

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

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## **Abstract**

**Objective:** The study aimed to quantify the rate of dual-harm behaviour in comparison with sole self-harm or assault rates; with an analysis of the distinguishing features.

**Method:** Official data on in-prison incidents, demographic and offending information was analysed for two prisons in England.

**Results:** Proportions of up to 42% of offenders who assault others in prison will also engage in self-harm and vice versa. Dual harm prisoners will engage in a broader and greater frequency of prison incidents than either sole group; with dual-harm prisoners reflecting greater proportions of damage to property and fire setting. Connectedly, dual harm prisoners receive a far higher rate of adjudication. There were no differences in their time in prison, presence of serious violent offences or for the dual harm prisoners whether the first incident was self-harm or violence. An index offence of drug supply was less likely in the dual-harm group, with minor violence slightly more likely in longer sentence prisoners.

**Implications:** In-prison behaviour can assist in the identification of prisoners at dual-risk of harm. Greater inclusion of in-prison behaviour and awareness of dual-harm in research methodologies may assist in improving risk management. A wider use of joint risk assessment and single case management approach is suggested for prisoners with dual-harm profile.

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## **Introduction**

Interpersonal violence and self-harm in prisons are not new phenomena, but remain two of the most frequently reported adverse events. Rates of physical violence and self-harm in prisons are considerably higher than those reported in the general population: National statistics from England and Wales provide evidence of rising rates of assault amongst male prisoners of up to 307 per 1000 prisoners (Ministry of Justice (MoJ), 2017) with rising rates reported in other jurisdictions – in some cases up to 18 times the rate for the general population (e.g. Wolff et al., 2007, NY Board of Correction, 2015a). Similarly, self-harm rates are high in male prisons, with current rates in England and Wales reported at 399 per 1000 prisoners (MoJ, 2017) with similarly rising rates in Canada over recent years (The Correctional Investigator Canada, 2015). A related concern is the risk of fatal violence and suicide, with evidence that homicide in prison is a significant problem in some countries in the Americas, and suicide, the leading non-natural cause of prison deaths in Europe (Prison Reform International, 2014).

There is, however, growing evidence that self-destructive behaviour may contribute to general violence risk and indeed, it is already considered within some risk assessment frameworks (e.g. HCR20 version 3; Douglas et al., 2011). Furthermore, previous community violent offending is a noted risk factor for completed suicide in prison in many countries (Dooley, 1990; Sattar & Killias, 2005; Humber, Webb, Piper, Appleby & Shaw, 2013) with associations also reported between violence and suicide in community offenders (Sattar, 2001). Although the risks and management of harmful behaviours have been widely

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researched, the literature around self-harm and violent behaviour has remained largely separate, both in community and in prison contexts. Indeed, few jurisdictions report on the prevalence of persons displaying both harm to self and harm to others, which will henceforth be termed 'dual harm'. In addition, most studies focus on fatal or suicidal behaviours. Fewer studies explore male non-fatal self-harm, even following calls for greater distinction between the motivations behind harmful acts (Hawton & O'Connor, 2012; DSM-5, 2013). For this paper, violence and self-harm will be defined in line with the official England and Wales HM Prison definition (Ministry of Justice, 2016) with violence defined as an assault on, or fight with, another person (staff or other prisoner). This definition does not include other disciplinary infractions and excludes violence towards self or property, firesetting, hostage taking and threats, aggression or intimidation without physical assault. Self-harm will be defined as any act where a prisoner deliberately harms themselves irrespective of the method, intent or severity of any injury.

Critically, few empirical studies focus attention on the duality of these risks and there is no single accepted theoretical model representing the dyad between these relatively common behaviours (O'Donnell, House & Waterman, 2015). There is evidence of some convergence of risk factors with suggestion that self-harm occurs when aggression 'turns inwards' (e.g. Plutchik, 1994, Plutchik, van Praag & Conte, 1989). Notably, a recent systematic review by O'Donnell, House and Waterman (2015) highlighted that dual harm individuals are likely to be both qualitatively (e.g. methods used) and quantitatively (e.g. severity) different from those who engage in sole harmful behaviours, but highlighted a need for further research

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on causal and risk factors, peripheral markers and moderators of the relationship between self-harm and violence.

In line with strong calls to explore sub-types of self-harm, in order to tailor interventions more effectively (Hawton & O'Connor, 2012), there remains a need to develop our approach to managing dual harm behaviour. Indeed, policy guidance for prison staff rarely identifies recent in-prison violence as a risk factor for self-harm or vice-versa, nor provides guidance to manage manifested dual harm behaviour (MoJ, 2013; WHO, 2007). This is not surprising since few research studies explore the role of in-prison violence. Instead, the focus has remained largely on convicted community violence. Nonetheless, the perpetration of in-prison violence is itself of importance and because it is arguably more available for evaluation and management than community violence, there is a strong case for greater exploration into this under-researched area. Further support for investigating duality of harm in prisons comes from the authors of one of the most widely utilised models for aggression and violence, the 'General Aggression Model (GAM)' (Anderson & Bushman, 2002). Here, theoretical links are made between their violence model and suicidal behaviour, suggestive of a single pathway for some individuals. For example, they outline how the capability to engage in suicidal behaviour, as indicated in one model of suicide (Interpersonal Psychological Theory of Suicide; Joiner, 2005), emerges "in response to repeated exposure to physically painful and/or fear-inducing experiences" (Van Orden, Witte, Cukrowicz, Braithwaite, Selby & Joiner, 2010). These experiences also facilitate the development of risks for violence, whereby the experience of witnessing or being a victim of violence provides the backdrop to later violent acts (DeWall, Anderson & Bushman, 2011).

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Taking account of the high prevalence of exposure to violence amongst prisoners (Stephan & Karberg, 2003), with many being both perpetrators and victims of violence (Toch & Adams, 1986), this population exhibit a high vulnerability to later harmful acts towards both themselves and others. If exposure to violence may lead independently to either self-harming and violent acts, it is plausible to hypothesize that in some individuals it may enhance their vulnerability towards both behaviours. This vulnerability would then play out according to other contextual and individual factors.

In support of these theoretical associations, international research has signposted a strong, if not yet causal, relationship between being either a perpetrator or victim of violence with later self-harming behaviour (Encrenaz et al., 2014, Vermeiren, Ruchkin, Leckman, Deboutte & Schwab-Stone, 2002). Indeed, Jordan and Samuelson (2015) demonstrated that being a perpetrator of violence may have a stronger link with later self-harm with strong suicidal intent than being a victim. In the other direction, the research also supports that self-harm may be a risk factor for violence in prison. In the USA, work by Young, Justice and Erdberg (2006) emphasises this potential risk, stating that within a prison psychiatric hospital for male offenders, offenders who harmed themselves were over eight times more likely to harm treatment staff. They also challenge existing assumptions around pathways to self-harm by identifying that committing in-prison physical violence was a far stronger predictor of self-harm in prison than either mood disorders or community violence. The role of self-harm in certain pathways to prison violence is also strongly supported in work by Lanes (2009, 2011), who confirms that in-prison assaults have a substantial link with self-harm. The evidence therefore indicates that pathways to violence and self-harm (with or without

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suicidal intent) may intersect for some prisoners. The possibility that this linked pathway exists has important implications for practice, because conflicted management approaches have the potential to interfere with effective outcomes for interventions.

