



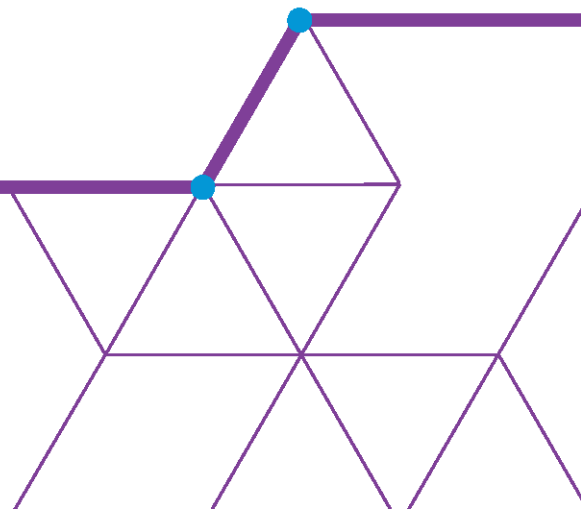
HM Prison &
Probation Service

Self-harm by adult men in prison: A rapid evidence assessment (REA)

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Ministry of Justice Analytical Series
2018

Preventing victims by changing lives



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First published 2018



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ISBN 978-1-84099-801-6

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1. Executive summary

A Rapid Evidence Assessment (REA) was undertaken to improve understanding of self-harm among adult men in prison, and to develop and inform thinking and action towards the management and treatment of self-harm in prisons. This is particularly important given the recent upward trend in self-harm incidents.

This review explores the distinct characteristics and motivations of men who self-harm as a group of individuals that have previously received little attention in academic literature. For the purpose of this review, the HMPPS definition of self-harm has been used: 'any act where a prisoner deliberately harms themselves irrespective of the method, intent or severity of any injury' in which no underlying assumptions of intent or motivation are made.

The primary research questions to be addressed in this REA are:

1. Why do adult men in prison self-harm?
2. What works to reduce and/or manage self-harm among adult men in prison?

REA methodology was employed to search a range of databases for relevant literature. The review focused on male prisoners over the age of 18. To be selected for inclusion, studies had to clearly distinguish self-harm as a separate behaviour or outcome from suicide and only studies published in English in the last 15 years were included. International literature was considered and the comparability and generalisability of any non-UK studies have been carefully considered and presented within the findings of the review.

From an initial sample of approximately 2,137 papers that were identified during the search process on why men self-harm, 14 studies met the inclusion criteria and were assessed in detail. The type and quality of research design of included studies varies considerably. Five studies used the highest quality methods using control and/or comparison group designs. The remainder of the studies use either pre-or post comparison only design, or were correlational or qualitative in nature. Findings from all 14 of these studies were drawn upon in developing the conclusions of this REA.

The search process focusing on what works to reduce/manage self-harm identified an initial sample of approximately 2,303 papers, although only two studies met the inclusion criteria. The wide variation in definitions of self-harm and the wide range of self-harming behaviours under study is not always adequately defined in research. Sample sizes tend to be small and

are limited in their design. As a result, the literature is contradictory in places and limits the generalisability of some findings.

The key findings from the REA are:

1. There are a number of empirically supported risk factors for men who self-harm in prison but there is very little evidence on protective factors and limited research exploring the relationships between risk and protective factors. These include the following.

Socio-demographic factors:

- Age – younger men have a higher rate of self-harm than older men in prison, but older men (30+) who self-harm tend to do so in ways that result in more serious injury
- Ethnicity – self-harm rates are higher among white men
- Educational background – increased risk of self-harm among those lacking in formal education
- Relationship status – increased risk of self-harm among those who are single and/or have experienced a recent breakdown of relationship
- Accommodation – increased risk of self-harm among those who have no fixed abode

Custodial/prison-related factors:

- People are at increased risk of self-harm in their early days in prison
- There are higher rates of self-harm in prisoners who are on remand or unsentenced and those serving a life sentence
- Higher rates of self-harm are seen in local prisons, high security prisons, and Young Offender Institutes
- There are higher rates of self-harm in prisoners who have a high number of disciplinary infractions

Psychological/psychiatric factors:

- History of self-harm – having a history of self-harm is a good predictor of future self-harming behaviour both prior to and in custody
- Depression/hopelessness
- Borderline personality disorder (BPD)
- Substance misuse

2. There is emerging evidence to support the separation of non-suicidal self-harm from suicide attempts/suicidal behaviours. Evidence suggests differences in lethality/severity and method, as well as intent should be considered in distinguishing and managing the risk and function of these behaviours.

3. There is evidence to support the notion that self-harm is a form of coping with emotional distress or as a result of emotional dysregulation (the inability of a person to control or regulate their emotional responses to internal and external stimuli) for male prisoners. One area signposted by the review which warrants further exploration is the role of rumination (the process of reflection and brooding which focuses on negative feelings or emotions) – both type and content – and its relationship to self-harm in custody.

4. Evidence suggests there is a potential link between self-harm and violence /aggression. Further research is needed to fully explore the links.

5. There is an absence of research on effective forms of treatment for men who self-harm in prison. The strongest evidence showing a reduction in self-harming behaviour comes from Dialectical Behaviour Therapy developed for (female) patients with BPD. Treatment is directed at developing emotion regulation skills for coping with situations that trigger self-harm. It is recommended that future research is undertaken to develop and test an intervention strategy suitable for male prisoners.

6. Poor staff knowledge and attitudes play a role in influencing self-harm. Evidence suggests that some staff have attitudes largely negative towards prisoners that self-harm, based on the perceived functions of the behaviour. A lack of knowledge leaves some staff feeling ill-equipped to deal with self-harm, further endorsing negative myths about the behaviour.

7. Good relationships between staff, and between staff and prisoners are important. Conflicts in responsibility over care planning and poor communication can leave both staff and prisoners feeling unsupported. The wider prison management system has an important role to encourage joint working and support and assist staff and prisoners dealing with self-harm. It is recommended that these problems could be addressed through staff training/peer support/safer custody leads/the ACCT process and a range of information sharing strategies.

2. Aims/objectives

The primary research questions addressed by this Rapid Evidence Assessment (REA) are:

1. Why do adult men in prison self-harm? What are the individual and contextual factors that are associated with self-harm in prison, including both risk and protective factors and staff attitudes and response to self-harming behaviour?
2. What works to reduce and/or manage self-harm among adult men in prison?

This report describes the rationale, methodology, results and potential implications of the REA.

3. What is self-harm?

HMPSS (as stated in PSI 64/2011) defines self-harm as ‘any act where a prisoner deliberately harms themselves irrespective of the method, intent or severity of any injury’. This can include self-harm by cutting, scratching, head-banging, punching a wall, self-poisoning, fire setting, suffocation, swallowing and/or insertion of objects and wound aggravation. This definition focuses on the behaviour, rather than on what the individual intended to achieve by engaging in the behaviour. Self-harming behaviours have been distinguished from self-inflicted deaths by the fatality of the act.

Early research (from the late 90s) on self-harm conceptualised this behaviour as being on a continuum with suicide. That is, self-harm was seen as building up to a suicide attempt, representing an earlier stage or the first overt symptom of distress leading to suicide (Liebling, 1999). However, there is now a growing body of literature which suggests non-suicidal self-harm and suicide attempts are separate and distinct behaviours. Self-harm is not always attempted suicide. Some individuals who self-harm may later attempt suicide, some may not. They have an intimate relationship with overlapping risk factors, but they are different. The distinction is based largely on the criterion of intention and the psychological function of the behaviour (Lohner and Konrad, 2006). Research on this topic uses different definitions of self-harm which can make it difficult to identify and synthesise the evidence.

There is still much to learn about the motivations for self-harm in prisons, the risk factors for future self-harm and suicide, and how these might differ for men and women. This is particularly true for self-harm by adult men. The existing evidence base on self-harm is complex, is often subsumed by studies focusing on suicide, and tends not to clearly separate men and women. For the purpose of this review, the HMPSS definition is retained, in which no underlying assumptions of intent or motivation is made, ensuring the full spectrum of self-harming behaviours (SHB) will be considered.

4. Levels of self-harm in prison

The incidence of self-harm in prisons is rising, particularly among older (over the age of 30) adult males. (MoJ Safety in Custody statistics, 2015). Since 2011, we have seen a decline in the rates of self-harm among women, while self-harm among men has risen. The rate per 1,000 male prisoners had increased by 90% from 161 incidents per 1,000 prisoners in December 2006 to 306 at the end of 2015. The rate of incidents per 1,000 male prisoners in 2015 increased by 31% from the previous year. This continues the long-term trend of rising incidents among male prisoners. Since the 12 months ending September 2014, there has been a notable acceleration in the rate of this increase (MoJ Safety in Custody statistics, 2015).

In contrast, we had seen a 40% reduction in female self-harm over the last seven years – from 2,586 incidents per 1,000 prisoners in 2006 to 1,546 by the end of 2013. However the rate of self-harm per 1,000 female prisoners has increased over the last two years to 1,888 by the end of 2015, reversing the downward trend (MoJ Safety in Custody statistics, 2015).

Despite the previous fall, female self-harm rates remain significantly higher than rates of male self-harm and account for a disproportionate amount of self-harm in prison. In 2015, women accounted for nearly a quarter of self-harm incidents but make up around 5% of the prison population. However, for the first time, from 2012 there were more men in prison committing 20 or more self-harm incidents than there were women. It is important to note, however, that 55% of the male prisoners who self-harm do so only once (MoJ Safety in Custody statistics, 2015).

Safety in Custody statistics show that male and female self-harm in custody differs in nature as well as frequency. Women engage in a greater frequency of self-harm incidents, while the severity of self-harm in men tends to be much greater in both the severity of injuries and lethality of the method (MoJ Safety in Custody statistics, 2015).

