Perceived entrapment, goal adjustment, and goal ambivalence as predictors for suicide ideation in high-risk prisoners

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The Integrated Motivational-Volitional (IMV) model of suicide (O'Connor, 2011) presents a pathway between perceived entrapment to the development of suicide ideation. This cross-sectional, questionnaire-based study used a sample of 106 male high-risk prisoners, to explore the predictive power of entrapment and goal factors linked to self-regulation (goal adjustment and ambivalence about personal goals) for suicide ideation. A logistic hierarchical regression showed that four factors: goal re-engagement, goal disengagement, goal ambivalence and internal entrapment, as a set, were able to predict any current suicide ideation over and above established risk factors (depression, social support, rumination, and history of suicidal behaviour), $\chi^2(8) = 45.90$, $p < 0.001$. As internal entrapment (Odds Ratio=1.16) increased this contributed significantly to the likelihood of current suicide ideation. This adds to findings that level of internal entrapment is an important factor in understanding the presence of suicide ideation and that this may also be applicable in prisoners. Interestingly, against the direction of hypotheses, higher willingness to engage with new goals (OR = 1.21) and lower historic suicide risk (OR= 0.87), also significantly contributed to the likelihood of current suicide ideation. Findings are discussed in relation to existing literature and with consideration of this specialist participant group.

Keywords: prison, suicide ideation, entrapment, goals

Introduction

Suicide is the prevailing cause of death in prisons internationally (World Health Organisation, 2018). In England and Wales, deaths by suicide are over six times more likely in prison than in the community (Ministry of Justice, MoJ, 2019), where suicide is defined as a self-inflicted death where an individual appears to have taken their own life, irrespective of intent (MoJ, 2010). Various socio-demographic factors have been found to predict greater suicide risk in prison populations; such as being white, male, young age (under 20), substance misuse problems, sexual abuse, previous suicide attempts, psychiatric diagnosis and greater levels of impulsivity, trauma, brain injury, and violent offending (Fazel et al., 2008; Favril, et al., 2020; Hawton et al., 2017; May & Klonsky, 2016). Environmental factors have also been identified as increasing the risk of suicide; such as being on remand (i.e. waiting to receive sentencing), occupying a single cell, receiving a life sentence, prior incarceration, and reporting negative experiences of imprisonment (Marzano, et al., 2011).

Suicide ideation has been widely identified as a reliable risk factor for suicide in the general population and in prisons (Eidhin et al., 2002; Fazel et al., 2008; Morgan & Stanton, 1997), and can be used to predict future suicide behaviour (Baca-Garcia et al., 2011; Retterstol, 1993). It has been identified as the strongest psycho-social factor associated with suicide (Zhong et al. 2021). As completed suicide is comparatively rare, studies into suicide in prisoners have utilised suicide ideation as a marker of likelihood of suicide.

A key aim of research is to identify dynamic - potentially modifiable - risk factors for suicide ideation and behaviour in prison. One area that has received attention is the high prevalence of mental health problems in individuals experiencing suicide ideation (Rivlin, Hawton, Marzano & Fazel, 2010). For example, suicide ideation has been found to be correlated with hopelessness and depression (Beck, Steer, Beck, & Newman, 1993).

However, most people experiencing problems such as depression do not die by suicide, which highlights the role of other proximal risk factors.

The psychosocial factors associated with suicide ideation are varied. The Integrated Motivational-Volitional model of suicide (IMV; O'Connor, 2011; O'Connor & Kirtley, 2018) provides a synthesis of these factors. The model recognises the interplay of multiple factors, and proposes three different stages in the development of suicide: the background factors and triggering events (pre-motivational phase), ideation/intention formation (motivational phase) and behaviour enaction (volitional phase). The model suggests that different factors predict suicide ideation, to those that predict suicide attempts or suicide. The motivational phase proposes that defeat and perceptions of entrapment lead to the development of suicide ideation and intent.

