



Ministry
of Justice

Safety in prison: effects of regime management, workforce factors, and prisoner activity on levels of violence

A Rapid Evidence Assessment

James McGuire

University of Liverpool

Ministry of Justice Analytical Series

2026



Analysis exists to improve policy making, decision taking and practice by the Ministry of Justice. It does this by providing robust, timely and relevant data and advice drawn from research and analysis undertaken by the department's analysts and by the wider research community.

Disclaimer

The views expressed are those of the authors and are not necessarily shared by the Ministry of Justice (nor do they represent Government policy).

First published 2026



© Crown copyright 2026

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this publication should be sent to us at MoJreports@justice.gov.uk

This publication is available for download at <http://www.justice.gov.uk/publications/research-and-analysis/moj>

ISBN 978-1-911763-36-9

Acknowledgements

The author thanks staff of His Majesty's Prison and Probation Service (HMPPS) for their consideration during the period when this review was being undertaken. Thanks to Sarah Pike of the Ministry of Justice for coordinating the review process and for providing extensive guidance and support in drafting of this report and appendix; to Stevie Devine for carrying out critical appraisal of a proportion of the research studies; to Amy Summerfield of the Ministry of Justice in the process of final correction and editing; and to Dr Joe Russo, University of Denver, Colorado, for providing a document that could not be obtained elsewhere. The author also wishes to thank two anonymous reviewers for their valuable comments on the initial draft of this report.

This publication was facilitated by the Evidence and Partnerships Hub in the Analysis Directorate of the Ministry of Justice. The Hub exists to establish and strengthen links with external experts, helping to address departmental evidence gaps as set out in the published [MoJ Areas of Research Interest \(2025\)](#).

The author

James McGuire is Emeritus Professor of Forensic Clinical Psychology at the University of Liverpool. He has carried out research in prisons, probation, youth justice, and addictions services on aspects of offender rehabilitation and related issues. He is a member of the Correctional Services Advisory and Accreditation Panel for HMPPS.

Contents

1. Executive Summary	4
2. Introduction	6
2.1 Background	6
2.2 Aims of the review	7
2.3 Scope of the review	8
3. Approach	9
3.1 Conceptual framework	9
3.2 Searches	9
3.3 Inclusion and exclusion criteria	11
3.4 Quality appraisal	12
3.5 Methodological limitations	13
4. Findings	15
4.1 How can domestic and international evidence on prison workforce and prison regimes help to inform our understanding of what works to reduce violence in prisons?	15
4.2 How do prison workforce volumes, skills and experience impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?	20
4.3 How does time out of cells and time spent in purposeful activity impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?	24
5. Conclusions, limitations and evidence gaps	27
References	29

List of figures

Figure 3.1. Flowchart of search procedure	12
---	----

List of tables

Table 3.1: Definitions	9
Table 3.2. List of database searches undertaken	10
Table 4.1. Main categories of results	16

1. Executive Summary

Violence in prisons – whether between prisoners or against staff – has increased overall since 2015, despite a temporary fall during the Covid-19 period ([Ministry of Justice, 2025](#)). The complexity of the issue, influenced by multiple interacting factors, has led to some uncertainty over the most appropriate action to address it.

This Rapid Evidence Assessment (REA) was conducted to explore the impact of specific factors on prison violence and to identify implications with respect to staff training, staff-prisoner interactions, and system management. The three main questions guiding this REA were:

- a. How can domestic and international evidence on prison workforce and prison regimes help to inform our understanding of what works to reduce violence in prisons?
- b. How do prison workforce factors such as volumes, skills and experience impact levels of violence in prisons?
- c. How does time out of cells and engagement in purposeful activity impact levels of violence in prisons?

Variations in research design and quality made it challenging to draw definitive conclusions from the evidence collated. No single, straightforward solution was identified to reduce prison violence. Instead, the most promising approach involves combining several strategies. Effective methods emphasised the consistent application of procedural justice (including perceptions of fairness in decisions and the consistent application of rules), good quality staff-prisoner relationships and respectful communication by staff. These factors have been identified as helping to create a prison environment where violence is less likely.

The review found evidence linking prison workforce characteristics and regime management to violence, although the interactions were complex. Evidence indicated that

overall numbers of prison staff and the staff-to-prisoner ratio were important factors in safe prison management.

Evidence relating to time out of cell and time spent in purposeful activity was mixed. This was particularly so in relation to educational or vocational activities, with some studies finding a link to lower levels of violence and some studies indicating the inverse effect. Several studies found that time spent in rehabilitative programmes and employment was linked to lower levels of violence. There was also some evidence to support increasing access to the natural environment though evidence on this topic was limited.

The review also identified research gaps, particularly in relation to aspects of staff composition and levels of skill, as well as a lack of economic evaluations. In conclusion, while several strategies show potential for reducing prison violence, their effectiveness likely depends on their combined and synergistic application.

2. Introduction

2.1 Background

The Prisons Strategy White Paper (Ministry of Justice, 2021, 2022) identified major challenges for the use of imprisonment in the coming years. The White Paper supported a 'preventive approach', which was considered to require the following key elements: "(a) skilled and resilient prison officers, better able to build positive staff-prisoner relationships; (b) a physical environment that meets the needs of the complex population; (c) regimes that promote hope and engagement through well-planned, structured activity, and make the best use of technological advances to support safer prisons; and (d) technology which gives staff flexibility and time to build positive relationships with prisoners, and enables prisoners to take ownership of their own care and wellbeing" (p.20).