In light of the changing trends in prison, we contend that men and women should be considered as separate populations, with strategies for self-harm and suicide prevention that reflect the distinct characteristics and motivations of each group. Further research is needed to develop and inform thinking and action towards management and treatment of self-harm, to stem the rising number of incidents and to improve outcomes for prisoners who self-harm.

5. Methodology

Definitions of self-harm are wide ranging and encompass a range of different behaviours. Search terms were developed, piloted and tested following an initial review of the research literature to ensure the search criteria captured the extensive terminology used and the full range of behaviours that are relevant to self-harm. Details of the methodology, including search terms for each primary research question, databases searched and items retrieved at each stage of the process are given in appendix A. In addition to the range of databases searched (see table one), a number of other relevant websites were searched but yielded no studies that met the inclusion criteria. These included The Prison and Probation Ombudsman, HM Inspectorate of Prisons, The Howard League for Penal Reform, The Prison Reform Trust, and The Samaritans.

5.1 Inclusion and exclusion criteria

The review focused on male prisoners over the age of 18. These criteria led to the exclusion of much previous research on self-harm, which has predominantly focused on women and young people (under the age of 18) in community or health-based settings. The review considered empirical studies (based on primary and secondary data collection) and not work based on opinion. Due to the nature of REAs, which are by definition briefer than full systematic reviews, and the imposed time constraints, only studies published in English in the last 15 years were included. Similarly, overall conclusions from narrative literature reviews/systematic reviews were assessed, as opposed to assessing each paper that was included in the review individually. Any unpublished studies or studies that have not been adequately peer reviewed, including dissertations/PhD theses, were excluded as were medical databases due to limited access. Overall findings from narrative literature reviews/systematic reviews will be reviewed – studies within these will not be reviewed in their own right.

Studies that addressed both suicide and self-harm were included if self-harm was a variable of interest that could be clearly distinguished from suicide as a separate behaviour or outcome. A main aim of the review was to identify and draw out risk and protective factors to develop our understanding of self-harm, which is often subsumed within the more developed evidence base looking at suicide. Studies which focused on suicide attempts were included, in line with the HMPSS definition that describes the full spectrum of self-harming behaviours. Where possible, conclusions that differ on the basis of the type of self-harm have been drawn out. The review included international literature but as part of the assessment of quality, a greater weight was given to UK studies. Comparability and generalisability of any

non-UK studies have been carefully considered and presented within the findings of the review.

Question two looks at what works to reduce and/or manage self-harm among adult men in prison. In addition to the inclusion and exclusion criteria above, this was extended to studies that looked at male populations in community and health settings, due to the lack of existing research with male prison populations.

5.2 Methodological assessment/quality

Several frameworks for assessing methodological quality were integrated in order to assess both qualitative and quantitative research relevant to the review questions. Assessments of quality were based on:

1. ***The Maryland Scale of Scientific Methods*** (Sherman et al., 1997) – a five-point scale for classifying the strength of methodologies used in quantitative impact evaluation studies. Studies reaching a minimum of level three, which equates to studies with a robust comparison design that can provide evidence that a programme or intervention has caused the reported impact, were included in the review.
2. ***The Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI) Weight of Evidence assessment*** (Gough, 2007) – incorporates three dimensions (methodological quality, methodological relevance and topic relevance) of a study into a Weight of Evidence judgement. Each study (quantitative and qualitative) is weighted on the three dimensions and combined to give a fourth overall Weight of Evidence judgement. Evidence can be weighted as high, medium or low and can be excluded from the REA or given less weight in the synthesis. For the purpose of this review, studies assessed as medium or above were included (EPPI guidance does not stipulate a cut off for inclusion).

Where studies were scalable using the Maryland scale, a score was assigned and this informed the EPPI Weight of Evidence judgement. A standardised template ensured the necessary elements were extracted and limitations noted (see appendix B for a summary of studies included and weight of evidence assessments).

Inclusion decisions

Why do adult men in prison self-harm?

From an initial sample of approximately 2,137 papers that were identified during the search process, 14 studies met the inclusion criteria (see table one, appendix A). A large number of sources were excluded because they focused on women and young people under the age of 18 and samples based in the community or health settings.

Of the studies that met the inclusion criteria:

- nine were conducted in the UK, two in the USA, one in Germany and two were international literature reviews
- nine examined and reported on risk factors for self-harming behaviour
- three studies focused specifically on staff which addresses one of the supplementary questions of the REA
- two studies included a mixed sample of men and women, and were included because outcomes for adult males were clearly separated from those for adult females

What works to reduce and/or manage self-harm among adult men in prison?

From an initial sample of approximately 2,303 papers that were identified during the search process, only two studies met the inclusion criteria (see table two, appendix A). There were a large number of robust clinical trials, with promising results that were excluded because they focused on women. Of the two studies that met the inclusion criteria the quality of the design varied considerably as did the relevance of the topic to this review:

- the first was a systematic review and meta-analysis of randomised control trials looking at repetition of self-harm in patients treated in the community
- the second was a systematic literature review exploring the barriers and levers that prevent or aid implementation of policies for reducing self-harm in adults in prison (the findings from this paper address one of the supplementary questions of the REA looking at staff, therefore findings have been discussed in section 6.3 on staff as a factor associated with self-harm)

The type and quality of research design of included studies covering both research questions varies considerably. At the more robust end of the spectrum, four studies used the highest quality methods using control and/or comparison group designs. The remainder of the studies use either pre or post comparison only design, or were correlational or qualitative in nature.

5.3 Limitations

The wide variation in definitions of self-harm poses problems in synthesising the evidence and drawing conclusions. The range of self-harming behaviours under study is not always adequately defined in research reports, sample sizes are small and cover a range of clinical populations, and few studies use a comparison group. As a result, literature is contradictory and too few empirical studies have isolated men who self-harm in prison, limiting the generalisability of some findings.

Due to the sensitivity and nature of the topic, research methodology is almost exclusively retrospective. Assessments are carried out at one point in time – largely in the early days in custody as this is an empirically supported, high risk period. There is a lack of longitudinal research to adequately examine the interaction and interplay between risk and protective factors. Further research is particularly needed with men who continue to self-harm past the early days in custody or who begin to self-harm following a lengthy time in prison. This research will allow for further exploration into the environmental impact of prison on self-harming behaviours.

Whilst several of the studies in this review have used valid and reliable instruments for the assessment of depressive symptoms, to strengthen evidence required for the development of standardised risk assessments for self-harm, standardised diagnostics in measuring psychological risk factors are required.

The development of treatments for self-harm in prison settings is therefore still very much in its infancy and there is an urgent need for larger trials of promising therapies to be tested.

6. Summary of studies reviewed

The findings of this REA can be categorised into several themes. The first objective was to consider what we currently know about why men in prison self-harm, and what are the risk and protective factors for this behaviour. While there is a strong evidence-base examining risk factors for suicide, the evidence specific to non-suicidal self-harm is less well-established. However, there are a number of studies relevant to the questions of this review, and from which some conclusions can be drawn.

6.1 Why do adult men in prison self-harm?

There is growing support from research that deliberate self-harm without suicidal intent and intentional suicide attempts are two distinct behaviours with different functions. It has been suggested that the nature of the self-harming incident can be distinguished by the level of suicidal intent behind the behaviour, and the level of lethality of that behaviour (Lohner and Konrad, 2006). Using this system, cases presenting with low intent and low lethality are characterised as deliberate self-harm, while cases presenting with high intent and high lethality are characterised as suicide attempts. There were a number of cases that did not fit the proposed classifications, where lethality and intent did not correlate. Cases representing high intent and low lethality were harder to characterise and cannot be adequately interpreted based on the two measurements of intent and lethality used in this study. One case presented as low intent-high lethality, and was described as a fatal accident and was not included.

In comparing the characteristics and prison-related variables associated with prisoners who self-harm, the authors (Lohner and Konrad, 2006) concluded that deliberate self-harm without the intention of committing suicide is associated with being younger, engaging in a series of overt and visible disciplinary acts, having psychopathic traits, and engaging in impulsive acts of self-harm that may be carried out without experienced pain. Conversely, suicide attempts are associated with being older, having fewer disciplinary infractions, having depressive and hopeless thoughts and, on the whole, are far less visible.

Evidence (Dixon-Gordon, Harrison, and Roesch, 2012; Snow, 2002), whilst acknowledging the similarities between self-harm and suicide attempts (that both are self-directed and result in physical harm), suggest their differences can outweigh the similarities. It is the function of the behaviour that helps to distinguish deliberate self-harm from a suicide attempt. The functions are varied, yet distinct with the former conceptualised as a means of surviving or coping with life, as opposed to the ending of one's life (Dixon-Gordon et al., 2012).

The behavioural outcomes of those that self-harmed and those that attempted suicide were separated in one study by the underlying motivations as reported by prisoners who had engaged in these behaviours (Snow, 2002). This research identified three major motivational dimensions, characterised as responses to events, experiences or emotions for self-harm and suicide attempts among men:

1. men who self-harmed were most likely to be motivated by 'instrumental' reasons (defined as achieving an end goal of some kind, for example 'being alone/wanted someone to talk to', 'wanted help' and 'related to medication')
2. male young offenders who attempted suicide were more likely to be motivated by factors relating to interpersonal relationships with others (family/children/partners)
3. adult men who attempted suicide were most likely to be motivated by situational factors that related directly to their imprisonment, but that were not specifically offence-related, such as 'depression', 'concern over children', or 'homesickness'

Men were more commonly motivated by their response to what were perceived to be concrete events, such as the end of a relationship, than women were. The results highlight the complex and multifactorial nature of self-harming behaviours, and the breadth of motivations to be considered. The evidence suggests that those who injure themselves with suicidal intent were much more likely to describe negative feelings or emotions as precipitating factors.

Further support for the notion of non-suicidal self-harm as a form of coping comes from a variety of studies (from a systematic review) looking at men in prison, which suggest that a common motive associated with self-harm is emotion regulation, including the release of aggression (Dixon-Gordon et al., 2012). The evidence for self-punishment as a function of self-harm is less consistent, and comes predominantly from individuals who self-harm in the community and female populations.