Although there is evidence of overlap in the pathways to these behaviours, different and largely incompatible responses are principally used by services managing self-harm and violent behaviour within prisons; responses underpinned by different assumptions. Self-harm largely attracts a 'care-planning' approach, whereby the systems aim to sensitively understand the behaviour, and provide supported change. Typically, the behaviour is viewed as a sign of distress, attracting a mainly caring response and often with the inclusion of health-care staff, with the aim of reducing risk of harm to self, whilst remaining considerate of the needs of the client. Conversely, England and Wales' HM Prison Service clearly states its zero tolerance to violence whereby "*All incidents of violence must be challenged be they physical, verbal and/or emotional*" (PSI 64/2011 revised in 2013, MoJ, 2013). Acts of physical violence (assault or fighting) are consequently often managed through challenge, punishment and control, whereby systems consider the risks to others and 'manage' the perpetrator, with the potential victims or threats to the 'system' being the main focus of decision-making. Typically, the behaviour is seen as unreasonable and attracts a punishing response, which may include segregation or solitary confinement alongside a risk management plan. The risks are clear for adopting these conflictual responses with a single 'dual-harming' prisoner, with repeated evidence of a heightened risk of fatal acts of self-harm carried out in segregation (MoJ, 2013; Kaba et al., 2014; Prison and Probation Ombudsman, 2015). Paradoxically, dual-harmers are a group twice as likely to be



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housed in segregation across different jurisdictions (Lanes, 2011; Kaba et al., 2014; The Correctional Investigator Canada, 2015), often due to them having engaged in in-prison violence and property destruction. The challenge for professionals is how to manage these dual risks when the assumptions and directions for their management are contradictory.

Although both harmful behaviours are widely reported, the prevalence and expression of dual harm within this high-risk population remains obscured. There have been recent indicators within prison communication that staff should consider the dual risks. For example, a single prison instruction across 'safety in custody' (MoJ, 2013), with strong moves away from segregation or solitary confinement for those with serious mental health conditions (WHO, 2014; NY Board of Corrections, 2015b). Additionally, within health services, best practice guidance indicates the use of a single risk management approach focussed on both care and risk management across all risks identified (Department of Health, 2007). However, a coherent integrated approach to dual harm is not common practice within most prison systems and its development requires the evidence-base to have greater clarity, to confidently guide its procedures, decision making and the management of risks to prevent both harm to self and to others.

### *Aims*

The aim of the research reported here is to explore similarities and differences in the behaviours of sole and dual harm populations to aid the prior identification and management of prisoners at risk of dual harm behaviours. The research will focus on recent in-prison behaviour only, as recorded by the prison authorities, so that events can be compared, based on strictly defined criteria. The research will therefore utilise the routinely

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collected data for all in-prison incidents of self-harm and physical assaults to meet the following objectives:

1. To identify the likelihood of engaging in the dual behaviours of violence and self-harm in prison amongst those who have a record of either self-harm or assault behaviour in prison.
2. To identify any similarities or differences between sole and dual harm groups for conviction type and wider incidents of prison rule-breaking.
3. To report the temporal association between the first harmful incident (of either self-harm or physical assault) to dual harm behaviour.

## **Method**

The official definitions of assault and self-harm adopted by HM Prison and Probation Service (HMPPS) were used in this study (MoJ, 2016) and both involve direct bodily contact. Threats of harm and other non-physical harm behaviours were not included.

**Assault:** Assaults in prison custody cover a wide range of physically violent incidents including fights between prisoners. HMPPS does not use the Home Office counting rule definitions of Actual Bodily Harm (ABH), Grievous Bodily Harm (GBH), affray etc. and figures and so forth and therefore these different statistics cannot be compared directly.

**Self-harm:** Any act where a prisoner deliberately harms themselves irrespective of the method, intent or severity of any injury.

**Reportable Incident:** Any incident, as outlined in HM Prison Service Order 1400, which requires staff to report it onto the PNOMIS electronic computer system. These include:

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assault, self-harm, damage to property, fire, drugs, mobile phone possession, death of a prisoner, miscellaneous, incidents at height, tool possession and barricade.

### **Study establishments**

Two prisons were utilised in the study which included remand, pre-release and longer sentenced populations. There were differences in the samples due to agreements obtained, therefore a Sole Self-Harm group was not included for Prison B and permission was not granted for data on prisoners without any harmful incidents at either prison.

#### *Prison A*

Prison A was a male adult medium security prison located in South London. Until 2012 the establishment had served as a medium secure 'Local' (remand and early stage) prison, with largely remand prisoners; changing its purpose to a lower medium secure 'Resettlement' (final stages of sentence) prison in 2012.

178 male prisoners were included in the sample. Each prisoner had carried out one or more incidents of self-harm, assault or both during their time at the study prison, as recorded on the Prison National Offender Management Information System (P-NOMIS) between 1st April 2010 and the 30th November 2014. For the full sample, the ages ranged from 20-77 years;  $M = 35.2$  years ( $SD = 9.5$ ). The prison security categories breakdown was Category B =

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10.1%; Category C = 53.9%; Category D = 3.4% and Remand = 32.6%, with average time in prison  $M = 732$  days ( $SD = 572$ ). Ethnic group categories are outlined in Table 1.

### *Prison B*

Prison B was a medium secure male adult prison located in the East Midlands, largely serving prisoners with sentences over 4 years, with a focus on those with violent offences.

148 male prisoners with any assault incident recorded on PNOMIS between the dates of 1st January 2014 and 30th April 2015 were included in the sample. For the full sample, the ages ranged from 21-55;  $M = 31.6$  years ( $SD = 7.3$ ), with average time in prison of 1640 days; 4.5 years ( $SD = 1109$  days; 3.0 years). The sample were all Category B prisoners within none on remand. Ethnic group categories are outlined in table 1.

**Table 1: Ethnic Group of full samples for Prison A and B**

Ethnic group	Prison A:	Prison B:
	Number (%)	Number (%)
Asian (Asian British/Pakistani/Bangladeshi/Other)	8 (4.4)	9 (5.8)
Black (Black British/Caribbean/African/Other)	60 (33.2)	32 (22.4)
Mixed	10 (4.9)	11 (7.0)
White British	58 (32.1)	89 (57.1)
White Other (including Irish and Traveller)	33 (18.2)	12 (7.7)
Unknown or Other	12 (6.6)	

### **Procedure**

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Ethical approvals were obtained from the National Offender Management Service (NOMS – now Her Majesties Prison and Probation Service) and from Nottingham Trent University College of Business, Law and Social Sciences Research Ethics Committee. Permission to conduct the study was also given by the Governor/Director at each of the prisons.