Entrapment describes the perception that there are no means of escape (Gilbert & Allan, 1998). There have been several studies that have found higher levels of perceived entrapment in individuals experiencing suicide ideation (Dhingra et al., 2015; Dhingra et al., 2016; Teismann & Brailovskaia, 2020), which offers support for the IMV model. Evidence has been mixed in the prison population. Gooding et al. (2015) found evidence that perceptions of high levels of entrapment is related to suicide ideation in male prisoners. However, a later study found that defeat and hopelessness were predictive of suicide probability in their sample of high-risk prisoners, but entrapment was not a significant predictor (Gooding, et al. 2017).

These relationships may be complicated by the existence of the subtypes of entrapment: internal entrapment (feeling trapped by one's own thoughts and feelings), and external entrapment (feeling trapped by external or situational factors; Gilbert & Allan, 1998). Interestingly, other studies have found that *low* entrapment was a predictor of future deliberate self-harm in prisoners (Slade, Edelmann, Worrall & Bray, 2014b) when directly

measured, whereas the authors reported that other indicators of entrapment i.e. less seeking guidance and greater external locus of control were predictive of self-harm. The authors discussed that reporting of external entrapment was affected by the prison environment and that measures of internal entrapment may become more important in this population. Overall, researchers have concluded that the concept of entrapment with prisoners warrants further investigation.

There is evidence of short-term variability of entrapment and significant within-person variability within Stenzel et al.'s (2020) study with 61 health participants. There is also evidence that internal entrapment was able to predict a change in suicide ideation over a 12-month trajectory in 308 psychiatric patients (Holler et al., 2020). This indicates a temporal relationship between the two constructs and supports how a cross-sectional focus could still usefully highlight relationships between entrapment and suicide ideation. It seems the literature may offer support for the modifiability of perceptions of entrapment, which further highlights the importance of learning more about the relationship between internal entrapment and suicide ideation, as this may increase our ability to intervene and prevent death by suicide.

The pursuit, management and attainment of every day personal goals, i.e. goal regulation, has been associated with higher levels of wellbeing (Emmons, 1986; Sheldon & Elliot, 1999; Sheldon, Kasser, Smith & Share, 2002). The IMV model posits that there is a role for goal regulation in the understanding of suicide ideation. Living in a confined and controlled environment, such as prison, may impact on personal goals. This is important because perseverance of personal goals can be a protective factor in relation to suicide ideation (Blalock et al., 2015). Chronic failure to make progress towards goals is commonly seen in depression (Strauman, 2002), and poor goal regulation is also found in ineffective social problem solving, which are both known risk factors for suicide (Williams et al., 2005).

An aspect of goal regulation is goal adjustment i.e. the ability to adjust one's goals, and has two components (Eddington, 2014); disengaging from unattainable goals (goal disengagement), and re-engaging with alternative goals (goal re-engagement). Difficulties with goal adjustment has been found to predict poorer well-being and increased risk of suicide behaviour. O'Connor et al. (2009) and O'Connor et al. (2012) found that low goal re-engagement predicted greater suicide ideation and risk of repetitive self-harm. Further, risk was particularly high for those low on re-engagement and high on disengagement.

There is very limited literature around goal regulation in prisoner populations. As already noted, the prison environment may make self-regulation of personal goals more difficult, as stressful events can obstruct effective self-regulation and adaptive patterns and processes (Baumeister & Heatherton, 1996) and the restrictive and structured environment of a prison can potentially limit prisoner choice (Kasser, 1996). This may also lead to changes in goal perceptions, such as greater goal ambivalence, whereby making a choice becomes more effortful than would be ordinarily. Ambivalence is relevant to the prison context because the nature of the environment may compromise the goal achievement (e.g. visiting the gym to achieve the goal to exercise may also require waiting in a holding cell for an hour with people from rival gangs). Ambivalence towards personal life goals has been found to be related to negative affect and wellbeing (Emmons, 1986; Blalock et al., 2015; Kelly et al., 2015).

Investigating goal adjustment and goal perceptions may contribute to furthering understanding of the mechanisms that contribute to an individual's perception of entrapment, particularly in terms of one's perceived ability to, and desire to escape.