Violence in prisons in England and Wales increased from March 2015 to late 2018 ([Ministry of Justice, 2025](#)). Whilst the number of assaults recorded started to decrease from late 2018 and saw a sharp fall following the introduction of Covid-19 restrictions (from 2,099 in March 2020 to 1,420 in April 2020), assaults have since then increased up until March 2025 ([Ministry of Justice, 2025](#)).

Studies suggest that the occurrence of physical assault is a major concern for prison staff (Muzavazi, 2016). Even at lower levels, it detracts from job satisfaction and optimal work performance. When more severe, it has a significant impact on staff wellbeing, affecting rates of absence due to illness or injury (Griffin, Hogan, Lambert, Tucker-Gail and Baker 2010; Isenhardt and Hostettler, 2020; Miller, Bruenig and Shakespeare-Finch, 2022). Furthermore, studies strongly suggest that United States prisons with characteristics that threaten order and security, such as having more inmates per officer and greater levels of inmate violence, generate higher levels of stress among officer workforces (Ellison and Caudill, 2020). Staff stress may then have a cumulative negative feedback effect on morale, thereby amplifying levels of disruption and violence.

Reducing prison violence may have further potential advantages. There are significant associations between misconduct in prison and rates of subsequent (post-release) criminal recidivism (Cochran and Mears, 2017; Cochran, Mears, Bales and Stewart, 2014); and between rates of in-prison sanctions or adjudications and later recidivism (Silver and Nedelec, 2018). In England and Wales, there is evidence that violence during imprisonment is predictive of post-release reoffending (McDougall, Pearson, Willoughby and Bowles, 2013) although this finding has not been uniformly obtained elsewhere (Trulson, DeLisi and Marquart, 2011). The findings of a connection might be because of an individual's history of crime and/or of violence, sometimes referred to as the 'importation model' (Irwin and Cressey, 1962). The model suggests that prisoners 'import' or bring into the prison their pre-existing attitudes, values and behaviours which in turn shapes their behaviour in prison.

It is crucial to recognise the complexity of prison violence. Research provides some understanding of the different reasons for and patterns of violence. This has led to the development of models that capture several of its numerous facets, such as that proposed by Dent, Dorrell and Howard (2015) which illustrates the systemic and multi-layered nature and interconnections of the large number of variables involved.

2.2 Aims of the review

The REA was commissioned to locate and draw together existing research to answer the following three key research questions:

- How can domestic and international evidence on prison workforce and prison regimes help to inform our understanding of what works to reduce violence in prisons?
- How do prison workforce volumes, skills and experience impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?
- How does time out of cells and time spent in purposeful activity impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?

2.3 Scope of the review

It was anticipated that valuable information would be obtained from research on these topics conducted in England and Wales, but alongside this, there was particular interest in work conducted in the other group of seven (G7) countries (Canada, France, Germany, Italy, Japan, and the United States), which have close economic and structural similarities to England and Wales; and also in Scandinavian countries (Denmark, Finland, Norway, and Sweden) which have adopted innovative approaches in their penal systems. Comparisons between studies conducted in other prison systems may be problematic due to differences between countries, their legal systems, and their prison services.

This review focused on empirical studies including process, outcome, and economic evaluations of organisational changes or targeted interventions that might be effective in reducing prisoner violence, together with related systematic or rapid evidence reviews.

3. Approach

3.1 Conceptual framework

The protocol for this REA included a conceptual framework with information about the key terms and concepts to be investigated. This included those studies it was expected would help to answer the research questions and a list of definitions of the principal concepts to be researched. See Table 3.1.

Table 3.1: Definitions

Term	Scope
<i>Violence</i>	Assaults on prisoners and staff
<i>Prison workforce</i>	Prison officers (all grades)
<i>Prison regime</i>	How the prison operates including scheduled routine of activities
<i>Prison workforce volumes</i>	Numbers of prison officers
<i>Prison staff skills</i>	The attributes needed by a prison officer to create a safe and secure environment
<i>Prison staff experience</i>	Number of years in post as a prison officer
<i>Time out of cells</i>	Broadly defined as any amount of time spent out of cell by a prisoner; this could alternatively be defined as opportunities for “association” with other prisoners, or time in education or work within the prison.

A further concept, *purposeful activity*, was not separately defined but could be closely related to time out of cells. It includes a range of activities in which prisoners can engage, that are considered part of the process of rehabilitation.

3.2 Searches

Searches were conducted in the following eight electronic databases:

- American Psychological Association (APA) PsycINFO
-
- Campbell Collaboration Library
- Cochrane Database of Systematic Reviews
- National Criminal Justice Reference Service (NCJRS Washington DC)

- Netherlands Institute for the Study of Crime and Law Enforcement (NSCR), Amsterdam
- ProQuest (which collates results from 29 other databases)
- Scopus
- Washington State Institute of Public Policy (WSIPP) Olympia WA.

Further information on the database searches is in Table 3.2.