For all included cases, the PNOMIS computer system was interrogated to retrieve details (date and type) of all incidents occurring throughout offender detainment in prison, including those incidents occurring at other prisons, thereby allowing for the determination of dual risk for both samples over the 4.5-year period since PNOMIS was introduced to prisons in 2010.

Data from the PNOMIS database were gathered on case demographics (age, ethnic origin, security category), offence information (i.e. index offences) and incident details (e.g. types of incident, victim type: staff or prisoner) and incident punishment (e.g. adjudication<sup>1</sup> history). In addition, time spent in prison was calculated. If offenders had been released and returned to prison, time in the community was subtracted from the total.

## **Results**

The analysis aims to explore the similarities and differences between sole and dual harm behaviours in prison, along with the impact of each on offending and disciplinary infractions in prison. First, the results will outline the likelihood of offenders engaging in dual harm behaviour amongst those who have engaged in either violence or self-harm behaviour in

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<sup>1</sup> Adjudication is the in-prison rule breaking reporting system.

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prison. Further, analyses of group differences will be undertaken between those who engage solely in assault, solely self-harm and dual harm behaviours by offence type, incident rate and incident type. Finally, survival analysis will be undertaken on the time elapsed from date of first harmful behaviour to date of alternative harm behaviour, based on whether self-harm or assault was demonstrated initially and then by prison. The data presented are based on official data recorded by staff and may therefore under-represent rates of violence and self-harm in this population. The data are only from prisoners with harm incidents recorded and the data are discrete and non-normally distributed. Analyses appropriate to these discrete outcomes including nonparametric procedures are adopted throughout.

### **Group classification and mean time in prison**

Details of the group classifications and their Mean time in prison is outlined in Table 2.

#### **Prison A**

The sample was separated into three groups: one or more self-harm incidents only (Sole Self-harm); one or more assault incident only (Sole Assault A); incidents including both types of harm behaviours (Dual A).

Of the 178 cases, 113 cases had one or more recorded assault incident and 114 cases had one or more recorded self-harm incident. The largest group in the sample (27%) was the Dual harm behaviour group (Dual A). For those cases with an incident of assault, 48 (42.4%) also had a self-harm incident recorded in prison. For those cases with an incident of self-

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harm in their record, 48 also had an assault history in prison (42.1%) suggesting that a high level of dual risk is present within the prison population. Length of time in prison between the three groups was investigated using Kruskal-Wallis, which confirmed that there was no significant main effect of groups,  $X^2(2, N = 114) = .727, p = .695$ . Therefore, no significant difference was noted differences were detected between the groups regarding their length of time in prison.

### **Prison B**

This sample only included those who had an assault incident on their record, so no self-harm only group was available for this prison. This sample was separated into two groups: incident(s) of assault and no self-harm ('Sole Assault B') and incidents of both self-harm and assault recorded ('Dual B'). Of the 142 cases in the sample, all had an assault incident recorded. There were 100 (70.4%) without an incident of self-harm with 42 of the sample (29%) having an incident of self-harm in prison recorded, suggesting moderate rates of dual harm risk present within this sample.

An independent samples Mann-Whitney U Test confirmed that there was found no significant difference in mean time served in prison between the Sole Assault B and Dual B groups,  $U = 1733, z = -1.64, p = .101$ . As expected, the sample had spent a longer time in prison than those at Prison A. The incident data may be an underestimate for Prison B cases, as 42 (29.5%) offenders were recorded as starting sentences before PNOMIS data was available (i.e. pre-2010).

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**Table 2: Number and % of cases within each category, Mean and SD of years in prison and percentage of remand prisoners**

	Category	Number (%)	Years in Prison (SD)	Remand (N, % of each group)
Prison A	Sole Self-harm	65 (36)	1.81 (1.71)	25 (38.5)
	Sole Assault A	65 (36)	1.7 (1.57)	20 (30.8)
	Dual A	48 (27)	2.56 (2.15)	13 (27)
Prison B	Sole Assault B	100 (70.4)	5.08 (3.18)	0
	Dual B	42 (29.6)	4.24 (2.27)	0

### Current index offence

A series of Chi-square analyses were undertaken to consider any differences in offence type between the sole and dual harm groups within each prison. All index offences were coded into the following variables: Serious violent offences (e.g. grievous bodily harm, manslaughter, wounding or murder), Minor violent offences (e.g. actual bodily harm, common assault, assaulting a constable) sexual offences, threatening, acquisitive, robbery, drug offences (possession or supply), immigration and weapons. To account for multiple comparisons, the p-value was adjusted using Holm's sequential Bonferroni correction.



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**Prison A:** A Chi-square test of independence was undertaken to compare each of the three groups with respect to prevalence within groups of their current (index) offences. None of the analyses reached statistical significance ( $p > .05$ ) suggesting that current index offences do not distinguish the groups.

**Prison B:** A similar Chi-square test with Holm correction was undertaken to compare the two available groups on the prevalence within groups of their current (index) offences. Two groups reached statistical significance with the Dual B group presenting significantly higher likelihood of minor violence offences than the Sole Assault B group,  $X^2(1, N = 156) = 4.79, p = .034$  and lower likelihood of drug supply offences,  $X^2(1, N = 156) = 5.07, p = .034$ . Here a confidence interval for the difference in proportions provides more useful information about the differences. These were calculated using a modified version of the Wilson CI (Newcombe, 1998). The Dual B group have a higher rate of minor violence (36.4%) than the Sole Assault B group (18.2%), difference = 18.2%, 95% CI [1%, 35.9%], OR = 2.18. However, the Sole Assault B group present (19.1%) a higher relative percentage of drug supply offences than the Dual B group (4.5%), difference = 14.6%, 95% CI [3.1%, 25.3%], OR = 5.32.

### **Incident Analyses**

Analyses were undertaken to examine the total prison incident rates including the addition of non-direct harm incidents recorded for the groups in order to consider the breadth of potentially harmful behaviours within the samples (wider incidents). All reportable incidents were included in the number of Total Wider Incidents. These included: damage to prison

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property, fire, drugs, mobile phone possession, death, incidents at height, tool possession and barricade whilst removing all self-harm or assault incidents from the total.

### *Total Wider Incident Rate*

The Total Wider Incident Rate by Person-Year was calculated using the Total Wider Incidents and Time in Prison data for each case (to take account of the available time in prison to complete incidents). Data was then analysed, comparing all groups. Table 3 outlines the respective means for rates of self-harm (SH) and assault (A) incidents, total wider incidents and the total wider incident rate by person-year.