It is here that the focus on the 'manipulative' element to self-harm, particularly within prisoner populations, should be mentioned. Although evidence suggests that the primary motive for engaging in self-harm is emotion regulation (Dixon-Gordon et al., 2012), studies that seek the perspectives of both staff and prisoners have identified an instrumental element to some prisoner's behaviours. This is described as self-harm committed in order to achieve a concrete goal or a change in circumstances, for example to achieve a transfer (Snow, 2002). Staff can perceive self-harm acts to be 'manipulative' and 'attention seeking' and can lead to a trivialising of the act and the risk posed by the individual (Snow, 2002). The higher

prevalence of self-harm in prison implies that there are contributory factors, which could be the prison environment, prisoners or both.

6.2 Theories of self-harm

There are two main theories that have been used to explain why individuals engage in self-harm in prison – the emotional cascade model and the Cry of Pain (CoP) model. Both provide a framework to understand self-harm, and both emphasise that self-harm is caused by an interaction between individual-level characteristics and environmental factors.

The emotional cascade model

The emotional cascade model (Selby and Joiner, 2009) suggests that many dysregulated behaviours – such as non-suicidal self-injury, suicide, substance misuse and aggression – are a result of intense rumination which occurs during times of emotional distress.

Rumination is the process of reflection and brooding which focuses on negative feelings or emotions (negative affect), which can result in ‘emotional cascades’. This vicious cycle of intense rumination increases the magnitude of the experience of negative emotion to the point that an individual engages in self-harm in order to distract from rumination.

Early research (Selby and Joiner, 2009) on the emotional cascade model proposed that the emotional and behavioural dysregulation of individuals with BPD may be fundamentally linked through rumination that may induce aversive emotional states or distracting behaviour. In a test of the emotional cascade model (Gardner, Dodsworth and Selby, 2014), the role of rumination as a mediator between BPD traits and self-harming behaviours in a sample of adult men in prison was explored. Rumination predicted self-harming behaviours, defined in this study as both suicidal and non-suicidal self-harm, and fully mediated the relationship between BPD and self-harm. This suggests that it is not BPD that causes self-harming behaviour, but that rumination, which is a common feature of those with BPD, is the cause of self-harming among those diagnosed with this disorder.

The Cry of Pain model

The CoP model is a biopsychosocial model initially developed for suicidal behaviour, and extends existing theories of escape¹ (Baumeister, 1990) and arrested flight² (Gilbert and Allan, 1998). The CoP model (Williams and Pollock, 2001) asserted that self-harming behaviours are the end product of a perception of being trapped in a stressful situation from which there is no escape or rescue. Self-harm without suicidal intent is also theoretically encompassed within the CoP model as the theme of escape is equally relevant to non-suicidal self-harm.

There is strong empirical evidence to support the CoP model, which identifies four key components that together place an individual at risk of suicide or self-harm:

1. the presence of stressors (life experiences/environmental factors)
2. the perception of defeat (a sense of a failed struggle)
3. the perception of entrapment (a sense of being trapped and unable to escape)
4. a perceived absence of rescue factors

Research considering the CoP model has suggested some additional considerations that may increase the sense of entrapment in a prison setting. These include a high external locus of control (the belief that events in one's life are outside of their control), ineffective coping and low resilience. The role of these additional factors needs to be further tested by research. Figure 4.1 illustrates the components of the CoP model established within an adult male prison (Slade, Edelmann, Worrall, and Bray, 2014).

¹ Escape theory proposes that suicide is motivated by a desire to escape from one's self. There are six main steps: falling short of one's own standards; attributing this setback to one's self; developing an aversive state of high self-awareness (seeing oneself as inadequate); negative affect (negative emotions develop); cognitive deconstruction (where one tries to escape, unsuccessfully, from meaningful thought into a relatively numb state); inhibitions reduce increasing the ability to engage in suicidal behaviour.

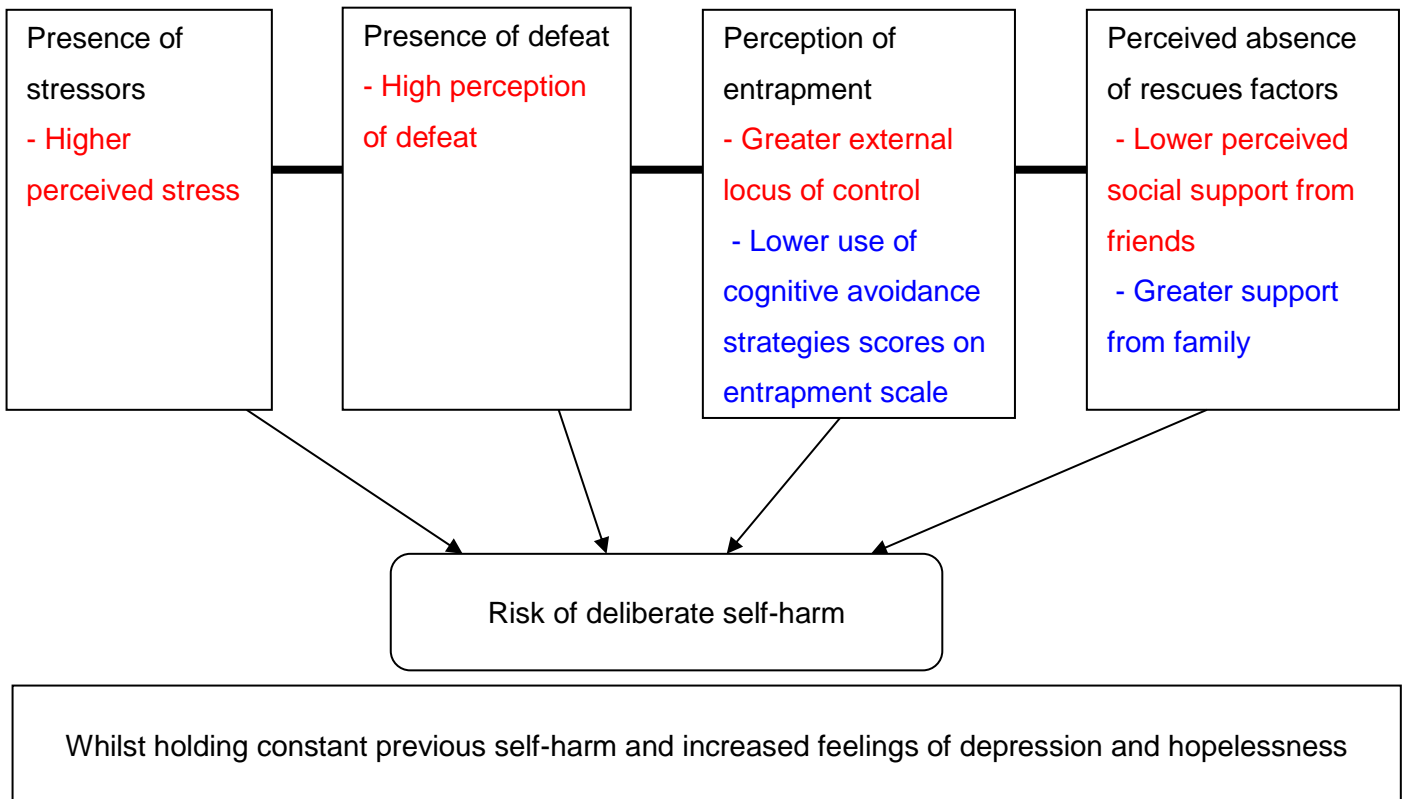
² Arrested flight theory considers the concepts of defeat and entrapment as seen to be of special relevance within the social rank theory of depression and suggests the fight/flight defences (strong feelings of anger – fight; desires to run away – flight) can become blocked, inhibited, and arrested, which increase stress.

Figure 4.1: Application of the CoP model in predicting self-harm in newly-incarcerated male prisoners

Key:

Measures that predict self-harm (in the direction hypothesised)

Measures that predict self-harm (in the opposite direction hypothesised)



In a robust test of the model in a local prison (Slade et al., 2014) the four key components of the model were found to predict self-harm:

1. presence of stress
2. presence (perception) of defeat
3. perception of entrapment, supported by a greater external locus of control
4. no perception of rescue, supported by poorer social support by friends

There were several measures hypothesised to be predictive (higher levels of depression, entrapment and coping strategies), which were found to be predictive in the opposite direction. For example, lower levels of self-reported depression were predictive of self-harm (measured by The Depression, Hopelessness and Suicide Screening form). Similarly, lower scores on the entrapment scale (measuring internal escape motivation triggered by feelings

and external escape motivation, induced from perceptions of things in the outside world) were predictive as was lower use of cognitive-avoidant strategies.

The finding that reduced levels of depression are linked with self-harm suggests that depression may be predictive of suicidal behaviour, rather than less severe forms of self-harm. Non-suicidal self-harm would be better predicted by the presence of heightened levels of stress. By including external entrapment, a self-harming prisoner is unduly influenced by the prison environment, and a sense of internal control may be more relevant in the model, explaining the variation in entrapment measures.

The authors (Slade et al., 2014) also suggest that less cognitive avoidance could be explained as being reflective of increased rumination, where repetitive, negative thoughts are the focus. Rumination has been suggested by others as relevant to self-harm and suicidal behaviour and should be considered in the model (Selby et al., 2009; Gardner et al., 2014). These raise avenues for further exploration about the emotional experience of prison, the differentiating aspects of entrapment and the style of coping employed by an individual.

A developmental trauma risk model

A developmental trauma model (Lewis, 1990) which suggests that there are biological and social learning bases for aggressive/impulsive behaviour has been extended to the self-harming behaviour of prisoners. A robust test of the risk model (Lanes, 2009) in identifying risk factors for self-harming behaviour in a male prison population in the US tested a combination of factors. These included developmental, mental health, offence history and institutional functioning (e.g. disciplinary infractions, lock downs).