Table 3.2. List of database searches undertaken

Database or website	Search terms	Number of items initially located	Number retained after screening
APA PsycINFO	prison staff OR prison workforce AND skills AND prison violence	651	44
	prisoner violence AND staff skills or staff roles or staff mix	7	0
Campbell Collaboration	prison violence	6	0
Cochrane Database	prison violence	80	3
NCJRS, Washington DC	All permutations of the terms: prison / corrections / correctional AND workforce / staff AND skills / experience / training	0	0
NSCR, Netherlands	prison	74	3
ProQuest	prison AND staff training AND prisoner violence	1,672	98
	Prisoner AND purposeful activity AND violence	339	36
Scopus	prison AND staff OR workforce AND violen*	255	135
	prison AND regime activity AND violen*	129	31
	prison AND management AND violen*	119	54
	prison AND purposeful activity AND violen*	2	2
WSIPP, Olympia, WA	prison workforce	71	0
	prison staff training	168	0
	prison violence	81	0
	prison regime	50	0
	purposeful activity in prison	45	0
Total:		3,749	406

The searches yielded a total of 3,749 located studies (“hits”), which after the first-stage screening reduced to 406 for fuller review. Seventeen studies found in the reference lists

of the downloaded articles were added, producing a total of 423 primary studies that were examined more closely.

3.3 Inclusion and exclusion criteria

The inclusion criteria were as follows:

- Searches from 1 January 2010 to 31 March 2023.
- Studies published in the English language (as there was no facility for translation from other languages).
- Studies including adult prisoners (males and females).
- Peer reviewed empirical studies found in scholarly journals, official government publications and other reports produced by reputable research agencies.
- The full text of the documents was accessible.

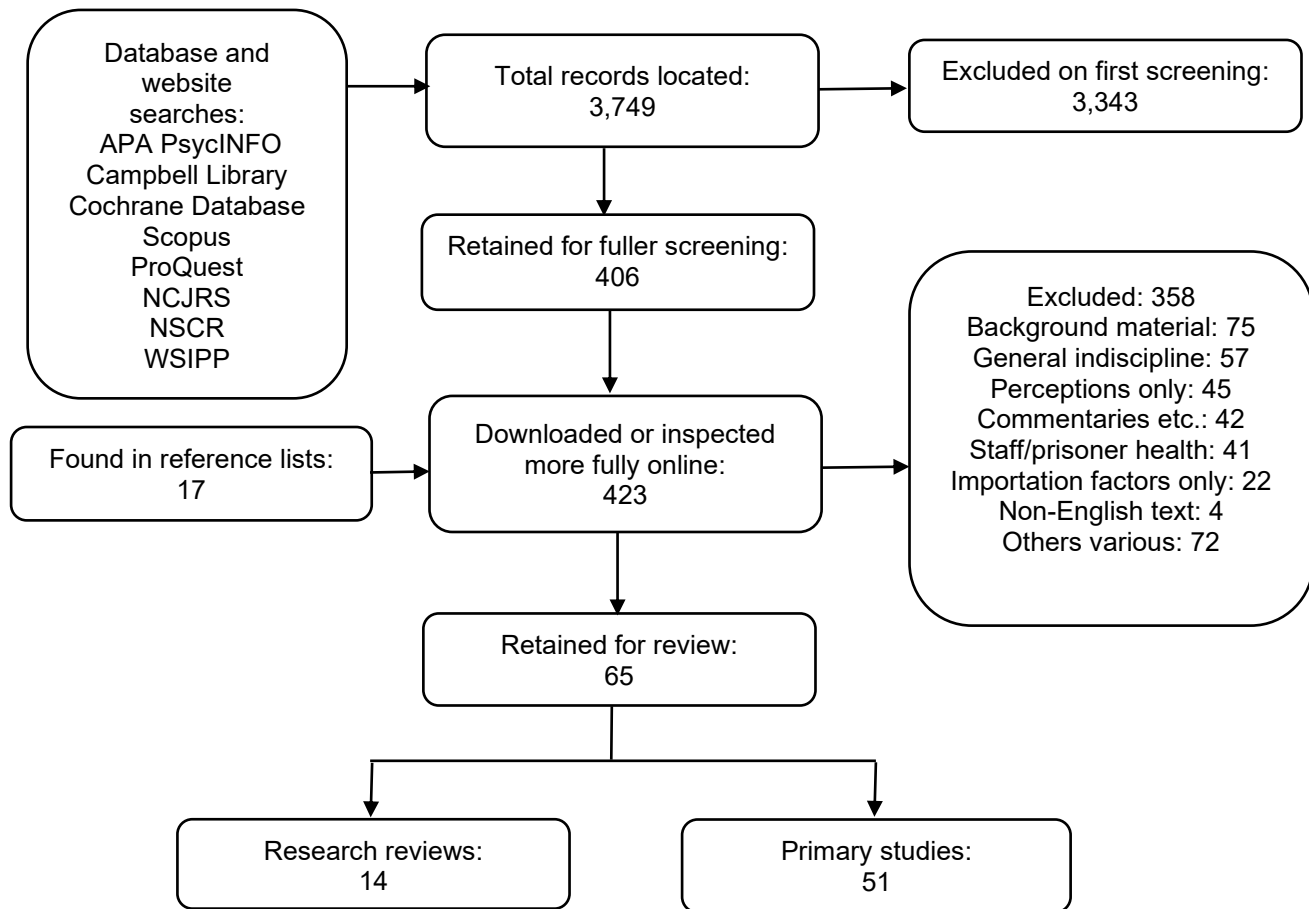
Exclusion criteria included:

- General measurements of violence rather than separation of terms by the definition of violence for this REA.
- No description of the relationships between different variables within the studies and/or a tenuous connection between the dependent variable of violence and other variables thus making conclusions hard to be drawn.
- Research carried out only in the children and young people's secure estate, mental health units or psychiatric hospitals.
- Non-English text.