**Table 3: Mean and SD of Harm incidents and reportable incident rate by person-year, by group.**

		N of Harm Incidents (SD)	Reportable Incident Rate by person-year
Prison A	Sole self-harm	Self-harm: 3.78 (8.84)	1.7 (1.57)
	Sole Assault A	Assault: 2.44 (1.89)	1.81 (1.71)
	Dual A	Assault: 2.69 (2.77)	2.56 (2.15)

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		Self-harm: 5.5 (7.9)	
Prison B	Sole Assault B	Assault: 4.4 (2.9)	0.6 (0.7)
	Dual B	Self-harm: 4.3 (5.5)	
		Assault: 3.9 (3.9)	2.05 (2.42)

**Prison A:** A Kruskal-Wallis test revealed that there was a significant difference between the groups for total wider incident rates by person-year,  $X^2(2, 170) = 11.5, p = .003$ . A post-hoc Mann-Whitney U test revealed the tests detected difference was significant between both the Dual A and Sole Self-harm group,  $U = 966, z = 3.93, p < .001$  (Risk Rate Difference = -1.26) and between the Dual A and Sole Assault A group,  $U = 881, z = 2.55, p = .011$  (Risk Rate Difference = -1.32). When calculated using incidents per person-year, the Dual A group engaged in significantly more incidents than solely self-harm or assault groups.

**Prison B:** A Mann-Whitney U test confirmed that there was a significantly detected higher rate of total incidents for Dual B group ( $M = 4.99, SD = 4.68$ ) than Sole Assault B group ( $M = 1.6, SD = 1.64$ ) group;  $U = 3376, z = 5.72573, p > .001$  (Risk Rate Difference = -.63) (see Figure 2). When calculated using incidents by person-year, the Dual B group also engaged in a significantly higher rate of incidents than the Sole Assault B group.

## Incident Types

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In order to consider any differences in wider incident type in each group, a series of Chi-square or Blaker exact test analyses was then undertaken to compare the proportion, in each group, of each reportable incident type in prison records. To take account of multiple comparisons, the p-value was adjusted using Holm's sequential Bonferroni correction. It was not possible to complete this analysis using incident by person-year due to the very small numbers in most categories. To ensure more robust analysis, only incidents with a minimum of 5 cases in each category were analysed using Chi-square: deliberate damage to prison property and fire. All other categories were analysed using Blaker exact CI test of the difference in proportions (Baguley, 2012).

### **Prison A**

The Chi-square analyses with Holm adjustment confirmed that Dual A cases presented with significantly greater proportionate incidents of damage to property (37.5%) than both the Sole Assault A cases (12.3%)  $X^2 (1, 113) = 9.89, p = .009, 95\% \text{ CI } [7\%, 42.8\%], \text{ OR} = 4.27$  and Sole Self-harm cases (12.3%),  $X^2 (1, 113) = 9.82, p = .009, 95\% \text{ CI } [7\%, 42.8\%], \text{ OR} = 4.34$ .

There were also significant differences on Fire incidents, with Dual A cases presenting with greater proportionate incidents of Fire (22.9%) than Sole Assault A cases (6.2%),  $X^2 (1, 113) = 6.73, \text{ difference} = 16.7\%, 95\% \text{ CI } [1.7\%, 31.8\%], p = .024, \text{ OR} = 4.52$  and Sole Self-harm cases (7.7%),  $X^2 (1, 113) = 5.26, p = .029, \text{ difference} = 15.2\%, 95\% \text{ CI } [-.1\%, 30.6\%], \text{ OR} = 7.92$ .

The Blaker exact CI tests confirmed a higher proportion of the following incidents by the Dual A group, compared with the Sole Assault A group: Incidents at Height (12.5% vs 1.5%),

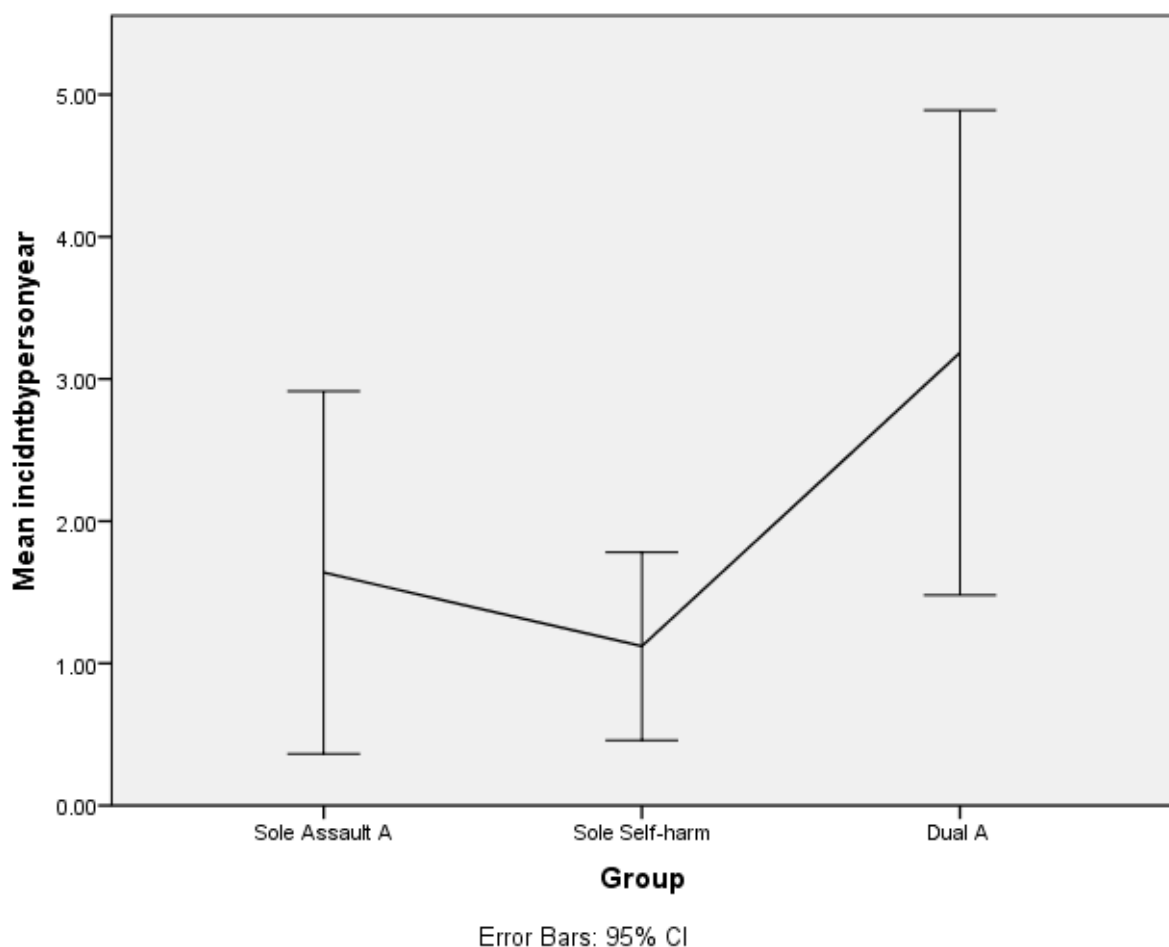
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difference = 11%, 95% CI of [ .8%, 31.7%], OR = 4.44 and Drugs (14.6% vs 3.1%), 95% CI [.87% – 16.5%], OR = 3.48. There were no further differences identified between the Dual and Sole Self-Harm groups.