Evidence (Lanes, 2009), suggests that important developmental events, such as abuse or neglect during childhood, central nervous system insult (head or brain injury/damage) and/or a lack of formal education, can result in a predisposition to psychological difficulties such as mood disorder or BPD. The model proposes that these difficulties can manifest in dangerous behaviour, such as suicide attempts or assaulting others while in prison, and may contribute to poor coping. The model also suggests that the manifestation of these behaviours in prison can lead to environmental instability, by resulting in time in segregation, protective custody or facility transfer, which then perpetuates problems as well as inducing distress.

While these models provide plausible explanations of self-harm by prisoners, and have some empirical support, they are not without limitations. None of the models clearly distinguish between different types of self-harming behaviours, which could have different motivations

and functions. Further research is required to properly understand the role of the prison environment in self-harm, and to better understand the relationship between rumination – both type and content – and self-harm in custody. It is also possible that motivations and therefore predictors of self-harm are different among those who self-harm only once, and those who engage in this behaviour habitually.

6.3 Risk and protective factors

Socio-demographic factors

Research has consistently identified a number of key socio-demographic variables that are associated with increased risk of self-harm among male prisoners (MoJ Safety in Custody Statistics, 2015; Lanes, 2009) and evidence from internal management information indicates that these same risk factors are characteristic of those men who were known to have self-harmed in prison over the last 10 years (MoJ Safety in Custody Statistics, 2015; Lohner and Konrad, 2007):

- age – younger men have a higher rate of self-harm than older men in prison, but older men (30+) who self-harm tend to do so in ways that result in more serious injury than younger men
- being white
- lacking in formal education
- being single and/or recent breakdown of relationship
- having no fixed abode

These factors are broadly reflective of those at risk of self-harm in the general population, however each of these risk factors is found more frequently among the prison population, suggesting that as a whole, the prison population is at raised risk of self-harm (MoJ Safety in Custody Statistics, 2015; Lanes, 2009).

What is not clear is whether these factors are predictive in isolation of self-harm, or whether certain combinations of these factors increase risk of this behaviour. Some studies have suggested other markers of increased risk of self-harm among men in prison, including prior incarceration, being involved in bullying and violent crime, and having previous convictions for violence. However, findings from these studies are inconsistent and use unspecified samples, so we cannot be confident that these are reliable (Lohner and Konrad, 2007).

Custodial/prison-related factors

Research (Lohner and Konrad, 2006; MoJ Safety in Custody Statistics, 2015; Lohner and Konrad, 2007) has identified a number of context-specific risk factors that are repeatedly linked to an increased risk of self-harm while in prison:

- people are at increased risk of self-harm in their early days in prison
- higher rates of self-harm in prisoners who are on remand or unsentenced and those serving a life sentence
- higher rates of self-harm are seen in local prisons, high security prisons, and Young Offender Institutes
- having a high number of disciplinary infractions (evidence suggests that prisoners who self-harm tend to act more aggressively towards themselves, other people and objects (Lohner and Konrad, 2006; Dixon-Gordon et al., 2012; Lanes, 2009 and Lohner and Konrad, 2007)

There is some overlap between the characteristics of the prisoner and the context within which they are held. For example, it may be that higher rates of self-harm are observed in local prisons because these hold a higher proportion of men on remand or who are awaiting sentence, while the high security estate holds a higher proportion of men on life sentences than training prisons do. Similarly, the higher rates of self-harm in young offender institutes could be a consequence of holding younger adult men, who are at higher risk of engaging in self-harm than their older adult counterparts.

Research suggests that prisoners may be influenced to self-harm by the actions of others around them. There is evidence of 'clustering' of self-harm incidents, in relation to both time and location, which one study (Hawton, Linsell, Adeniji, Sariaslan, and Fazel, 2014) suggests particularly affects those who self-harm only once. This suggests that prison-level changes in self-harm management might affect self-harm rates, and that a good response to self-harm should extend beyond the individual to others on the same wing.

Evidence from the USA suggests that establishments characterised by a greater use of facility transfer, segregation, lock down and protective custody have higher rates of self-harm (Lanes, 2009). However, it is not clear why this is the case. Some argue that isolation increases risk of self-harm, while others suggest that these measures are linked to bullying, which could be a cause of self-harm (Lohner and Konrad, 2007). The lack of concrete evidence explaining these results, and the many differences in prisons between the U.S. and the U.K, means it is difficult to generalise this finding to English and Welsh prisons.

Psychological/psychiatric factors

There are a number of psychological or psychiatric factors which are consistently linked to self-harm in prison populations:

- having a history of self-harm is a good predictor of future self-harming behaviour both prior to and in custody (Slade et al., 2014; Hawton et al., 2014; Maden, Chamberlain and Gunn, 2000)
- high levels of depression and hopelessness are associated with higher levels of intent to harm and lethality of the self-harm act (MoJ Safety in Custody Statistics, 2015), as well as being strongly linked to suicidal ideation, which increases the likelihood of self-harming behaviour (Ivanoff, Jang and Smyth, 1996; Palmer and Connelly, 2005)
- Borderline Personality Disorder (Gardner *et al.*, 2014)
- substance misuse (Dixon-Gordon *et al.*, 2012; Lohner and Konrad, 2007; Maden et al., 2000)

There is some overlap between these psychological factors, which is hard to disentangle. Having a history of self-harm has been associated with having a range of depressive symptoms, but there is variation in how these symptoms are measured, while BPD is in part defined by recurrent suicidal behaviour, making it difficult to establish whether this is a risk factor in its own right (Gardner et al., 2014; Lohner and Konrad, 2007).

6.4 Staff influence on self-harm

Evidence (Ramluggun, 2013; Ireland and Quinn, 2007) suggests that self-harm can be influenced by the attitudes and responses of some prison officers and healthcare staff working with prisoners. Of the limited research that has been conducted, it has been suggested that some staff attitudes towards prisoners who self-harm show endorsement of a number of negative myths that surround the functions and 'genuineness' of the behaviour. Some prison staff in particular appear to operate a distinction between genuine and non-genuine self-harm, where non-genuine self-harm is reportedly perceived by some prison staff (Ramluggun, 2013) as a manipulative act, used as a blackmailing tool by prisoners threatening to self-harm. When perceived in this way, self-harm can evoke negative feelings in staff and adversely impact on their individual and collective responses (Ramluggun, 2013).

Suggested factors that have been linked to attitudes towards male self-harm in prison:

- professional discipline – some prison officers tended to view the cause of self-harm as a means for prisoners to influence or change their

environment/circumstances, in comparison to some healthcare staff who tended to view self-harm as sign of a prisoner's inability to adapt to prison life (Ramluggan, 2013)

- gender – some female prison officers were more likely than men to report positive attitudes towards self-harm and were particularly less likely than men to endorse negative myths regarding self-harm (Ireland and Quinn, 2007; Marzano, Ciclitira and Adler, 2012)
- prisoners' behaviour – prisoners seen as 'disruptive' who then go on to self-harm invoked increased negative attitudes in some prison staff than the 'well-behaved' prisoners, for both men and women (Ireland and Quinn, 2007)

Further evidence suggested that negative attitudes are likely to arise in some staff when they are poorly trained and feel ill-prepared to deal with self-harm (Ramluggan, 2013). A lack of knowledge underpins attitudes towards self-harm and the acceptance of myths plays an important part in determining the overall attitudes that an individual holds concerning self-harm (Ireland and Quinn, 2007; Bennett and Dyson, 2014). One study reported that prisoners' experiences of staff treatment were negative, with some staff often displaying actively hostile attitudes and behaviours to their self-harm (Marzano et al., 2012).

Interdisciplinary conflict between staff, particularly health and custodial staff, was evident in a number of studies (Ramluggan, 2013; Ireland and Quinn, 2007; Bennett and Dyson, 2014) with each discipline viewing the other as best placed to deal with self-harm, leading to an absence of shared responsibility or effective multidisciplinary working. In particular, reported conflicts that arise for prison staff include:

- conflict within themselves – and their dual role as custodian versus carer
- conflict with other disciplines including health care staff and senior management
- conflict with prisoners and the response that is needed/expected from them

Poor communication and conflict between health and prison staff was not just limited to the management of self-harm but was also seen as a problem ingrained into the wider prison culture, for example a lack of support from managers and the view of prison officers as tough and resilient and expected to cope with the stress of managing self-harm (Ramluggan, 2013; Bennett and Dyson, 2014). In addition, some prison staff felt their uniform was the biggest barrier to building relationships with prisoners and that the general mistrust prisoners have makes it difficult for staff to engage with those that self-harm (Palmer and Connelly, 2005). Tensions between staff and prisoners can lead to reluctance and resentment among staff to

implement guidelines that demonstrate caring and reluctance among prisoners to receive treatment due to a lack of trust and anger towards officers at the way they may have been previously treated (Marzano et al., 2012; Bennett and Dyson, 2014). Prisoners reported being negatively affected by hostile reactions to their self-harm (Marzano et al., 2012).

Research has highlighted the inadequacies of the broader system for managing self-harm in prison, which is seen by a range of staff and prisoners as ill-equipped to deal with the complex needs of men who self-harm. An effective prison management structure for prisoners at risk of self-harm was identified as one that encourages joint working and shared decision making among different agencies involved in the care of these prisoners. It needs to be supportive of staff to help minimise the burden of responsibility and inspire staff to search for effective ways to care for these prisoners. It also needs to be supportive of prisoners to help them in solving their problems and to avoid situations where they may feel compelled to become more instrumental to eliminate situational and contextual factors, which prisoners may perceive as system failures.

6.5 What works to reduce or manage self-harm?

The second objective of the REA was to review the evidence for 'what works' in reducing and or managing self-harm in men. For this question, the REA criteria were expanded to include treatment programmes/approaches for adult men in the community and health settings as well as prisons. Even so, only two studies met the inclusion criteria.