Study Aims and Hypotheses

Firstly, we aimed to contribute to the evidence that high levels of perceived entrapment can predict suicide ideation in male prisoners. In particular, to support findings that highlight the subset of internal entrapment as the more important factor in this setting,

and to add further clarity to mixed findings in the prison research so far. Secondly, we also aimed to investigate the relationship between goal adjustment (i.e., re-engagement and disengagement) and suicide ideation, and replicate findings that low goal re-engagement can predict suicide ideation. Thirdly, we also aimed to investigate the relationship between goal ambivalence and suicide ideation.

Method

Research Site

In England and Wales, a four-category system is used (A-D, highest to least security) to determine which level of security a prisoner requires in terms of their likelihood of violence, crime, sentence type and escape risk. Participants were recruited from a single site, Category C adult male resettlement prison (non-remand). Resettlement prisons aim to prepare prisoners who have received prison terms of at least 3 years for release, in terms of managing their reintegration into the community (i.e. reducing institutionalisation, encouraging personal responsibility, increasing level of trust, and testing ability to function independently).

Participants

Between November 2018 and March 2019, 106 male prisoner participants were recruited (age range = 18-55). Forty-six percent (n=48) were aged between 26-35 and 43% (n=45) were from a white ethnic background. For 22% (n=23) of participants, it was their first time in prison (M_{times}= 7.24, SD = 9.5, Range 1-50). Sixteen percent (n=17) reported physical health problems and 37% (n=39) self-reported experiencing difficulties with their mental health.

Participants were selected via opportunity sampling (Vaughan, 2017), which included over-sampling of prisoners at high risk of suicide and or self-harm . This involved recruitment of participants known currently to, or recently supported by an, Assessment, Care in Custody and Teamwork plan (ACCT; MoJ, 2011). An ACCT is used in England and

Wales to identify people in prison who are at risk of self-harm and / or suicide and facilitates a multi-disciplinary approach to the management and support of individuals at risk. A stepped approach is followed within certain timeframes towards the overall aim of reducing risk.

Participants were excluded if they:

- had difficulty in understanding the study information in English
- were experiencing symptoms of mania and/or severe behavioural difficulties
- were housed on a vulnerable prisoner's wing or the personality disorder unit.

The latter point refers to a measure taken to ensure that all participants were placed in a similar regime i.e. the main prison wings, as, for example, participants on the vulnerable wing may have increased contact with staff, which impacts on some of the study variables. Presence of the above exclusion criteria factors was determined through initial identification of potential participants via prison healthcare staff, or within initial researcher contact with participants (i.e. to discuss study and review information form).

Procedure

Prison healthcare staff provided a list of eligible participants who had given permission for researchers to approach them, to minimise possibility of perceived coercion or pressure to take part in the study. Data collection occurred across a four-month period from January to May 2019 and in accordance with policy i.e. participants seen only during association (free) time. The questionnaire and methodology for this study was approved by the Human Research Ethics committee of the Cambridge East Research Ethics Committee (Ethics approval number: 16/EE/0360). Participants who gave permission were verbally given a Participant Information Sheet and signed a consent form. A standardised introduction to the questionnaires was given and debrief following administration, which included signposting participants to appropriate support, such as the prison listening service. Where there were significant risk concerns identified in questionnaire responses or within the

interview (i.e. expressed suicide thoughts *and* plans or indicated intent to act on thoughts), researchers informed the prison's healthcare staff, as per terms of confidentiality explained to participants prior to taking part.

Predictor measures

Depression, hopelessness (Mills & Kroner, 2005), brooding rumination (defined as the negative judgement of the consequences of negative mood states; Tucker et al., 2016), social support (O'Connor, 2011) and history of suicide are well established risk factors of suicide ideation. Particularly as the current research will take place within the context of a largely isolated prison setting, these were planned controlled variables.