Therefore, Dual A prisoners were proportionally more likely to have incidents of damage to property and fire-setting recorded than both solely violent and solely self-harm prisoners.

Although numbers were small, the dual harm group were also more likely to have incidents at height and drug-related incidents recorded than solely violent prisoners.

Figure 1: Mean with 95% CI error for wider prison incidents by person-year: Prison A



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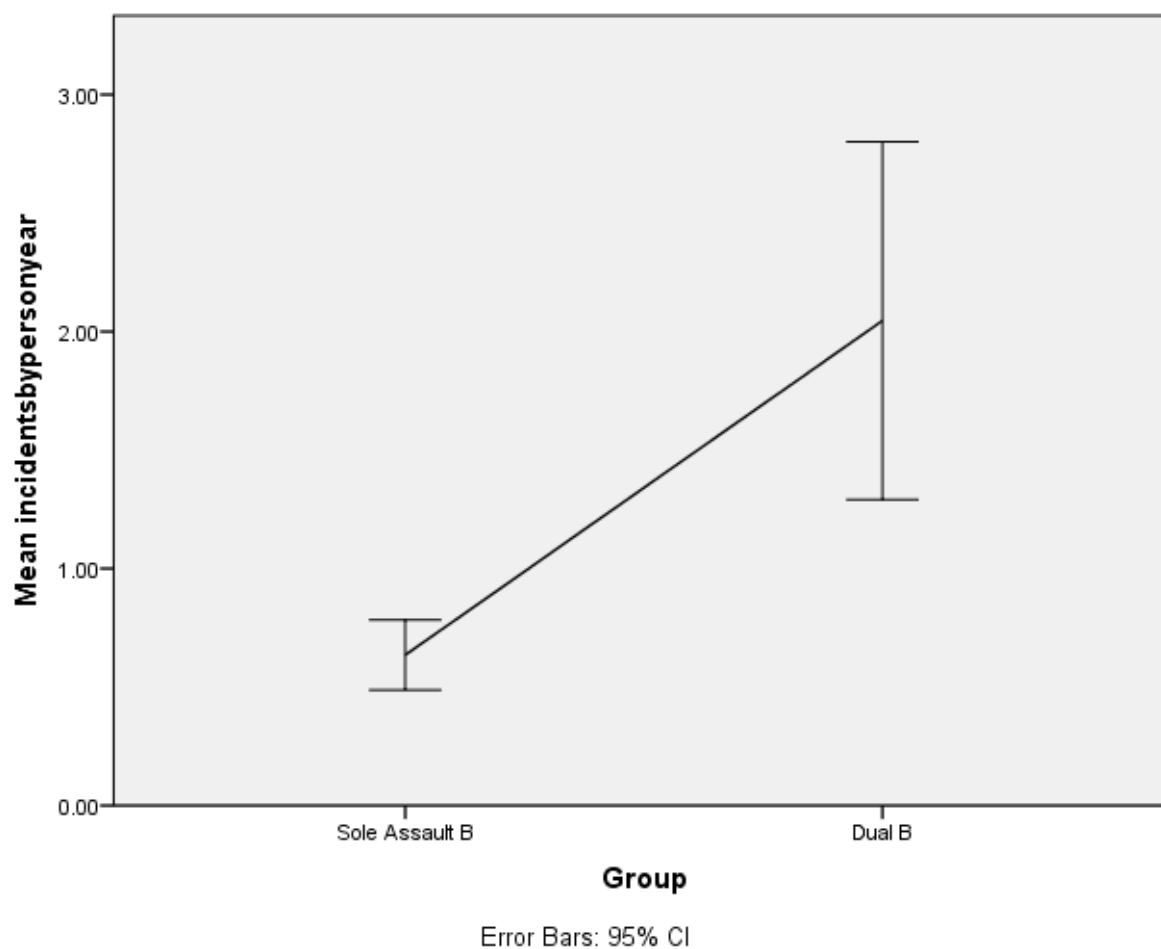
## **Prison B**

A series of Chi-square with Holm adjustment confirmed significant proportional differences, whereby the Dual B group engaged in proportionally more incidents than the Sole Assault B group: Fire (31.8% vs 7.3%),  $X^2 (1, N = 154) = 15.5, p < .001$ , difference = 24.5%, 95% CI [9.6%, 42.2%], OR = 8.55 and Deliberate damage to prison property (50% vs 20.9%),  $X^2 (1, N = 154) = 12.9, p < .001$ , difference = 39.1%, 95% CI [13.4%, 50.5%], OR = 4.56. Blaker's Exact Tests did not identify any further significant differences in the incident types.

Across both prisons, dual harm groups demonstrate strong evidence of a greater number of wider prison incidents recorded (excluding assault and self-harm) and specifically, consistent evidence of greater proportional risk of damage to prison property and fire-setting.

**Figure 2: Mean with 95% CI error for wider prison incidents by person -year: Prison B**

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### **Move from sole to dual behaviour**

Analyses were undertaken solely examining the dual harm data, focussing on the move from sole to dual harm behaviours. For these analyses, the data was combined across Prison A (Dual A) and Prison B (Dual B).

#### *First incident of harm*

Analysis was undertaken to consider whether dual harm prisoners tended towards assault or self-harm as their first in-prison harm behaviour. Chi-square goodness-of-fit analyses

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detected no significant difference in the likelihood that dual behaviour prisoners would engage first in either self-harm or assault as their first harm incident in prison,  $X^2 = ((1, 1, 82) = .032, p = .517$ .

### *Survival Analysis by First Incident and Prison*

The time lapse (in days) from sole to dual behaviour was then calculated for those within the dual harm groups to consider the interval from first incident of harm to the emergence of dual harm behaviours. The lapse was calculated from the date of their first incident of harm (either self-harm or violence) to the first date of the alternative harm type.

A survival analysis examined the difference in time lapse (in days) between those whose first incident was self-harm ( $M = 228.76, SE = 37.92$ ) and those whose first incident was an assault ( $M = 183.95, SE = 45.07$ ). A log rank test did not identify a significant difference in the survival curves between the first incident type,  $X^2 (1,83) = 1.1, p = .295$ .

Survival analysis was then undertaken separately for both Dual A and Dual B groups and stratified by prison, since Prison B has less reliable data (data starts in 2010, which may be after some prisoners started their sentence). The estimated mean time until the dual behaviour differed between prisons is outlined in Table 4, with Prison A demonstrating an Overall Estimated Mean of 88.69 days ( $SE = 19.76$ ) and Prison B an Estimated Mean of 302 days ( $SE = 47.09$ ). The log rank test for this analysis indicated a significant difference in the survival curves between the prisons,  $X^2 = 21.05, p <.001$  (Figure 5), providing evidence that the time to observing dual harm behaviour is shorter in Prison A.