The first study (Bennett and Dyson, 2014) presented findings from a literature review identifying the barriers that prevent or interfere with the implementation of policies for reducing self-harm in adults in prisons. Six key themes were identified: knowledge, attitudes, emotion, staff skills, environment and resisting treatment. The findings have been discussed in section 6.4, within the context of staff as a factor associated with self-harm.

The second, a robust meta-analytical study (Hawton et al., 1998), examined the effectiveness of psychosocial and drug treatments of patients who have deliberately harmed themselves. Twenty randomised control trials in which the repetition of self-harm as an outcome measure were identified. Despite the high quality design, there was insufficient evidence to draw conclusions due to the small numbers of patients in each of the trials making it difficult to detect clinically significant differences. The subsequent synthesis of results by meta-analysis still did not yield the power to detect differences. However, the authors identified promising results for:

- problem solving therapy
- provision of a card to allow patients to make emergency contact with services
- drug treatment (depot flupenthixol) for recurrent self-harm
- dialectical behaviour therapy for female patients with BPD

The limitations of this meta-analysis – too small samples, largely representative of patients treated in the community and the aggregated sample disproportionately skewed to women – means we cannot draw any firm, generalisable conclusions.

Dialectical Behaviour Therapy (DBT)

A number of studies (see appendix C) using high quality research designs contribute to a growing evidence base indicating the efficacy of DBT in reducing self-harming, a therapeutic approach designed originally for women with BPD.

DBT was originally developed to treat chronically suicidal patients diagnosed with BPD (Linehan, Armstrong, Suarez, Allmon and Heard, 1991). It combines cognitive behavioural principles with emotion regulation, interpersonal effectiveness, distress tolerance, core mindfulness, and self-management skills. The mindful attitude of encouraging alert, non-judgemental attitude towards events as well as one's own emotions and cognitions is crucial to preventing impulsive, mood-dependent behaviour and recurrent self-harm.

Although the DBT studies (studies focused on women) were excluded from this REA, they are noteworthy for the following reasons:

- They contribute to a growing number of treatment studies that demonstrate the efficacy of DBT in reducing both the number and severity of repeated self-harm episodes among those with a BPD (Linehan et al., 1991; Slee, Garnefski, van der Leeden, Arensman and Spinhoven, 2008; Panos, Jackson, Hasan and Panos, 2013).
- Research has begun to explore the potential mechanisms of change within treatments (DBT) that target self-harm to assist in their adaption and effectiveness for different clinical and forensic populations. A trusting patient-therapeutic relationship, building emotion regulation skills, cognitive restructuring and behavioural skills training have been suggested as the essential aspects of treatments. Several studies indicate emotion regulation, particularly impulse control and ability to engage in goal-directed behaviours, is an important mechanism of change within treatment for self-harm (Gibson, Booth, Davenport,

Keogh and Owens, 2014; Slee, Spinhoven, Garnefski and Arensman, 2008). However, the specific mechanisms behind favourable outcomes of therapies are still unclear (Slee, Arensman, Garnefski and Spinhoven, 2007).

Given the lack of treatment for self-harm that has been developed, implemented and evaluated in prison settings, one Australian study (Eccleston and Sorbello, 2002) attempted to examine the outcomes of a DBT adapted programme targeting vulnerable male offenders exhibiting borderline characteristics. Despite the focus on adult male prisoners, this study was excluded due to a weak research design, making it difficult to draw any conclusions from (see appendix C).

7. Conclusions

Despite the limitations of the literature covered by this review, there are some common themes that can be drawn out:

We know more about risk factors than protective factors. There are a number of empirically supported risk factors for men who self-harm in prison. There is good evidence to enable us to emphasise that self-harm is caused by an interaction between individual-level characteristics, and environmental factors. There is very little evidence on protective factors and limited research exploring the relationships between risk and protective factors. Longitudinal research exploring risk and protective factors and self-harm over time is required.

Self-harm is different to suicidal behaviour. There is growing evidence to support the separation of non-suicidal self-harm from suicide attempts/suicidal behaviours. Historically, research has focused on the similarities, and has established links between self-inflicted deaths and self-harm. Emerging evidence now focuses on the differences, which provides a more nuanced understanding of the range of self-harming behaviours. In particular, evidence suggests differences in lethality/severity, and method, as well as intent, should be considered in distinguishing the risks and functions across the spectrum of behaviours in prison. Assessment, treatment and care planning can be more effectively targeted and individualised – particularly for those who repeatedly self-harm.

Self-harm in prison is particularly a way of coping with intense emotions. Self-harm as a form of coping with emotional distress or as a result of emotional dysregulation is supported within research on male prisoners. One area signposted by the review which warrants further exploration is the role of rumination – both type and content – and its relationship to self-harm in custody. Evidence suggests that the prison environment can exacerbate/promote rumination as it often involves considerable periods of isolation and limited activities. In addition, there is some evidence that the nature of relationships within prison, both between staff and between prisoners, often characterised by suspicion and mistrust are likely to contribute to rumination. The evidence suggests that both individual and contextual/situational factors contribute to higher levels of self-harm in prison and further work is needed to explore the physical and emotional experience of prison and the breadth of motivations.

There is evidence of a potential link between self-harm and violence/aggression. There is evidence of a potential link between self-harm and other negative behaviours. It has been suggested that those who self-harm are increasingly more likely to be involved in disciplinary infractions and incidents in prison. The evidence suggests that self-harm can be a way of coping with intense emotions including aggression and evidence suggests that prisoners who self-harm tend to act more aggressively towards themselves, other people and objects, than those who do not self-harm. Further research is needed to fully explore the links between violence and self-harm in prison.

Interventions for self-harm in prison are largely untested but emotional regulation skills seems a promising approach. There is an absence of research on effective forms of treatment for men who self-harm in prison. The strongest evidence showing a reduction in self-harming behaviour comes from DBT developed for female patients with BPD. Treatment is directed at developing emotion regulation skills for coping with situations that trigger self-harm. It is important to note that treatment of this kind emphasises the need for strong client-therapist relationships and recommendations to develop work in this area will need to pay sufficient attention to the required skills and experience of practitioners. It is recommended that future research is undertaken to test interventions targeting emotion regulation/ and or rumination with male prisoners who self-harm.

Poor knowledge and attitudes in some staff may influence self-harm. Evidence suggests that some staff have largely negative attitudes towards prisoners that self-harm, based on perceived functions and ‘genuineness’ of the behaviour. Some staff consistently cite ‘manipulation’ as the main function, and tend to make a distinction between what they believe is ‘genuine’ and ‘non-genuine’ self-harm. A lack of knowledge leaves some staff feeling ill-equipped to deal with self-harm, further endorsing negative myths about the behaviour.

Relationships between staff, and between staff and prisoners, are also important. Evidence from a range of other settings (health and community) suggests these attitudes may not be unique to custodial staff working in prisons. Evidence suggests a number of potential conflicts that arise for some prison staff, which include:

- conflict within themselves – and their dual role as custodian versus carer
- conflict with other disciplines including health care staff and senior management
- conflict with prisoners and the response that is needed/expected from them

This can lead to conflicts in responsibility over care planning and poor communication between staff, leaving both staff and prisoners feeling unsupported.

8. Recommendations

8.1 Staff support and learning

- Foster an integrated approach that facilitates interdisciplinary communication and shared responsibility of assessment and care planning which also provides ongoing professional peer support across all staff disciplines.
- Enhance staff awareness and focus on self-harm prevention through general support, assistance and good staff-prisoner relationships. Enhanced awareness of emerging risks, including individual and situational triggers for male prisoners, can increase staff's ability and willingness to understand and support individuals who self-harm. Helping prisoners to solve their daily problems and to avoid situations where they may feel compelled to become more instrumental requires support from the wider prison management system.
- Emphasise early identification of risk and ongoing assessment, joint management and intervention provision, including daily activities reflective of the level and type of risk (which includes lethality, severity of method, intent and risk of repeated behaviour). Assessment and care planning should be individualised and responsive to emerging and ongoing risk factors.

It is recommended that these problems could be addressed through staff training/peer support/safer custody leads/the ACCT process and a range of information sharing strategies.

8.2 Intervention

- Develop, pilot and evaluate an intervention strategy suitable for male prisoners including those with and without BPD. Structured interventions designed to improve emotional regulation, problem solving and rumination should be explored.

8.3 Future research

- Longitudinal research exploring risk and protective factors and self-harm over time and how risk and protective factors interact.
- Further work exploring the links between violence/aggression and self-harm in prison.
- Development of standardised risk assessments for self-harm and diagnostics in measuring psychological risk factors.

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Appendix A

REA methodology: search strings, database searching and record of retrievals

Databases searched:

CSA ProQuest

- ERIC
- ASSIA
- EconLit
- NCJRS
- PAIS international
- PILOTS
- Proquest – Sociology
- Social Services

EBSCO Academic

- Criminal Justice

PsycARTICLES

PsycINFO

SocINDEX

Google Scholar

9. Q1: Why do adult men in prison self-harm?

Box one: search terms

caus* OR risk* OR assess* OR factor* OR protect* OR correlat* OR predict* OR recogni*
OR link* OR associat* OR motivat* OR precur* OR "staff response" OR "staff responsibility"
OR "staff responsibilities" OR "staff behaviour" OR "staff behavior" OR "staff training" OR
attitud* OR interpersonal OR relationship* OR "psychiatric factors" OR "individual factors"
OR "social factors" OR environment* Or isolation OR solatory OR segregat* OR culture OR
situation* OR condition* OR "security category" OR profil* OR cognit* OR behavi* OR
"quality of life" OR pathways OR test* OR "design failure"

AND

"self-harm" OR "self-harm" OR self-harm* OR "self-harming" OR "self-harming" OR self-
mutilat* OR self-cut* OR self-destruct* OR "self-burning" OR "self-biting" OR "head-banging"

OR "suicide attempt" OR "attempted suicide" OR "self injury" OR "self injuries" OR onychotillomania OR trichotillomania OR "eating disorders" OR bulimia OR "anorexia nervosa" OR "self injurious behaviour" OR "self neglect" OR parasuicide OR cutting OR scratching OR "help seeking behavior" OR "help seeking behaviour" OR "psychological distress" OR "non-fatal repetition" OR "self poisoning" OR "over dosing"

AND

(adult* OR "over 18" OR "over eighteen") N5 (male* OR men)

AND

prison* OR jail OR gaol OR penitentiary OR incarceration OR imprison* OR custody OR detain*

Table one: Items retrieved at each stage

Database or website	Initial screening	Final screening	Downloaded for further examination (excluding duplicates)	Met search criteria
<i>CSA ProQuest</i>	19	14	4	4
<i>EBSCO Academic</i>	18	17	3	1
<i>Google Scholar</i>	2100	160	25	6
Reference lists/colleagues	-	9	5	3
Total	2137	200	37	14

Q2: What works to reduce and/or manage self-harm among adult men in prison?