Figure 3.1 shows the sequence of decisions made with respect to inclusion or exclusion at the different stages of the searches. Fourteen research reviews and 51 primary studies were retained.

A sizeable majority of the retained studies reflect the higher level of research activity in the United States than anywhere else: more than half of the studies (29/51, or 57%) were conducted there. Other countries, in descending order by number were: England and Wales (6); Germany (3); Australia, Canada, and the Netherlands, (2 each); and Chile, Denmark, New Zealand, Slovenia, Spain, Sweden, and Switzerland (1 each).

Figure 3.1. Flowchart of search procedure



3.4 Quality appraisal

After data extraction, the reports went through a quality appraisal (QA) process. Although all the retained studies had the common purpose of understanding prison violence, there was considerable diversity among the research designs and methods of data collection and analysis (including large-scale surveys, cross-sectional comparisons, psychometric validation, experimental studies, and qualitative research). There was therefore no single approach to carrying out QA. The QA methods included, amongst others, the Maryland Scientific Methods Scale (SMS: Farrington, Gottfredson, Sherman and Welsh, 2002) and the qualitative studies checklist from the Critical Appraisal Skills Programme (CASP, 2023); and an eighteen-point checklist of quality indicators for correlational research.

Appendix C in the Technical Report describes the methods of QA used and the scores allocated to each retained study, according to the method which was most appropriate for

appraisal. The QA process meant that, with only a few exceptions, studies included in this REA were reasonably well designed, conducted and reported. Therefore, a good level of confidence can be applied in drawing conclusions from the published studies. Gaps in coverage do remain, with some of the research questions having limited evidence to inform answers to them. Few studies provided direct, explicit and unequivocal answers to the questions posed for the REA.

3.5 Methodological limitations

A date parameter was set to search for literature from 2010. This was partly informed by the availability of a previous review on prison violence (McGuire, 2018) which included publications from 2000. The distribution of years of publication for the retained studies was slightly uneven. More of the retained studies appeared in the latter part of the period covered: slightly over half of them (28) were published between 2018-2022. No studies were found from 2023, but that was likely because searches were undertaken early in the year (February and March 2023).

The definitions of terms used show that whilst 'prison' was used as the main defining item for the location, other terms could have been employed, such as custody, gaol, correctional facility, or incarceration. It is possible, therefore, that some studies may have been overlooked. However, as searches were conducted referring to whole texts of studies, not solely titles, the likelihood of missing them appears minimal, and numerous studies without prison in the title were located. Finally, while searches were conducted in databases dedicated to this field, and in some government sources, the possibility that some studies were reported in international websites, such as those of the United Nations or the Council of Europe, was not investigated. That was based on an assumption that such sources might contain overviews or research but would be unlikely to be outlets for primary studies.

Within the process of QA, no overall quality score was given for the studies that were retained. This was due to the variability of designs and therefore no single method of QA was applicable to all cases, making it difficult to compare individual studies with each other (see Technical Report, Appendix C). Assignment of their relative weight thus became

problematic when drawing conclusions about the robustness of findings. Effort has however consistently been made to consider this when arriving at conclusions and identifying implications.

4. Findings

4.1 How can domestic and international evidence on prison workforce and prison regimes help to inform our understanding of what works to reduce violence in prisons?

Key findings included:

- There is a breadth of national and international evidence on prison violence. Most of the evidence explored how the prison system is designed and managed.
- The evidence was mixed in relation to whether violence is linked to prison factors such as overcrowding or whether importation factors (personal characteristics) are more important. Some of this inconsistency could be linked to differences in data collection.
- There was little or incomplete evidence on the effectiveness of ‘technical fixes’ (including body worn video cameras), risk-based classification of prisoners, and use of sanctions and segregation used to counter prison violence.
- There was some promising evidence on initiatives to improve prisoner wellbeing such as access to nature.
- Evidence suggests that situational factors such as prisoner movement around the prison are important predictors of violence.
- The effects of each of these variables appears to be additive or cumulative. It does not seem likely that any one of them acts in isolation and can uniquely be modified to reduce rates of violence.

To analyse the range of material relevant to the first research question, the 51 primary studies were grouped into seven categories (Table 4.1). Allocation to each was determined by the central or most important variable or set of variables identified within each study. Categorisation of the studies in this way helped to understand how the

domestic and international evidence could inform understanding of the factors which impact prison violence. Studies fell across different areas meaning it was difficult to separate out the effect of where changes in violence could be attributed.

Table 4.1. Main categories of results¹

Area	Brief description	Number of studies retained
System management and design	The maximisation of safety through systems and controls in the prison environment, ranging from the provision of social supports, management of the prison climate through enhancement rather than coercion, or use of body worn video cameras or CCTV.	20
Engagement in purposeful activity	Usually considered to include attendance at and participation in educational, work, or rehabilitation programmes, but could include a wide range of other activities.	12
Staff relationships and skills	Identification of officer attitudes, skills and patterns of interaction and communication that are associated with more constructive relations with prisoners, including the operation of procedural justice.	6
Assessment and classification strategies	Development of assessment methods for identifying attributes of prisoners associated with varying levels of risk of in-prison violence, and administration of prison or unit regimes according to the results.	5
Use of sanctions or segregation	Control of violent misconduct by imposing penalties which may range from disciplinary adjudications and sentence extensions to the use of segregation, solitary confinement, or other restrictions.	4
Situational factors	Analysis and identification of specific circumstances or of factors within them that may lead to risk of serious violent incidents, or which in contrast are associated with lowering of rates of conflict.	2
Access to nature	Design of penal establishments or of prisoner routines that allow opportunities to access the natural environment and other experiences that contribute to well-being.	2
Total		51

The evidence for each of these categories is explored in more detail below. Research questions 2 and 3 explore the evidence linked to staff relationships and skills and engagement in purposeful activity. These findings are set out in sections 4.2 and 4.3.