Depression, Hopelessness and Suicide Screening (DHS)

The DHS (Mills & Kroner, 2004) is a 39 item, true or false self-rated measure of depression (17 items, e.g. "I feel sad most of the time"), hopelessness (10 items, e.g. "My future seems bleak"), and of current and prior risk of suicide (termed the Suicide Critical Item Scale, SCI; 12 items, e.g. "I have had serious thoughts of suicide in the past"). This measure has been validated for use with prisoner populations and used in previous investigations of suicide in a prison sample (e.g. Slade & Edelmann, 2014a). Higher scores on the DHS indicate higher levels of depression, hopelessness and suicide risk. The SCI is comprised of three subscales: cognitive permissive indicators (2 items), previous suicide and self-harm behaviour (PSSB; 5 items) and current suicide ideation (CSI; 3 items). In the current study, the PSSB was used as a measure of historic suicide risk), along with theDepression and Hopelessness subscales, and were found to have a Cronbach's alpha coefficients of .90, .88, and .88, respectively.

Entrapment Scale

This is a 16 item self-report measure of perceived internal and external entrapment, relating to triggers of escape motivation (Gilbert & Allan, 1998) where participants rate from zero (not like me at all) to four (extremely like me). The two subscales internal entrapment (e.g. ("I feel trapped inside myself") and external entrapment ("I can see no way out of my current situation") consist of six and ten items, respectively. The current study found a Cronbach's alpha coefficient of .89 for internal entrapment, .84 for external entrapment, and .92 for total entrapment.

Goal adjustment

The goal adjustment scale includes four items measuring goal disengagement i.e. perceived difficulty in reducing effort and relinquishing commitment toward unobtainable goals, and six items measuring goal re-engagement i.e. perceived ability to re-engage in new alternative goals if they face difficulty in goal pursuits (GAS; Wrosch et al., 2003). The GAS has been well validated with a range of populations (e.g. Miller & Wrosch, 2007). In the current study the Cronbach's alpha coefficient was .83 for goal re-engagement and .79 for goal disengagement.

Goal listing and assessment tasks

This scale was adapted from the Strivings Assessment Scale (SAS; Emmons., 1986), similarly to other research that has adapted this scale (Bogg et al., 2008; Eddington, 2014; King et al., 1998; Romero et al., 2009), to measure perceptions of important personal goals, defined as "objectives they are typically trying to achieve in their life". This measure consists of three tasks; i) listing as many important personal goals as possible, ii) selecting and ranking the three most important goals from this list and iii) rating these goals (on a seven-point Likert scale) in relation to five goal perception factors: importance, difficulty, satisfaction with progress, likelihood of success and ambivalence (how unhappy an individual

would feel if they were successful in their goals). Ratings were averaged across the ranked goals to produce one mean rating for each goal perception.

Response Styles Questionnaire

A five-item subscale from this questionnaire was used to measure brooding rumination (Nolen-Hoeksema, 1991), e.g. “think “Why do I have problems other people don’t have?”, on a four-point scale ranging from one (almost never) to four (almost always). This measure has adequate test-re-test and internal reliability (Treynor et al., 2003) and has been used in research with prisoners (Gardner et al., 2014). This measure was found to have .83 internal consistency in the current study.

Social Support Appraisals (SS-A) Scale

This is a 23-item self-report measure of an individual’s perceptions of (in contrast to actual) support from family, friends and other people (Vaux et al., 1986), for example, “I can rely on my friends”. Participants rate items on a four-point scale, ranging from one (strongly agree) to four (strongly disagree), where higher scores indicate poorer social support. The internal consistency in this study was .77.

Outcome measure

Beck’s Scale for Suicide Ideation (BSSI)

This is a 21-item measure that assesses suicide ideation and intent experienced in the past week (Beck et al., 1988). Items are rated on a Likert-type scale ranging from zero to two, e.g. "I have (a) moderate to strong/weak/no wish to live". Respondents answer five questions that include two gateway questions for the rest of the questionnaire; experiencing a desire to kill themselves and/or a reluctance to take steps to avoid death if in a life-threatening situation. This measure has been used to form the binary outcome variable of no suicide ideation (score of 0) and *any* suicide ideation (score of greater than or equal to 1). The two final items were omitted from total scoring as they ask about history of suicide. This measure

was chosen as it has been widely used in existing studies into the IMV Model (e.g. Tucker et al., 2016) and has been found to be reliable and validated within prisoner populations (Senior et al. 2007). This scale was found to have a Cronbach's alpha coefficient of .93 in the current study.