Box two: search terms

"what works" OR "best practice" OR impact OR evaluat* OR intervention* OR service* OR prevent* OR effective* OR program* OR therap* OR scheme* OR treat* OR dialectical* OR rehab* OR holistic OR culture OR "staff behaviour" OR "staff behavior" OR "staff training" OR respon* OR staff respon* OR support OR "social support" OR "peer support" OR buddying OR "listener schemes" OR attitud* OR strateg* OR "clinical strateg*" OR "clinical approaches" OR relationship* OR counselling OR asses* OR manag* OR screen* OR "psychological assessment" OR profil* OR "coping skills" OR "coping mechanisms" OR "poor coper model" OR minimizing Or "post incident care" OR "after care" OR mindfulness OR "cognitive thinking"

AND

"self-harm" OR "self-harm" OR self-harm* OR "self-harming" OR "self-harming" OR self-mutilat* OR self-cut* OR self-destruct* OR "self-burning" OR "self-biting" OR "head-banging" OR "suicide attempt" OR "attempted suicide" OR "self injury" OR "self injuries" OR onychotillomania OR trichotillomania OR "eating disorders" OR bulimia OR "anorexia nervosa" OR "self injurious behaviour" OR "self neglect" OR parasuicide OR cutting OR scratching OR "help seeking behavior" OR "help seeking behaviour" OR "psychological distress" OR "non-fatal repetition" OR "self poisoning" OR "over dosing"

AND

(adult* OR "over 18" OR "over eighteen") N5 (male* OR men)

AND

prison* OR jail OR gaol OR penitentiary OR "correctional facility" OR incarcerat* OR imprison* OR custody OR detain* OR "detention centre" OR "remand centre" OR "immigration detention centre" OR "police custody" OR "police cell" OR "court cell" OR "prison van" OR "high security psychiatric hospital*" OR "half way houses" OR "detention barracks" OR "military prison*" OR "detainment centres" OR "secure setting*" OR "secure hospitals" OR "secure accommodation" OR community

Table two: items retrieved at each stage

Database or website	Initial screening	Final screening	Downloaded for further examination (excluding duplicates)	Met search criteria
<i>CSA ProQuest</i>	44	12	2	0
<i>EBSCO Academic</i>	59	9	4	0
<i>Google Scholar</i>	2200	30	8	0
Reference lists/colleagues	-	14	14	2
Total	2303	65	28	2

Appendix B

Summary of studies meeting inclusion criteria and weight of evidence assessment

Source title	Author	Country	Study aims	Methodology	Weight of evidence	Findings
Deliberate self-harm and suicide attempt in custody: Distinguishing features in male inmates' self-injurious behaviour.	Lohner and Konrad (2006)	Germany	To compare the clinical characteristics, character pathology and prison related factors of male prison and jail inmates' self-injurious behaviour with high and low suicide intent and lethality.	Quantitative: Retrospective correlation study. N= 49 prisoners (remand and sentenced) selected from two prisons. Sample was divided into serious and non-serious self-injurious behaviour (SIB) with regard to intent and lethality.	Maryland – Level 1 WOE A: Medium Clear justification of variables to include based on previous research and appropriate methods used. Detailed account of analysis and clear links between data and findings. WOE B: Medium Design is appropriate to the aims of examining possible differences between the various forms of SIB. Findings also look at the difference between SIB within a sample of prisoners. WOE C: Medium Clearly gives insight into the main question of the review regarding what is currently known about risk and protective factors for adult men that self-harm in prison. Relevant to male prison population, however the sample consists of German prisoners. WOE D: Medium Relatively low quality quantitative methodology but is relevant to the study topic and subject matter of particular relevance to REA. However, it is a small European sample and not directly generalisable to the UK.	The results indicate significant correlation between seriousness and some demographic, prison related variables as well as different measures of depression. Prisoners showing -harm (DSH)and suicide attempters seem to differ in a number of ways suggesting the two behaviours should be considered as separate entities.

<p>Non-Suicidal Self-Injury Within Offender Populations: A Systematic Review.</p>	<p>Dixon-Gordon et al (2012)</p>	<p>International</p>	<p>The article explores potential risk factors for non-suicidal self-injury (NSSI), such as demographic characteristics, psychiatric diagnoses, coping styles, emotional vulnerability and childhood experiences alongside the functions of NSSI in correctional settings. Assessment and treatment options are evaluated in terms of their efficacy and limitations.</p>	<p>Systematic review. A total of 46 articles were summarised and presented alongside a selective review of NSSI within community and clinical contexts for the purpose of comparison. Studies were empirical and a definition of NSSI explicitly not including suicidality was used.</p>	<p>Maryland scale – no scalable WOE A: Medium WOE B: Medium WOE C: High WOE D: Medium The review covers a breadth of literature focusing on correctional settings and had applies a strict definition to the type of behaviour examined. The focus is of particular relevance to this review but again findings need to be viewed with caution due to a wide range of international, mixed samples.</p>	<p>The review suggests that risk factors for NSSI must be considered differently in correctional settings, due to the high base rates of these vulnerabilities. Further although environmental control is a more salient function of NSSI within correctional settings, the primary motive for engaging in this behaviour remains emotion regulation.</p>
<p>Prisoners' motives for self-injury and attempted suicide</p>	<p>Snow (2002)</p>	<p>UK</p>	<p>This study examines what motivates or underlies attempted suicide and self-injury in prisons and to identify differences and similarities in motivations between different types of prisoners.</p>	<p>Qualitative – n=124 prisoners (mixed sample) and categorised into two groups: those who attempted suicide and those who injured without suicidal intent. Adult Men = 36 (20 who have attempted suicide); Young offenders (men) = 49 (24 attempted suicide).</p>	<p>Maryland – not scalable WOE A: Low/medium Sufficient detail was not provided on how the prisons or participants were initially selected. Environmental influences (different types of prison) were not considered. Detailed description of analysis and clear links between the data and findings. WOE B: Medium Clear links between research design and aims. Large sample drawn from a range of prisons. WOE C: Medium Both the aims and the population are highly relevant to this review but the sample is mixed. Findings that relate to male prisoners only</p>	<p>The results highlight the complex and multifactorial nature of suicidal and self-injurious behaviours. At the very least they lend support to the suggestion that different strategies should be developed for those who attempt suicide and those who injure themselves for other reasons.</p>

					can be drawn out but the sample size is reduced. WOE D: Medium	
Borderline Personality Traits, Rumination, and Self-Injurious Behaviour: An Empirical Test of the Emotional Cascades Model in Adult Male Offenders	Gardner et al (2014)	UK	To provide a cross-sectional analysis of the role of rumination as a mediator between BPD traits (which are characteristics of BPD as a disorder) and SIB testing the application of the emotional cascades model to a sample of adult male prisoners. Study focused on two dysregulated behaviours – NSSI and suicidality.	N=179 prisoners in Category C training prison completed a range of psychometric measures and a self-completed questionnaire.	Maryland scale - Level 1 WOE A: Medium WOE B: Medium/High WOE C: Medium WOE D: Medium Appropriate design for research aims and significant findings provide empirical evidence for validity of model and a theoretical framework for forensic settings. Limitations – could be strengthened by longitudinal future research. Model captured the full range of SIB but could also be applied to SIB behaviours of varying degrees of severity.	The emotional cascades model is applicable to BPD traits in a forensic setting with adult male offenders. Evidence was found for the role of rumination in predicting broadly defined self-injurious behaviour. Association between BPD and dysregulated behaviour was fully mediated by rumination, after accounting for criterion overlap suggesting rumination is an important contributing factor to dysregulated behaviours among those with elevated BPD traits and is a mechanism through which they may engage in NSSI.
Applying the Cry of Pain Model as a predictor of deliberate self-harm in an early-stage adult male prison population	Slade et al (2014)	UK	A prospective study to evaluate predictors of engagement in DSH in prison. This study applied William and Pollock's (2001) Cry of Pain model as the theoretical process of DSH in the early stages of imprisonment.	N=177. All newly arriving prisoners over a three month period were approached at induction to participate. Prisoners completed a range of psychometric measures and self-completed questionnaires. All participants were followed up for 4 months	Maryland scale – Level 2. WOE A: Medium Findings support previous research linking these different elements with self-harm (with or without suicidal intent). Clear links between the aims, analysis and findings and where hypotheses are in a different direction, this has been considered. Controls were applied to the model. WOE B: Low/Medium	The Cry of Pain model is supported as a predictive model for DSH in prison. The full model (containing all 18 predictors) was statistically reliable indicating that the model could distinguish between those who engaged in DSH and those who did not in prison (97.7% of cases classified correctly).

				for instances of self-harm.	<p>No comparison group and limited sample size, given the large number of variables so some factors may have not been identified. Results can only be generalised to early days in custody and not to later stages of imprisonment. High churn in this type of prison so follow up period is limited.</p> <p>WOE C: High Relevant to REA population and aspects of model can be used to build the evidence base of risk and protective factors – further exploration is needed in making sense of the potential interactions between factors in light of the high level of variables in the current model.</p> <p>WOE D: Medium</p>	
Identification of Risk Factors for Self-Injurious Behavior in Male Prisoners	Lanes (2009)	USA	The study aims to identify risk factors for SIB in a prison population which might later be used in the development of a risk assessment.	N=264 sentenced prisoners (132 prisoners engaging in SIB matched to a comparison group of 132 non-SIB prisoners.	<p>Maryland scale – Level 3 WOE A: Medium Clear link between aims of study and appropriate methods used. Aims are embedded in previous research to identify the risk factors to be examined within the model. Detailed account of analysis and clear links between data and findings. The sample are from one state in America so generalisability is limited.</p> <p>WOE B: High High quality quantitative methodology appropriate to the study aims of identifying SIB in a prison population alongside a</p>	A combination of risk factors from domains defined by developmental (history of abuse/neglect during childhood and history of significant central nervous system insult), offence history, mental health and institutional functioning factors were significant classifiers of 93% of the sample, distinguishing factors associated with the outcome of SIB.