¹ Appendix A, in the Technical Appendix, lists the studies allocated to each of the categories and provides a summary of the key research method(s) used.

System management and design

The factors which constitute system management involved a significant amount of variation. The main features of these studies related to changes in the organisation or management of all or part of the prison, which was anticipated to reduce violence. For example:

- Research by Howard et al (2020) in Australia explored the pattern of assault victimisation through individual and prison level predictors. They found that both individual and prison level predictors accounted for patterns of violence, including the 'importation' variables, such as age, prior assault victimisation and prior misconduct, including prisoners having a violent offence as their index offence. Other individual differences in daily routines and activities were also associated with incidence of victimisation. However this study also found that other prison-level variables did not have an impact on violence: "factors that could potentially affect institutional capacity for control such as population, crowding, and inmate turnover were not significant predictors of outcome" (Howard et al., 2020, p.1105).
- Evidence on the effects of prisoner overcrowding is inconsistent, possibly due to differences in the methods of data collection (Steiner and Wooldredge, 2009). Analysis of the association between changing numbers imprisoned and the violent misconduct rate over a 36 month-period in 24 prisons in Pennsylvania (Glazener and Nakamura, 2020), found the rate of both violent and non-violent misconduct rose as prison crowding increased. This relationship ceased above a certain level of overcrowding.
- In a study in American prisons, Day, Brauer and Butler (2015) examined prisoner perceptions and experiences of coercion, including whether they had been victimised and their perceptions of safety, as well as support – their perceptions of prison officers' effectiveness in reducing reoffending. The data analysis showed rates of prisoner violence increased as levels of prison-based coercion rose, i.e. a perceived 'coercive prison environment' was associated with higher levels of violence. No association was found between levels of perceived support and prisoner violent misconduct. This contrasts with other research examining the provision of greater support and opportunities for achieving enhanced status which had the reverse effect, of reducing violent infringement rates (Camp, Joy and Freestone, 2018).

- The application of formal administrative rules and surveillance was perceived by prisoners in a Canadian study to heighten levels of violence, whereas the establishment of informal remunerative mechanisms (the use of reward rather than punishment) had a more beneficial effect in lowering them (Ricciardelli and Sit, 2016). This was also found in a study of all 114 United States federal prisons by Bierie (2012).
- Tahamont (2019) examined the differences in amounts and types of violations across minimum to maximum security prisons in California. Prisoners were distributed across prisons according to preliminary scores based largely on the nature of their convictions and offence histories. The total study sample included over 60,000 prisoners and compared the security levels in terms of the numbers of “serious rules violation reports” within each. This included actual or threatened use of force or violence. The analyses “fail[ed] to detect an effect of security level placement on the prevalence of serious rules violation reports” (p.788). The authors suggested that this may be due to officers using their discretion in the enforcement of the rules to maintain a calm and controlled environment. It was therefore difficult to establish whether the allocation to different security levels in itself resulted in different rates of violence. There may have been an underlying effect, but if so, it may have been masked or overridden by officer discretion.
- There is limited evidence on the use of “technical fixes” such as CCTV (Debus-Sherrill, La Vigne and Downey, 2017) and body worn video cameras (Pope et al., 2020; Sydes, Dodd and Antrobus, 2022). Whilst there were reported changes in perceptions of safety by staff there were no measurable changes in rates of reports of actual incidents.

Assessment and classification strategies

Five studies explored the use of risk-based classification systems to identify prisoners who may be more likely to engage in prison violence. Studies described the typologies that were assessed, including their outcomes over a specified period. Much of this research remains not yet at a stage where definitive conclusions can be drawn, e.g., Andrés-Pueyo et al. (2017), Duwe, (2020), Hausam et al (2018) and (2020), and Kerekes et al (2018).

Use of sanctions or segregation

There was little evidence from any study that the use of strict control procedures such as sanctions and segregation is an effective strategy for countering prison violence (Labrecque and Smith, 2019; Meyers, Infante and Wright, 2018; Morris, 2016). This was also found in a study in England and Wales (Fortescue, Fitzalan Howard, Howard, Kelly and Elwan, 2021).

Situational factors

Violence could be linked to prisoner movement around the prison (Sorensen, Cunningham, Vigen and Woods (2011). McNeeley (2021) explored the main contributing factors to prisoner on staff assaults compared with incidents that did not entail violence. The author concluded “the findings suggest that situational characteristics are more important predictors of violence than characteristics of either inmates or staff” (McNeeley, 2021, p.366).

Access to nature

There is small though compelling amount of evidence that access to the natural environment promotes wellbeing and reduces risk of violence among prisoners (Moran et al. 2021; Nadkarni et al., 2017). However, data are limited and further research is needed.