Power analysis

A power analysis was undertaken prior to data collection, which suggested that 114 participants would be required to reach adequate power.

Data Analysis

All data were cleaned by the researcher/s and analysed using Statistical Package for Social Sciences (SPSS) version 25 (IBM, Chicago, USA). Descriptive statistics describe the data in relation to demographic characteristics, file information and goal data of the sample.

The main analysis used hierarchical logistic regression procedures to test predictors of likelihood of suicide ideation, a binary variable coded as 0 (no current suicide ideation) and 1 (any current suicide ideation).

Logistic regressions were used to determine associations between suicidal ideation with internal entrapment and goal adjustment (goal re-engagement and goal disengagement) and goal ambivalence. For the regression analysis the enter method was used to add variables at each step (Field, 2013). The depression, brooding rumination, social support and previous suicide and self-harm behaviour (PSSB) in the first step as these have been found to associated with suicide ideation in the literature.

Testing assumptions

Prior to conducting the hierarchical logistic regression, tests were carried out to check the relevant assumptions of this statistical analysis. There was evidence of high multi collinearity for the hopelessness and external entrapment variables, and therefore these were

removed for subsequent analyses. The restricted prison regime makes internal entrapment more important in this population than external, so focusing on the latter variable in subsequent analyses was also justified.

Results

Participant demographics

The data confirmed that 66% (n=70) of the sample reported no current ideation and 34% (n=36) reported any current ideation on the BSSI (Table I). This may reflect that efforts to identify a high-risk sample were successful.

Insert Table I

Predicting suicide ideation

Hierarchical logistic regression

The first step of the hierarchical binary logistic regression model contained four control factors: previous suicide and self-harm behaviour (PSSB), depression, brooding rumination and social support. The model was statistically significant, $\chi 2$ (4) = 33.18, p <0.001, Nagelkerke R2 = .37, indicating that together predictors reliably distinguished between participants reporting any current suicide ideation and participants reporting no current suicide ideation. This model correctly classified 80% of the cases in terms of either no suicide ideation or any suicide ideation. Depression made a unique statistically significant contribution to the model (p<0.001) and had an odds ratio of 1.25.

The second step of the model containing the four predictors: internal entrapment, goal disengagement, goal re-engagement and goal ambivalence, remained a statistically significant model, $\chi 2$ (8) = 45.90, p <0.001, Nagelkerke R2 = .49, indicating all eight predictors together, reliably distinguished between participants reporting current suicide ideation and participants reporting no current suicide ideation, and improved how well the model predicted any current suicide ideation by 12%. The change in additional variance accounted for by this step was significant, $\chi 2$ (4) = 12.73, p<0.01, indicating that the four predictors together added to the model's ability to reliably distinguish the two groups. The model as a whole now correctly classified 81% of the cases. In this model, three independent variables made a unique statistically significant contribution to the model (internal entrapment, PSSB and goal re-engagement) recording odds ratios of 1.16, 0.87 and 1.21, respectively.

Therefore, as their odds ratios are greater than 1, as internal entrapment and goal re-engagement increase by one unit, this leads to a predicted 16% and 21% fold increase, respectively, in the odds of reporting current suicide ideation, controlling for other predictors. As the odds ratio is less than 1, as PSSB increases by one unit, the odds of reporting current suicide ideation decreases by 13%.

Insert Table II here

Discussion

As a set of variables, the four factors of perceptions of internal entrapment, goal re-engagement, goal disengagement and goal ambivalence, were able to reliably distinguish between participants with any current suicide ideation and those without, above that explained by a model of control variables only. High internal entrapment, and interestingly, high goal re-engagement and low previous self-harm and suicide behaviour, offered significant independent contributions to the final model. In terms of internal entrapment findings, this offers support for the IMV model, and other findings are also discussed below.