					<p>comparison group. Specificity and sensitivity of the model was good.</p> <p>WOE C: Medium SIB and non-SIB prisoner sample of adult men so clear and relevant links to the review. US sample so any findings need to carefully caveated.</p> <p>WOE D: Medium/ High. High quality quantitative methodology/appropriate to the study topic and sample and subject matter of particular relevance to REA.</p>	
<p>Risk factors for self-injurious behaviour in custody: Problems of definition and prediction</p>	<p>Lohner and Konrad (2007)</p>	<p>International</p>	<p>The article reviews international literature on SIB in prisons and jails and introduced risk factors associated with this behaviour.</p>	<p>Studies reviewed are from a variety of countries and cover a variety of samples (male and female). Only studies using a control group of inmates without SIB were included.</p>	<p>Maryland – not scalable WOE A: Medium WOE B: Medium WOE C: Medium WOE D: Medium The review highlights the inherent methodological problems of studying self-harm. Exclusion of studies with no control group strengthens their findings but mixed samples from different countries limits generalisability and comparability. The focus on prisons is of particular relevance to the review but findings need to be viewed with caution and findings from male only studies have been drawn out, where possible.</p>	<p>Findings on potential risk factors are largely contradictory because of the differences in sample selection and dependent variables (DSH without suicidal intent vs. suicide attempts) and too little is known about potential protective factors.</p>

<p>Self-harm in prisons in England and Wales: an epidemiological study of prevalence, risk factors, clustering, and subsequent suicide</p>	<p>Hawton et al, (2014)</p>	<p>UK</p>	<p>The study looked at self-harm across the whole prison estate of England and Wales in 2004–2009, which consisted of 4 parts: 1) a descriptive study of data gathered on incidents 2) a case control study of risk factors for self-harm 3) analysis of clustering of self-harm incidents 4) a comparative cohort study to identify risk of suicide after self-harm and associated risk factors</p>	<p>A national study of 139,195 incidents of self-harm in 26,510 individual prisoners was analysed across the whole estate covering different security levels, sentence length, age and sex.</p>	<p>Maryland scale – Level 3/4 WOE A: High WOE B: High WOE C: Med WOE D: Medium/High Strong research design with control group. Clear link between research aims and design, and data/findings. Focus on self-harm, and subsequent suicide within the same cohort although analysis covers both men and women. Some findings have been separated out by sex which can inform the review.</p>	<p>In both sexes, self-harm was associated with younger age, white ethnic origin, and either a life sentence or being unsentenced. In male prisoners risk was increased for those in high security prison. 109 subsequent suicides in prison were reported in individuals who self-harmed; the risk was higher in those who self-harmed than in the general prison population and more than half the deaths occurred within a month of self-harm. Risk factors for suicide after self-harm in male prisoners were older age and a previous self-harm incident of high to moderate lethality. Substantial evidence was notes of clustering in time and location of prisoners who self-harmed (adjusted intra-class correlation (0.15%, CI 0.11-0.18). Clustering was substantially more pronounced for prisoners self-harming once, rather than being a determinant of repetition.</p>
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Deliberate self-harm in sentenced male prisoners in England and Wales: some ethnic factors	Maden et al, (2000)	UK	This paper examines the lifetime prevalence of DSH in male sentenced prisoners.	N=1,741 (n= 402 young adults aged 17 to 21 years and n=1,349 adult men) were selected at random and representative of the male prison population. Participants were interviewed and prison and medical records reviewed.	<p>Maryland scale – Level 1. WOE A: Low/Medium WOE B: Medium WOE C: Medium WOE D: Medium</p> <p>Data from a large sample of prisoners was representative of the male prison population in England and Wales. Sample breakdown by ethnicity produced small sub groups of self-harming prisoners so the analysis was limited in light of the aims of the study.</p> <p>Caution needs to be applied to interpreting the prevalence of personality problems among this population due to the methodological limitations of this study (namely clinical as opposed to statistical diagnosis of disorders).</p>	17% of men reported DSH on at least one occasion during their life (more white than non-white prisoners). More white men in the medium and long-term sentence group than the short term sentence group gave a history of DSH. White prisoners seem more likely to have cut themselves than black prisoners, DSH was associated with alcohol dependence but not with drug addiction. Neurotic and personality disorders were more commonly diagnosed in the DSH group.
Clinical Risk Factors Associated With Parasuicide in Prison	Ivanoff et al, (1996)	USA	The study aims to identify risk factors associated with parasuicide in a prison setting.	N=130 male inmates in the New York state prison system. Sample was divided into 2 groups n=33 incarcerated parasuicide and n=97 non-incarcerated parasuicide. Participants were interviewed and psychological tests administered.	<p>Maryland scale – Level 3/4 WOE A: Medium</p> <p>Clear link between aims of study and appropriate methods used. Aims are embedded in previous research to identify the risk factors to be examined within the model. Detailed account of analysis and clear links between data and findings. The sample is small for the range of predictors entered into the model.</p> <p>WOE B: Medium/High</p> <p>High quality quantitative study – appropriate to the study aims of identifying the risk factors and</p>	Psychiatric history, symptomatology, and psychological functioning variables affected parasuicide directly and indirectly through their contribution to suicidal ideation. Among inmates with histories of alcohol abuse, however, hopelessness was a less significant predictor of parasuicide, suggesting that interaction effects may warrant more attention.

					<p>interaction effects with a matched comparison group.</p> <p>WOE C: Medium Sample highly relevant to the review but drawn from the USA so any findings need to carefully caveated.</p> <p>WOE D: Medium/High High quality methodology appropriate to the study topic. Sample and subject matter of particular relevance to REA.</p>	
Depression, hopelessness and suicide ideation among vulnerable prisoners	Palmer and Connelly (2005)	UK	To compare depressive symptoms among prisoners who self-harm and those who do not.	Case control study; N=24 new arrivals to prison, matched to a comparison group (n=24) of new arrivals with no history of self-harm.	<p>Maryland scale – Level 3/4</p> <p>WOE A: Medium Clear research question and design framed within existing research. Detailed account of analysis and clear link between data and findings. Some limitations – sample size and assessment at one point in time. High level of refusal.</p> <p>WOE B: High High quality quantitative study with matched comparison group and choice of measures justified and appropriate to research aims.</p> <p>WOE C: High Sample characteristics extremely relevant and findings sufficiently robust to inform our understanding of risk factors of men in prison in the UK.</p> <p>WOE D: Medium/High High qualitative methodology/ appropriate to the study topic and sample and subject matter of particular relevance to REA.</p>	Prisoners with a previous history of self-harm are more likely than those without to show range of depressive symptoms (hopelessness, depression and suicidal ideation). Mean scores on all 3 scales were significantly higher among prisoners with a history of self-harm.

<p>A Critical Exploration of the Management of Self-Harm in a Male Custodial Setting: Qualitative Findings of A Comparative Analysis of Prison Staff Views on Self-Harm</p>	<p>Ramluggan (2013)</p>	<p>UK</p>	<p>This study identified and compared relevant attitudinal dimensions of custodial and health care staff on prisoners who self-harm in an adult male local category B prison.</p>	<p>Qualitative semi-structured interviews n=37. Interviews carried out with prison staff, healthcare staff and senior managers in a category B local prison.</p>	<p>Maryland – not scalable WOE A: Medium Clear link between aims of study and appropriate methods used. Some limitations round the sample (voluntary and its impact on the sensitive nature for the subject matter). It is also a small sample from one prison so generalisability is limited. Detailed account of analysis and clear links between data and findings. WOE B: Medium High quality qualitative study appropriate to the study aims of exploring and comparing perceptions and views on self-harm from healthcare and prison staff. WOE C: Medium Clearly gives insight into one sub question of review on staff attitudes and response to self-harming behaviour. Relevant to the UK and male prison population. Overall WOE: Medium</p>	<p>The key themes identified were: understanding self-harm, building relationships, occupational issues, organisational issues, and care management of self-harm. The findings suggest that most prison staff felt unsupported and inadequately equipped to manage self-harm, and reported interdisciplinary conflict on its collective management.</p>
<p>Officer Attitudes Towards Adult Male Prisoners Who Self-Harm: Development of an Attitudinal Measure and Investigation of Sex Differences</p>	<p>Ireland and Quinn (2007)</p>	<p>UK</p>	<p>This study explores the specific attitudes held by officers towards adult male prisoners who self-harm, and assesses if these attitudes alter as a function of the prisoner's behaviour and sex of the participant.</p>	<p>N=162 (100 men and 62 women) who attended training at the Prison Service college were approached. Attitudinal measures and vignettes were used to assess and compare responses.</p>	<p>Maryland scale - Level 1 WOE A: Medium WOE B: Medium WOE C: High WOE D: Medium Small sample and no record of which establishment staff worked at so was not possible to determine if they had experience of working with adult self-harmers. Attitudes towards Prisoners who</p>	<p>The findings indicate that attitudes towards prisoners who self-harm are comprised of a number of components that were influenced by the sex of the participant and the behavioural characteristics of the prisoners depicted. Women were more likely</p>