4.2 How do prison workforce volumes, skills and experience impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?

Key findings included:

- Higher staff numbers, a stable staff cohort, and a minimal level of vacancies were associated with lower levels of violence. Conversely, lower staff-prisoner ratios were shown to increase staff stress and poorer handling of incidents and therefore increased the risk of violence.
- The role of staff-prisoner relationships were important factors in the likelihood of self-reported and official misconduct. Denigrating attitudes towards prisoners by prison staff was associated with higher levels of violence. Conflict between prison officers was also associated with increased violence among prisoners.
- Procedural justice, including perceptions of fairness of responses to prisoner's complaints was an important factor in levels of violence.
- There was no evidence found on the effect of staff composition or levels of prison officer experience on violence levels.

There are several studies which explored how prison workforce volume and skills impacted upon prison violence. There is also lots of research examining staff-prisoner relationships and procedural justice. However, no studies were identified which analysed the relationship between staff experience and levels of violence.

Workforce volume

A large-scale study of 50 prisons in Arizona (Griffin and Hepburn 2013) investigated differences between prisons on a system-wide basis. The authors examined the effect of “institutional capacity for control”, including prison officer-prisoner ratio and staff turnover on levels of violence. Higher staff-prisoner ratio, lower levels of staff turnover, lower staff vacancies and lower ‘social density’ of the prison were associated with greater stability and

lower levels of violence. Similar results were found in research undertaken in Chile although there are very different conditions here in comparison to England and Wales (Sanhueza, Pérez, Candia and Urquieta, 2021). These trends may reflect the operation of a number of staff-related variables that are found in all prison systems, including occupational stress, which may have a negative impact on the ability of staff to prevent violent incidents or to respond appropriately to them when they occur (Jaspers et al, 2022; Vogel, Sauter, Vogel and Dahle, 2020).

Staff skills, composition and experience

Two studies by Trammell and colleagues (2015; 2018) found that when staff are in conflict with one another or undermine each other in front of prisoners, it can have notable effects on prisoner behaviour. Prisoners described feeling ignored during these incidents. In the sample of 309 prisoners, 49% reported having engaged in prison violence, and 28% said they had witnessed staff treating each other poorly. Staff conflict was associated with increased violent indiscipline among prisoners, with most prisoners citing perceived disrespect between staff as the principal factor leading to violent incidents against staff in which they were involved.

In contrast, legitimate authority is more effectively exercised through conveying respect and through the exercise of procedural justice (the perceived fairness of the processes used to make decisions). In interviews with prison staff this was recognised in terms of how staff successfully communicated respect and avoided situations in which violence or other adverse consequences might arise (Trammell et al, 2015, 2018). Those findings accord with others obtained previously in prisons in England and Wales by Butler and Maruna (2009), published prior to the start date set for this review.

Lerman and Harney's (2019) large-scale study in California found that upwards of 80% of both male and female staff saw the importance of offering prisoners access to educational, vocational training, and alcohol and drug treatment programmes. Officers who held "a more punitive ideology of corrections" (p.234) tended to demonstrate less support for rehabilitation. This more punitive view was also correlated with greater likelihood of staff exposure to assault (Lerman and Harney, 2019). The authors concluded that it was

possible that some officer's beliefs in a "more punitive ideology" rather than reform might contribute to higher levels of violence.

Amongst the studies conducted in the USA, which formed most of the research for this REA, no study was found on whether there was an effect of staff composition or levels of experience on violence rates. Some studies included relevant information as part of the descriptive data on study samples but did not then analyse for any association with levels of prison violence. The single study which reported analysis of this was undertaken in the Netherlands (Beijersbergen, Dirkzwager, Molleman, van der Laan and Nieuwbeerta, 2015).

Staff-prisoner relationships

Six studies were reviewed which examined the impact of staff-prisoner relationships and procedural justice on prison violence. The quality of staff-prisoner relationships has been shown to lead to a lower likelihood of both self-reported and registered misconduct and violence. A study of 240 prison units in the Netherlands (Bosma, van Ginneken, Sentse and Palmen 2020), showed that a positive experience of staff-prisoner relationships and of procedural justice meant a lower likelihood of both self-reported or registered (official) misconduct, compared with those who had a below average experience of these relationships.

Some studies have found lower rates of aggression and violence in therapeutic communities (TCs)² compared with other prison units, although the evidence overall is limited. This was found in a study in HMP Grendon (Newton, 2010) as well as in studies in the United States (Maglinger, Hughey and Burke, 2013) and Canada (Weinrath, Tess and Willows, 2021). It is not possible to explain with certainty why this may be the case. It may be reflective of the types of staff-prisoner relationships, institutional rules and environmental differences in the TC settings. In the Maglinger et al. (2013) study, the authors attributed the differences to the requirement of the TC that prisoners act as agents of change for each other's negative behaviour.

² A Therapeutic Community (TC) is a structured, psychologically informed environment designed to help people with mental health difficulties, personality disorder, addictions or complex emotional / behavioural needs.

Procedural justice

Procedural justice emerged as important in maintaining good staff-prisoner relationships, thereby lowering violence, in a longitudinal study of prisoners and staff from 105 Dutch prison units (Beijersbergen et al., 2015) and in a study in Slovenia (Meško and Hacin, 2019). In the Dutch study, procedural justice was perceived as higher and prisoners perceived their treatment as fairer in units with more female officers, where there was a higher proportion of staff who had positive attitudes towards rehabilitation, and where there was a higher officer-to-prisoner ratio.