Entrapment

As levels of internal entrapment increased, there was a 16% increase in the likelihood of a participant reporting any suicide ideation, which represented a significant contribution to the overall model. This suggests that perceptions of being trapped by your own thoughts and feelings had a meaningful effect on suicide ideation, when the other variables were kept constant. This offers support for the IMV model that suggests that suicide ideation develops as a means of managing inescapable psychological pain. Perceived internal entrapment is more likely to transcend the participant's current situation, and therefore may be why it accounts for a significant portion of the variation in suicide ideation in a sample where physical entrapment is relevant.

The current study may offer support to previous findings that entrapment and suicide ideation have a relationship that appears to be independent of other mental health factors, such as depression, which was controlled for in the analysis. However, this cannot be clearly concluded and the need to remove the hopelessness variable for final analyses due to its high variance with other factors, mean that discussions of a conceptual overlap with entrapment (Johnson et al., 2008; Taylor et al., 2010) are still ongoing. Future research could investigate

the possibility that entrapment variables mediate the association between depression/hopelessness and suicide ideation.

External entrapment was not included in final analyses due to high multicollinearity with the other factors, particularly internal entrapment. This may be relevant to why previous studies have had mixed findings for the entrapment and suicide relationship in prisoners. For example, Gooding et al., (2015) finding that the total entrapment scale, i.e. both internal and external entrapment, did not predict suicide behaviour in a sample of prisoners. Therefore, it may be that it is worth continuing to explore internal entrapment on its own in future studies.

Goals

The findings that goal adjustment factors were part of an overall significant model in predicting suicide ideation are not surprising, given that previous non-prison research has indicated a role for goal disengagement and goal reengagement in the pathway to suicidal behaviours. Goal re-engagement, i.e. perceived ability to re-engage in new alternative goals if they face difficulty in goal pursuits, was found to make a significant independent contribution to the final model. However, this was not in the hypothesised direction, as higher likelihood of any current suicide ideation was linked with higher goal re-engagement (e.g. 'I seek other meaningful goals', 'I put effort toward other meaningful goals'). In a setting where opportunity for new goals is relatively limited compared to community life, or goals are likely to be less intrinsically motivated but externally driven (e.g. expectations around 'good' or complicit behaviour, or encouragement to take increased responsibility and independence through taking part in education or a small employment role), this could present as a barrier to an individual actually being able to re-engage with new goals, despite an expressed willingness to. In-turn, this may lead to increased likelihood of suicide ideation. Further, previous findings have indicated risk was particularly high when low goal re-engagement co-occurs with high disengagement. Therefore, it may be that there is a mediating role for goal

disengagement that impacted on the goal reengagement and suicide ideation relationship, but which was not within the scope of the current study to investigate.

Perceptions of goal ambivalence (how unhappy participants would be if successful in their goals), and goal disengagement (perceived difficulty in reducing effort and relinquishing commitment toward unobtainable goals) were not unique contributors to the final model. Therefore, there was no indication of a relationship between these two goal variables and suicide ideation in the current study. There is less consistent evidence in the literature for goal disengagement leading to suicide ideation, and some suggestion that it is most impactful when low goal re-engagement is also present, which may therefore explain this finding. Goal ambivalence is a novel factor in the area of suicide research, but links have been made with poorer wellbeing and negative affect. It may be that if there is a relationship with suicide ideation it is not a direct one and therefore unlikely to be identified in a study such as this.

Suicide ideation findings

Under-reporting of suicide ideation is common (e.g. Way et al., 2013; Safer, 1997; Velting et al., 1998). In the Senior et al. (2007) cross-sectional prison study into the identification and management of suicide risk in local prisons, only 12% of participants reported suicide ideation on the BSSI. The current study found a relatively high number of participants reporting some suicide ideation. However, this figure is inclusive of participants that scored anything above zero on the BSSI, thus including a range of suicide ideation; from low to high categories. Differences in rates of reported suicide ideation amongst studies is likely to be impacted by different means of measurement. The current study allowed for a broader scope of suicide ideation, than, for example, single question measures. This may be useful when it is considered that previous research suggests that low accuracy in reporting suicide and self-harm behaviour can be due to difficulties establishing a single definition (Kenny & Grant, 2007), which may also relate to reporting of suicide ideation.