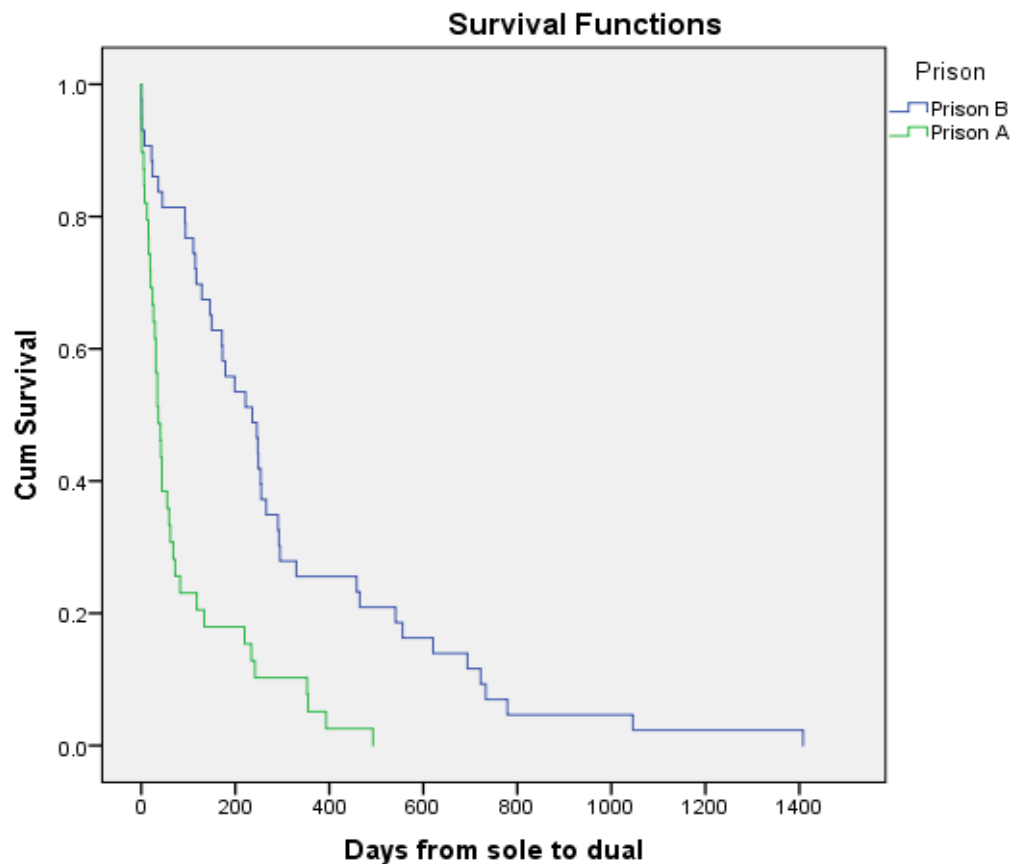
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**Table 4: Means and Medians for Survival Time By Prison**

		Mean Estimate	Std. Error	95% Confidence Interval		Median Estimate	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound			Lower Bound	Upper Bound
Prison A	SH first	106.55	34.73	38.48	174.63	41.0	7.07	27.14	54.86
	Assault first	73.38	21.75	30.76	116.00	31.0	7.630	16.05	45.95
	Overall	88.69	19.76	49.97	127.41	36.0	6.87	22.54	49.46
Prison B	SH first	268.58	78.38	114.94	422.21	172.0	23.94	125.08	218.92
	Assault first	329.96	54.85	222.45	437.46	248.0	18.37	211.99	284.01
	Overall	302.84	45.88	212.91	392.77	236.0	45.23	147.34	324.66
Overall	Overall	200.99	28.30	145.53	256.45	111.0	29.88	52.43	169.57

**Figure 3: Survival Curve stratified by prison**

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## Discussion

The study aimed to explore the presence of dual-harm behaviour within samples engaging in self-harm or assault in prison within different prison samples; with an analysis of the distinguishing features for the groups provided. The findings indicated that amongst prisoners who harm either themselves or others, there is a large group who engage in dual harm behaviour with proportions of 27-29% reported within the sample. This duality of risk is likely to be evidenced within the first three months of the offender's first incident of harm, for those in the early stages of imprisonment. Amongst a sample of predominately longer sentenced prisoners, who have committed one or more assaults in prison, a

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continuing rate of 29% for self-harm behaviour within the previous four years was identified. Across the prisons, the dual harm group were equally likely to engage in self-harm as they were physical violence, with respect to their first incident. Regarding violent convictions, there were no differences in the likelihood of a serious current violent offence having been committed between the sole and dual groups; nonetheless, in the prison holding largely longer-term (4+ years) sentenced violent prisoners, the dual-harm group were more likely to be convicted of minor violent offences and less likely to be convicted of drug supply offences. Across the prisons, dual-harm prisoners were responsible for twice as many wider incidents in prison than either sole-behaviour group; with strong evidence that the risk of damage to prison property and fire setting is significantly higher amongst dual-harm individuals.

The findings demonstrate the widespread presence of duality of harm risk within a prison population, with up to 42% of prisoners engaging both in violence and self-harming behaviours. Furthermore, it is suggested that these dual-risk prisoners may be a distinct group from those engaging solely in one behaviour type, since they engage in a broader range of incidents in prison and at a far higher rate than sole behaviour prisoners. It is likely that dual behaviour prisoners will receive higher levels of punishment due this higher level of refractoriness, which may also result in greater experience of segregation than assault only offenders, which would be in line with findings from the USA (Lanes et al., 2009). Given the known risks of isolation on self-destructive behaviour (Humber et al., 2013; PPO, 2015), further consideration should be given within prisons to the integration of risk management approaches for refractory prisoners as per best practice in health settings (Department of

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Health, 2007) to avoid this eventuality. Critically, clearer evaluations of the effect of different types of punishment responses on both the risk of harm to self and to others in dual harming prisoners are also required, i.e. which approaches have the greatest impact on increasing or reducing future behaviour, since there is a paucity of research in this area.

Across both prisons, the study confirmed that wider in-prison refractory behaviour was the best indicator for distinguishing dual from sole behaviour prisoners; confirming that variability in behaviour is present in this group beyond direct physical harm. This finding suggests a potentially linked behavioural function for dual harm as identified by Power, Smith and Beaudette (2016), where self-harm in prison can be used as a method to avoid perpetrating violence (and the resultant punishment and other negative consequences associated with violent misconduct). It is also possible that dynamic factors linked to the prison environment (e.g. restriction of methods) are contributing to the likelihood of offenders engaging in dual-harm behaviours. The consideration of a wider range of dynamic prison indicators has been found relevant when considering the development of self-harm behaviour in prison (Rivlin, Hawton, Marzano, & Fazel, 2013; Slade, Edelman, Worrall & Bray, 2013) including the impact of staff response amongst this heterogeneous group (Marzano, Ciclitira and Adler, 2012; Rivlin, Ferris, Marzano, Fazel & Hawton, 2013). This study indicated that drug supply convictions may aid in the identification of solely violent prisoners and may imply a difference in motivation for this group. However, there was less indication that convicted violence could distinguish between the groups, since serious violence was not a distinctive factor for either sample in distinguishing sole assault from dual harm prisoners.