Furthermore, Bierie (2013) found across 114 federal prison sites in the United States studied over an eight-year period, that the pattern of responses to prisoners' complaints or grievances influenced rates of violence. Violence was associated with delays in responding to complaints, and rates of rejection of them or refusal to consider them. As Bierie concludes (2013, p.26) "the relationship was significant and in the direction procedural justice predicts (more late responses and substantive rejections corresponded to more violence that month, or the following month)."

Numerous other factors are likely to have either direct or indirect effects on the likelihood of violence, such as how boundaries between prisoners and staff are managed (Cooke, Hall, Friedman, Jain and Wagoner, 2019; Crewe and Liebling, 2015; Crewe, Liebling and Hulley, 2011, 2015). These affect prisoners' perceptions of the operation of procedural justice in the prison (Hacin and Meško, 2018).

4.3 How does time out of cells and time spent in purposeful activity impact on levels of violence (both prisoner on prisoner and prisoner on staff) in prisons?

Key findings included:

- There is a range of evidence on how time and out of cells, either through attendance at prison programmes or other purposeful activity, can impact levels of violence.
- There is mixed evidence on whether time spent in educational and vocational courses leads to lower levels of violence. Whilst some studies found significant effects in reducing prison violence, others found the inverse effect.
- As noted in section 4.1, there is some promising research that suggests a link between lower levels of violence and time out of cells and in the natural environment. However, the evidence here is less developed.

There have been several large-scale studies which examine ‘time out of cells’ (TOOC) or ‘time in purposeful activities’ (TIPA). This includes attendance at rehabilitation programmes, educational and vocational courses and being in employment. There may not always be a clear distinction between the terms TOOC and TIPA, therefore it is often not possible to say which factor has the greatest impact on levels of violence.

Prison rehabilitative programmes

Working with a population of high-risk prisoners, Hogan, Lambert and Barton-Bellessa (2012) found a significant reduction in violent infractions six months following completion of a cognitive training programme; though this was the only significant change to emerge and there was no effect on general misconduct.

Butler, Solomon and Spohn’s (2018) American research explored a cognitive behavioural programme targeting criminogenic thoughts and attitudes to promote pro-social behaviour in a very restrictive prison environment known as ‘restricted housing’ or segregation. The

authors did not find any robust evidence of effectiveness once key contextual factors were accounted for (segregation type and time in restrictive housing), despite appearing to reduce misconduct in the overall matched sample.

In one of the largest scale studies located in the REA, with data analysed from 487 American state prisons, Randol and Campbell (2017) found participation in a variety of treatment programmes (such as substance abuse, sex offender, family and life skills, as well as family and life skills interventions) generally lowered levels of violence against other prisoners (Table 2, and text p.465). The same applied to the effect of the availability of public works programmes in prisons. By contrast, vocational, employment and prison industry programmes were associated with a higher rate of assaults by prisoners on other prisoners. It was unclear whether this might be a result of there being more situations of potential conflict and opportunities for assaults to occur, as would be predicted by routine activities theory.³

Education, training and employment

Educational and vocational courses found significant effects in reducing prison violence in two studies across prisons in Ohio, by Pompoco, Wooldredge, Lugo, Sullivan and Latessa (2017) and Lugo, Wooldredge, Pompoco, Sullivan and Latessa (2019), with a sample of 92,217 prisoners. One of the programmes, '*Thinking for a Change*' (T4C), showed that those who did not participate were 1.3 times more likely than programme starters and 1.7 times more likely than programme completers to engage in prison violence.

In a departure from the traditional model in which classes are delivered by qualified teachers, and where instead educational interventions were peer-led, findings were more mixed. Perry et al., (2021) found positive effects on mental health but not on violence. Collica-Cox (2014) in a smaller-scale study with women prisoners, found a statistically significant reduction in violence among those who took part in peer-led educational activities.

³ Routine Activities Theory is a term coined by Lawrence Cohen and Marcus Felson in 1979. The theory states that a crime will occur when three elements are present – a motivated offender, a suitable target and the absence of capable guardians.

Some studies did not support the link between education and reductions in violence. Clark and Rydberg (2016) found that prisoners who attended college courses were more likely than those who did not attend to be written up for a major infraction. The authors suggested that this may be due to what they called a *surveillance effect*, “in which their participation or completion of the programs results in being written up for misconduct that is related to the program” (p. 338), for example by having failed to attend a designated session.

Gathering data from a total of 46 prisons in Ohio and Kentucky, Steiner and Wooldredge (2014) found that male prisoners who spent more time in a prison work assignment, less time in recreation and had served less time in prison had lower odds of violent misconduct over a six-month period.

An Australian study by Howard, Corben, Raudino and Galouzis (2020) also found that increasing time spent in employment predicted significantly lower incidence of assault, whereas time out of cell overall was associated with increased risk of victimisation.