Strengths and Limitations

This study has provided some preliminary evidence to inform the identification and management of the presence of suicide ideation in prisoners. The final model was relatively robust by controlling for a range of psycho-pathological confounding variables. It is also one of few studies investigating the IMV model with transfer prisoners, a population that has been the target of many nationwide safety initiatives due to higher incidence rate of suicide (MoJ, 2010). This study also provides evidence of feasibility for cross-sectional questionnaire-based studies using this population, which is important considering the limited research taking place within prisons. This study adds to the sparse landscape of research into goal regulation in the prisoner population.

As this was a cross-sectional study and not prospective, although a relationship was found between internal entrapment and suicide ideation, directionality of the relationship is unclear. It is not known whether the presence of suicide ideation in fact causes high internal entrapment. This is important to consider in the conclusions that can be drawn and therefore caution is needed. Further, although relatively marginally short (eight participants) of the recommended number from the power analysis, it may be that the study is slightly underpowered to detect all effects that may have been present.

In terms of generalisability, this study involved a small sample of male, C category transferred prisoners from a single site. Due to initial attempts to target high-risk prisoners by approaching newly transferred prisoners (knowing that this is a high-risk time, MoJ, 2013), this led to a large part of the sample (87%) being at the prison for less than three months. Therefore, the application of these findings must consider these points and one would recommend multi-site replication with other prisoner groups, and larger samples, for future research.

Clinical Implications

Findings suggest that including measures of entrapment may be important in effective assessment of suicide ideation in prisoners. This is not a part of current local or national risk assessment procedures (e.g. ACCT). In a population where psycho-social risk factors for suicide are common, theoretically based risk factors can be used to better identify at-risk prisoners and inform effective management. Those professionals working with prisoners at risk of suicide could consider aiming to address and reframe entrapment beliefs, modify unrealistic aspirations and enhance the availability of other options through highlighting other positive aspects of an individual's life (O'Connor & Portsky, 2018; Tarrier et al., 2013), or supporting them to identify and set positive goals, through therapeutic interventions. Preliminary evidence was found for the relevance of an individual's ability to engage with new goals, which suggests a possible role for goal setting work. The results of this current study also support the gathering of risk history, as many risk assessment approaches do.

Recommendations for future research

In order to recruit a sufficient number of participants reporting current suicide ideation, future research may wish to utilise implicit behaviour-based markers of suicide intention (Nock et al., 2010), measures that tap into different timescales for suicide risk i.e. historical, recent and current, or multi-method measures. Future studies should also aim to utilise prospective and longitudinal designs so that more information can be gleaned about the direction of the entrapment-suicide relationship, and would also allow for temporal conclusions to be made. Improvements could include qualitative reports from participants, exploring psychological mechanisms, or repeated testing over time to measure changes in entrapment. Studies into psychological interventions for entrapment would be useful – and can further highlight if it is modifiable (Owen et al., 2018). In respect of the limitations

discussed, replication is needed by future studies to investigate whether these findings still stand and to further clarify findings that contradict the existing literature.

Conclusion

Further evidence has been found of a relationship between entrapment and suicide ideation in a prison population. The nature of entrapment as a concept and its meaning to prisoners warrants further study. However, it is suggested that levels of internal entrapment be routinely considered in the assessment and management of suicide risk. There is some evidence implicating the potential benefit of exploration of prisoner's ability to engage with new goals, where facing unattainable goals.

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Declarations

Conflict of interest

Author Dr Rachael Miller, Author Dr Vyv Huddy, Author Dr Andrew Forrester and Author Dr Jarrod Cabourne declare that they have no conflict of interest.

Informed Consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients for being included in the study.

The authors declare they have no financial interests.

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