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### Research Implications

This study supports greater use by researchers of in-prison data and behavioural variables reflective of the prison context to develop further insight into the development of the risk of dual-harm. It also provides challenge to silo approaches to data analysis, where behavioural outcomes (self-harm or violence) are viewed as reflective of homogenous groups; the findings reported here are suggestive of at least three groups. Greater consideration of the heterogeneity present within these groups (Rivlin et al., 2013) may develop our understanding of the needs and most effective management strategies for these vulnerable groups. A failure to account for distinctions within the population of interest may also be limiting attempts to develop valid and reliable screening approaches for self-harm (Perry, Marandos, Coulton, & Johnson, 2010; Schenk & Fremouw, 2012). Since in-prison behavioural data is routinely gathered by many jurisdictions, a development towards comprehension of this greater interaction is feasible when considering in-prison self-harm and assault behaviour.

These findings also support a move towards understanding the roots of dual-harm behaviour, undeniably a prominent conduct amongst prisoners, rooted within theoretical models where behavioural function is explored across different behaviours (DeWall, Anderson & Bushman, 2011; Smith, Wolford, Mandracchia & Jahn, 2013). It also opens the door wider for consideration of the specific psychological factors which interact with the context and influence risk of harm behaviours (Schenkand & Fremouw, 2012). Through integrating theoretical approaches with research suggestive of a group who are especially

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affected by the prison environment; e.g. through severe mental health and other vulnerabilities (Hassan et al., 2011; Liebling, 2005) we may advance our understanding of the factors which contribute to heightening risks of harm. This research supports the inclusion of dual-harm and the interactive effect of the prison context on the individual (Liebling, 2005) in the development of theoretical and practice propositions of self-harm and violence in prison, in order for these concepts to be utilised in the effective management of prisoners.

### Clinical and Policy Implications

Dual-harm prisoners clearly require repeated and disproportionate staff responses which, taken alongside concerns around staff to prisoner ratios and the resultant impact on harmful behaviour (HMCIP, 2015; McCorkle, Miethe & Drass, 1995), supports the urgent need for development of more coherent models of practice to understand and manage complex risks. The function of mental health or psychological distress in dual-harm behaviour is far from clear. However, the findings of this study indicate that a sizeable subgroup of prisoners who are initially violent, will soon self-harm and engage in a wide range of damaging behaviours, indicative of distress. This suggests that, rather than violence reduction remaining solely the remit of prison staff, greater integration of health services in violence management approaches may prevent future self-harm. Indeed, appreciations of this principle exist, with the use of 'complex case' meetings across mental health and prison services shown to influence suicidal behaviour (MoJ, 2013; Slade & Forrester, 2015). Here, prisoners are discussed in a more holistic framework, by a range of professionals, and this practice is already well established within some settings.

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Consequently, it is suggested that a more structured model of single case management for prisoners at risk of dual harm may improve efficiency through prevention in the longer term. Assistive practice changes may include the routine assessment of dual-risk for those at risk from either harmful behaviour; or operating repeated multi-disciplinary reviews of dual-harm prisoners, where the needs and appropriate management approach in relation to violence and self-harm can be integrated across possibly conflicting policies (Slade & Forrester, 2015).

### Limitations

Incident data was not available before 2010 and this will have prevented the research from fully capturing the move to dual behaviour in longer sentenced prisoners. Therefore, the prevalence of dual-harm for this group is likely to be an underestimate. Additionally, the data presented is based solely upon official data recorded by staff and this may impact on the reliability of the data within this setting, where violence or self-harm are likely to be under-reported (Wolff, Blitz, Shi, Siegel & Bachman, 2007). A strength of the study is the sample drawn from two male prisons, which captures a full prison residence for the previous four years and allows for generalisation across a range of prisons. Therefore, as suggested by Schenk and Fremouw (2012), this research provides the study provided opportunity for varied behaviour to manifest by reviewing an extended period of imprisonment. However, research is still required among high security, female and younger offenders as it cannot be assumed that the results can be generalised to these distinct groups of prisoners. A further limitation was that all cases must have been resident at the study prisons during the relevant time periods and have a recorded incident of self-harm or

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assault, therefore other prisoners were excluded. There are differences in the prisoners held within each prison that may affect the results (e.g. slight age differences, security category) and these differences cannot be simply compared. Caution should therefore be applied if the results are generalised to prisoners without an incident on record. Finally, the definitions for self-harm and violence used in official figures focus on the behaviour, rather than the intent; i.e. self-harm as irrespective of intent (MoJ, 2015) and assault as violence committed against another, including fights (MoJ, 2015). These definitions have their limitations when exploring the behaviour and developing a theoretical explanation; nevertheless, the use of these definitions allows for comparison across a wide range of jurisdictions and studies.

## **Conclusion**

In conclusion, the risk of dual harm is highly prevalent for prisoners who engage in either assault or self-harm in prison. Furthermore, this substantial group engage in greater numbers of other harmful acts, supporting a need for a concerted move towards integrated theory and management strategies across multiple risk behaviours. For prisoners at risk of dual harm, this study signposts integrated single case management, with an active inter-disciplinary team managing multiple risks, as a fruitful avenue to support the advancement of safer prisons.



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## References

Anderson, C & Bushman, B. (2002) Human Aggression. *Annual Review of Psychology*, 53, 27-51.

Baguley, T. (2012) *Serious Stats: A guide to advanced statistics for the behavioural sciences*. Palgrave MacMillan: Basingstoke.

Department of Health (2007) Best Practice in Managing Risk Principles and evidence for best practice in the assessment and management of risk to self and others in mental health services. [Accessed on 4 January 2016 at [http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/documents/digitalasset/dh\\_076512.pdf](http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_076512.pdf) ]

DeWall, C., Anderson, C & Bushman, B. (2011) The General Aggression Model: Theoretical extensions to violence, *Psychology of Violence*, 1 (3), 245-258.

Dooley, E. (1990). Prison suicide in England and Wales 1972–1987. *British Journal of Psychiatry*, 156, 40–45.

Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *HCR-20V3: Assessing risk of violence – User guide*. Burnaby, Canada: Mental Health, Law, and Policy Institute, Simon Fraser University.

Encrenaz, G., Miras, A., Contrand, B., Galera, C., Pujos, S., Michel, G., & Lagarde, G. (2014) Inmate-to-inmate violence as a marker of suicide attempt risk during imprisonment, *Journal of Forensic and Legal Medicine*, 22, 20-25

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

Hassan, L., Birmingham, L., Harty, M., Jarrett, M., Jones, P., King, C., Lathlean, J., Lowthian, C., Mills, A., Senior, J., Thornicroft, G., Webb, R. & Shaw, J. (2011) Prospective cohort study of mental health during imprisonment. *The British Journal of Psychiatry*, 198 (1) 37-42; DOI: 10.1192/bjp.bp.110.080333

Her Majesty's Chief Inspector of Prisons for England and Wales (HMCI) (2015) *HM Chief Inspector of Prisons for England and Wales Annual Report 2013–14*. London: Her Majesty's Stationary Office.

