Stewart, D (1986). The Social Support Appraisals (SS-A) scale: Studies of reliability and validity. *American Journal of Community Psychology*, *14*, 195–219. doi:10.1007/BF00911821

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement*, *1*, 165–178.

Williams, J. M. G., & Pollock, L. R. (2000). The psychology of suicidal behaviour. In K. Hawton & K. Van Heeringen (Eds.), *The international handbook of suicide and attempted suicide* (pp. 79–93). Chichester: Wiley.

Williams, J. M. G., & Pollock, L. R. (2001). Psychological aspects of the suicidal process. In K. van Heeringen (Ed.), *Understanding suicidal behaviour: The suicidal process approach to research, treatment and prevention* (pp. 76–94). Chichester: Wiley.

Received 29 November 2011; revised version received 7 June 2012