					Self-Harm (APSH) developed for the purpose of the research and data on reliability limited to internal reliability. Data was also suitable for factor analysis. Psychometric qualities need further exploration but good research design, appropriate to the aims and clear links between the data and findings. Highly relevant and informative to review.	than men to report positive attitudes towards self-harm and in particular were less likely than men to endorse negative myths regarding self-harm.
The impact of prison staff responses on self-harming behaviours: Prisoners' perspectives	Marzano et al, (2012)	UK	To further understanding of how health and correctional staff responses to self-harming behaviours influence prisoners and their subsequent actions.	Qualitative semi-structured interviews. N=20 prisoners who had been in custody for at least 6 weeks at the time of interview. Selected on the basis of having self-harmed with no apparent suicidal intent at least twice in the previous month.	Maryland- not scalable WOE A: Low/Medium WOE B: Medium WOE C: Medium WOE D: Medium Clear justifications for research as identified in the gap in research literature. Appropriate design for the research aims with a detailed process of qualitative analysis. Clear link between the data and findings. Small sample from one prison but the sample population and topic is highly relevant to the review.	Majority of responses from prisoners portrayed officers and health care staff as being ill-prepared to deal with repetitive self-harm, often displaying actively hostile attitudes and behaviours. Prisoners also cited a difference between male and female staff responses.
Deliberate self-harm among adults in prisons	Bennett and Dyson (2014)	UK	A literature review was conducted to identify barriers that prevent or interfere with the implementation of policies for reducing DSH in adults in prisons and the levers that aid implementation.	Integrative international literature review conducted looking at adult offenders in prison.	Maryland – not scalable WOE A: Medium WOE B: Low/Medium WOE C: Medium WOE D: Medium Appropriate methodology for the research aims – gaps in the existing research literature identified. Thematic analysis was clearly described. Studies include female samples but findings on	The barriers and levers identified include knowledge, attitudes, emotion, skills, environmental factors and inmates resisting treatment.

					male prisoners could be separated.	
Deliberate self-harm: systematic review of efficacy for psychosocial and pharmacological treatments in preventing repetition	Hawton et al, 1998	International	To identify and synthesise the findings from all randomised controlled trials that have examined the effectiveness of treatments of patients who have deliberately harmed themselves.	Meta-analysis examining effectiveness of psychosocial and physical treatments of patients in the community (worldwide) who have harmed themselves. Grouped interventions: 1) problem solving therapy vs. standard aftercare 2) intensive intervention plus outreach vs standard aftercare 3) emergency card vs standard aftercare 4) antidepressant med vs. placebo. Remainder of studies reported singly. Outcome measure: repetition self-harm	<p>Maryland scale – Level 4/5</p> <p>WOE A: High Systematic review methodology – quality assessment used was rigorous and inclusion criteria of randomised controlled trials (RCTs) only with clear outcome measure ensured methodological quality of review and meta-analysis was high.</p> <p>WOE B: High To test efficacy of treatments, and ‘what works’, research design was robust and outcome measure was directly linked to the review.</p> <p>WOE C: Medium Limited to trials representative of those who deliberately self-harm and treated in the community. Not always clear of the gender split in trials but the greater proportion involved women so evidence is limited to what works for men who self-harm in the community.</p> <p>WOE D: Medium/High</p>	Significantly reduced rates for depot flunitrazepam and DBT. Considerable uncertainty about which forms of treatment are effective and further larger trials are needed.

Appendix C

Summary of studies excluded that examine the efficacy of dialectical behaviour therapy (DBT)

Study and date	Country/ setting	Sample size/participants	Intervention	Outcome measure	Results	Reason for exclusion
Slee et al (2008). Cognitive behavioural intervention for self-harm: RCT	Holland – patients presenting at the Leiden University medical centre and the Riverduinen Mental health centre	Experimental group N=48 (CBT plus TAU); Control group N=42 (TAU). Predominantly Dutch females. Attrition in experimental group (17%).	Short cognitive-behavioural therapy (CBT) intervention	Primary number of episodes of self-harm in the past 3 months. Secondary measures - assessed by patient-self report at baseline, 3, 6 and 9 months included depression, anxiety, self-esteem, suicidal cognitions and problem solving ability.	Patients who received CBT in addition to treatment as usual were found to have significantly greater reductions in self-harm, suicidal cognitions and symptoms of depression and anxiety, and significantly greater improvements in self-esteem and problem solving ability compared with the control group.	Does not meet criteria (adult male). However, robust RCT – Maryland level 5 which provides evidence that a time limited cognitive behavioural intervention is effective for patients with recurrent and chronic self-harm.
Panos et al (2014). Meta-analysis and systematic review assessing the efficacy of DBT	Meta-analysis to examine the efficacy of DBT explicitly with BPD using RCTs across a range of treatment providers and settings.	x5 RCTs included. N=247 individuals with BPD. Majority of subjects were young women (4 of 5 RCTs were women only). The remaining trial included only 5 men (2%) of overall sample.	DBT	Reducing suicide attempts, parasuicidal behaviour, attrition, or depressive symptomatology in adult patients diagnosed with BPD.	Combining effect measures for suicide and parasuicidal behaviour (5 studies) revealed a net benefit in favour of DBT. DBT was only marginally better than TAU in reducing attrition during treatment. DBT was not significantly different from TAU in reducing depression symptoms in three RCTs. DBT demonstrated efficacy in stabilising and controlling self-destructive behaviour and improving patient compliance.	Does not meet criteria (adult males).

Gibson et al (2014). DBT informed skills training for deliberate self-harm	Ireland – inpatients at not-for-profit mental health hospital	N=82 adults with BPD or DSH in inpatient setting. Mixed sample – does not differentiate of compare gender differences. 79% of experimental group were female and 57% in control group.	DBT informed skills training - Living Through Distress (LTD) programme.	Frequency of DSH and 2 indicators or emotional distress - depression and anxiety. Secondary aim of examining possible changes in emotion regulation associated with DBT-informed skills training as compared to TAU.	Greater reductions in the frequency of DSH and improvements in some aspects of emotion regulation were associated with completion of LTD, as compared with TAU. Improvements in DSH were maintained at 3 month follow-up. This suggests providing a brief intensive DBT-informed skills group may be a useful intervention for DSH.	Maryland level 3. Single centre, non-randomised trial. Mixed sample - skewed to females and does not differentiate between gender.
Slee et al (2008). Emotion regulation as a mediator of treatment outcome in Therapy for DSH	Holland – patients presenting at the Leiden University medical centre and the Riverduinen mental health centre	To investigate whether changes in specific emotion regulation difficulties in DSH patients treated with CBT mediated treatment outcomes. Using data from earlier RCT (Slee, 2008). Experimental group N=48 (CBT plus TAU); Control group N= 42 (TAU).	Short CBT intervention	Number of episodes of DSH in past 3 months. Proposed mediators of treatment outcome were emotion regulation difficulties and symptom severity (measures of depression, anxiety and suicidal cognitions).	The findings show that changes in DSH were partially mediated by changes in emotion regulation difficulties, particularly impulsive control and goal-orientated behaviours. Although the CBT intervention significantly reduced depression, anxiety and suicidal cognitions, these measures of symptom severity did not play a mediating role. The findings suggest that interventions for DSH should not primarily focus on mental disorders associated with DSH but should be DSH-specific and should target specific emotion-regulation difficulties.	Does not meet criteria (adult men). Robust RCT Maryland level 5 that provides evidence that a time limited CBT intervention is effective for patients with recurrent and chronic self-harm.
Slee et al (2007). CBT for deliberate self-harm	Review of 3 different cognitive-behavioural theories of DSH with the aim of providing a framework that	Review of theories allows comparison of the different approaches to identify the essential aspects in the treatment of DSH. Theories	n/a	n/a	Four mechanisms of change that are at the core of effective cognitive-behavioural treatments of DSH: 1) a trusting patient-therapist relationship 2) building emotion regulation skills 3) cognitive restructuring and 4) behavioural skills training. The 3 therapies might help therapists to	Does not meet inclusion criteria (adult men). Main objective of the article is to provide guidance for clinicians.

	encourages practitioners to look for mechanisms of change in the context of their work with DSH patients.	reviewed: 1) DBT - Linehan (1993); Cognitive behavioural approach-Berk et al (2004) and a suicide and DSH specific CB approach- Rudd et al (2001).			target these mechanisms of change. However, the specific mechanisms behind the favourable outcomes of the therapies are still unclear.	
Eccleston and Sorbello (2002). The RUSH programme – Real understanding of self-harm	Australia – prison setting (one remand centre in Victoria)	Not stated – 5 high risk units housing offenders. High attrition rates so a pre-post test scores were compared. N=29 across 5 units – too small to test significance.	Intensive programme – DBT (Linehan, 1991) adapted for prison setting	Pre-post test scores on Depression, Anxiety and Stress scale – initially rates of suicidal ideation and self-harm.	Early quantitative and qualitative trends suggest that RUSH is a potentially useful therapeutic program teaching alternative and more adaptive life skills, to better manage dysfunctional behaviour, and reduce their propensity towards suicide and self-harm. RUSH is a promising, holistic offender rehabilitation program targeting BPD characteristics and related problem areas.	Does not meet methodological criteria. Maryland – level 2. Sample was too small to compare pre and post test scores and test for significance. Qualitative outcomes were anecdotal, informal and consisted of verbal feedback from participants and staff. Attrition high – research design weak and cannot gather or evidence any impact or behaviour change.