Humber, N., Webb, R., Piper, M., Appleby, L & Shaw, J. (2013) A national case-control study of risk factors among prisoners in England and Wales, *Social Psychiatry and Psychiatric Epidemiology*, 48, 1177-1185.

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

Jordan, J. T. and Samuelson, K. W. (2015), Predicting Suicide Intent: The Roles of Experiencing or Committing Violent Acts. *Suicide and Life-Threatening Behavior*, 46(3):293-300, doi: 10.1111/sltb.12193

Kaba, F, Lewis, A., Glowa-Kollisch, S., Hadler, J., Lee, D. Alper, H. et al (2014) Solitary Confinement and Risk of Self-Harm Among Jail Inmates, *Research and Practice*, 104 (3), 442-447.

Lanes, E. (2011) Are the “Worst of the Worst” Self-Injurious Prisoners More Likely to End Up in Long-Term Maximum-Security Administrative Segregation? *International Journal of Offender Therapy and Comparative Criminology*, 55: 1034-1050,

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

doi:10.1177/0306624X10378494

Lanes, E. (2009). Identification of Risk Factors for Self-Injurious Behavior in Male Prisoners. *Journal of forensic sciences*, 54(3), 692-698.

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

Marzano, L., Ciclitira, K., & Adler, J. (2012). The impact of prison staff responses on self-harming behaviours: Prisoners' perspectives. *British Journal of Clinical Psychology*, 51, 4–18.

doi:10.1111/j.2044-8260.2010.02007.x

McCorkle, R. C., Miethe, T. D., & Drass, K. A. (1995). The roots of prison violence: A test of the deprivation, management, and “not-so-total” institution models. *Crime & Delinquency*, 41(3), 317-331.

Ministry of Justice (2017) *Safety in Custody quarterly update to March 2017* [Accessed on 27 July 2017 at <https://www.gov.uk/government/collections/safety-in-custody-statistics> ]

Ministry of Justice. (2013). *Prison Service Instruction 64/2011 revised 2013. Management of prisoners at risk of harm to self, to others and from others (Safer Custody)*. London: Author.

Newcombe, R. G. (1998). Interval estimation for the difference between independent proportions: comparison of eleven methods. *Statistics in Medicine*, 17, 873–890.

NY Board of Correction (2015a) *Board of Correction Staff Report*. [Accessed on 30 March 2016 at

<http://www.nyc.gov/html/boc/downloads/pdf/reports/Report%20on%20Violence%20Trends%202014%20Update.pdf> ]

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

NY Board of Corrections (2015b) *Report on the status of punitive segregation reform*

[ accessed on 30 March 2016 at

<http://www.nyc.gov/html/boc/downloads/pdf/reports/Punitive%20Segregatiion%20Report.050815.pdf>]

Perry, A. E., Marandos, R., Coulton, S., & Johnson, M. (2010). Screening Tools Assessing Risk of Suicide and Self-Harm in Adult Offenders: A Systematic Review. *International journal of offender therapy and comparative criminology*, 54(5), 803-828. doi:

[10.1177/0306624X09359757](https://doi.org/10.1177/0306624X09359757)

Power, J., Smith, H.P. and Beaudette, J.N., (2016). Examining Nock and Prinstein's four-function model with offenders who self-injure. *Personality Disorders: Theory, Research, and Treatment*, 7(3), pp. 309-314

Prison and Probation Ombudsmen (PPO) (2015) Learning lessons bulletin Fatal incident investigations issue 8, London: Author [Accessed on 23 February 2016 at

<http://www.ppo.gov.uk/wp-content/uploads/2015/06/Learning-Lessons-Bulletin-Segregation-final.pdf> ].

Prison Reform International (2014) The Use and Practice of Imprisonment: Trends and Challenges [Accessed on 14 February 2016 at <http://www.penalreform.org/wp-content/uploads/2013/04/Trends-Paper-An-Update-May-2014-Final.pdf> ]

Rivlin, A., Ferris, R., Marzano, L., Fazel, S. & Hawton, K. (2013). A typology of male prisoners making near-lethal suicide attempts. *Crisis*. doi:10.1027/0227-5910/a000205

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

Sattar, G. and Killias, M. (2005) The death of offenders in Switzerland,, *European Journal of Criminology*, 3(2), 317-340.

Sattar, G. (2001) *Rates and causes of death among prisoners and offenders under community supervision*. London: Home Office

Schenk, A., & Fremouw, W (2012) Individual characteristics related to prison violence: A critical review of the literature, *Aggression and Violent Behavior*, 17, 430–442

Slade, K. & Forrester, A., 2(015). Shifting the paradigm of prison suicide prevention through enhanced multi-agency integration and cultural change. *The Journal of Forensic Psychiatry & Psychology*, 26 (6), 737-758

Slade, K., Edelmann, R., Worrall, M. & Bray, D., (2014). Applying the Cry of Pain model as a predictor of deliberate self-harm in an early-stage adult male prison population. *Legal and Criminological Psychology*, 19 (1), 131-146.

Smith, P., Wolford, C., Mandracchia, J., & Jahn, D, (2013) An Exploratory Factor Analysis of the Acquired Capability for Suicide Scale in Male Prison Inmates, *Psychological Services*, 10(1): 97–105.

Stephan, J., & Karberg, J. (2003). *Census of state and federal correctional facilities 2000 (No. NCJ 198272)*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics

The Correctional Investigator Canada (2015) Annual Report of the Office of the Correctional Investigator 2014-15. Ottawa. ISBN: 1493-5295.

Dual Harm: An exploration of the presence and characteristics for dual violence and self-harm behaviour in prison.

Toch, H. and Adams, K.(1986) Pathology and disruptiveness amongst prison inmate. *Journal of research in crime and delinquency*, 23, 7-21.

Wolff, N., Blitz, C., Shi, J., Siegel, J. & Bachman, R. (2007) Physical Violence Inside Prisons: Rates of Victimization, *Criminal Justice and Behavior*, 34 (5), 588-599.

doi:10.1177/0093854806296830

Van Orden, K, Witte, T, Cukrowicz, K, Braithwaite, S, Selby, E and Joiner, T. (2010) The interpersonal theory of suicide, *Psychological Review*, 117, 575-600.

Vermeiran, R., Ruchkin, V., Leckman, P.E., Deboutte, D. & Schwab-Stone, M. (2002) Exposure to violence and suicide risk in adolescents: a community study. *Journal of Abnormal Child Psychology*, 30, 529-537.

Wolff, N., Blitz, C., Shi, J, Siegel, J. and Bachman, B. (2007) Physical violence inside prisons; rates of victimization, *Criminal Justice and Behavior*, 34 (5), 588-599/

World Health Organisation (2007). *Preventing suicide in jails and prisons*. Geneva:

WHO Document Production Services.

World health Organisation (2014) *Prisons and Health*. Copenhagen: WHO Regional Office for Europe.

Young M., Justice J., & Erdberg P. (2006) Risk of harm: inmates who harm themselves while in prison psychiatric treatment. *Journal of Forensic Science*, 51(1), 156-62.