5. Conclusions, limitations and evidence gaps

The research studies included in this REA are varied and complex, and therefore drawing clear conclusions is challenging. Further, most of the evidence identified for this review comes from the United States which may influence the applicability of the conclusions drawn for the English and Welsh prison system. Nevertheless, the evidence base points towards some constructive system-wide approaches to addressing the challenge of prison violence. It suggests that there is no single solution to tackling the issue and requires multiple elements to be put into practice in combination. These include:

- Overall numbers of prison staff and the staff-to-prisoner ratio are important factors in safe prison management. Evidence reviewed found stability, continuity of staff and minimisation of staff shortages to be associated with lower levels of violence.
- The quality of the relationships between staff and prisoners, and staff behaviour in their interactions with prisoners and with one another are important. The review demonstrated the central importance of procedural justice in the management of prisoners and prison environments.
- There are several key factors that can create a prison climate where violence will be less likely. These include clarity and communication of rules, consistent application of procedural justice, and respectful communication by staff. Behaviour of prison staff towards prisoners and each other is critical in establishing and maintaining this climate.
- Staff attitudes are an important enabler, specifically that they hold and communicate a belief in the possibility of rehabilitation. These attributes may be best combined with the availability of opportunities for prisoners to participate in meaningful and purposeful activities outside of their cells.

The “importation” model remains the dominant and most extensively researched approach to understanding prison violence. Many studies not included in the review (as they did not include the specific terms of interest for this REA – see Table 3.1) also highlight the role of

the prison environment as predictors of violence (Camlibel and Can, 2021; Listwan, Daigle, Hartman and Guastaferro, 2014; Pérez, Gover, Tennyson and Santos, 2010).

Some changes in levels of violence in prison settings may be a result of external processes and events that are beyond the prison's ability to control. They include, for example, the advent of new psychoactive drugs (Mason, Smith, Onwuegbusi and Roberts, 2022) and legal changes, where individual prisons may not have been involved in the decision-making. Labrecque (2021) cites the example of an increase in levels of violence in the Los Angeles county jail system, which on detailed analysis appeared to be a consequence of changes in the law that had led to an influx of a new type of prisoner.

The multitude of different factors affecting prison violence outcomes are closely related, and whilst some of these influence violence independently, they also interact in complex ways, making it difficult to establish which factors have the greatest impact on prison violence. This evidence review has highlighted several gaps in the evidence base, where evidence is lacking entirely or is not well developed.

For example, no US studies specifically looked at how factors like staff composition, skills, training, or experience related to prisoner violence. While some studies provide data on staff composition, only one, conducted in the Netherlands, analysed the association between those variables and rates of violence (Beijersbergen et al., 2015).

References

- Andrés-Pueyo, A., Arbach-Lucioni, K. and Redondo, S. (2017). The RisCanvi: A new tool for assessing risk for violence in prison and recidivism. In J. P. Singh, D. G. Kroner, J. S. Wormith, S. L. Desmarais and Z. Hamilton (eds.), *Handbook of Recidivism Risk/Needs Assessment Tools*. Hoboken, NJ: Wiley. Pp. 255-268.
- Auty, K. M., Cope, A. and Liebling, A. (2017a). Psychoeducational programs for reducing prison violence: A systematic review. *Aggression and Violent Behavior*, 33, 126-143.
- Auty, K. M., Cope, A., and Liebling, A. (2017b). A systematic review and meta-analysis of yoga and mindfulness meditation in prison: Effects on psychological well-being and behavioural functioning. *International Journal of Offender Therapy and Comparative Criminology*, 61, 689–710.
- Beijersbergen, K.A., Dirkzwager, A.J.E., Molleman, T., Van Der Laan, P.H. and Nieuwebeerta, P. (2015). Procedural justice in prison: The importance of staff characteristics. *International Journal of Offender Therapy and Comparative Criminology*, 59(4), 337-358.
- Bierie, D. M. (2012). Is tougher better? The impact of physical prison conditions on inmate violence. *International Journal of Offender Therapy and Comparative Criminology*, 56, 338-355.
- Bierie, D. M. (2013). Procedural justice and prison violence: Examining complaints among Federal inmates (2000–2007). *Psychology, Public Policy, and Law*, 19(1), 15-29.
- Bosma, A. Q., van Ginneken, A. F. J. C., Sentse, M. and Palmen, H. (2020). Examining prisoner misconduct: A multilevel test using personal characteristics, prison climate, and prison environment. *Crime and Delinquency*, 66(4) 451–484.

Brown, E. (2020). A systematic review of the effects of prison segregation. *Aggression and Violent Behavior*, 52, doi.org/10.1016/j.avb.2020.101389

Butler, H. D., Solomon, S. and Spohn, R. (2018). Programming in restrictive housing: Considerations for improving outcome evaluations. *Criminal Justice and Behaviour*, 45(8), 1174-1191.

Butler, M. and Maruna, S. (2009). The impact of disrespect on prisoners' aggression: outcomes of experimentally inducing violence-supportive cognitions. *Psychology, Crime and Law*, 15(2–3), 235–50.

Camlibel, D. A. and Can, S. H. (2021). Social stressors, personality and coping behaviors associated with male inmate violence. *Journal of Criminological Research, Policy and Practice*, 7(3), 251-269.

Camp, J., Joy, K. and Freestone, M. (2018). Does 'enhanced support' for offenders effectively reduce custodial violence and disruption? An evaluation of the enhanced support service pilot. *International Journal of Offender Therapy and Comparative Criminology*, 62(12), 3928–3946. <https://doi.org/10.1177/0306624X17752254>

CASP (Critical Appraisal Skills Programme, retrieved May 2023). *CASP Qualitative Studies Checklist*. [CASP-Qualitative-Checklist-2018 fillable form.pdf \(casp-uk.net\)](https://casp-uk.net/casp-qualitative-checklist-2018-fillable-form.pdf)

Clark, K. and Rydberg, J. (2016). The effect of institutional educational programming on prisoner misconduct. *Criminal Justice Studies*, 29(4,) 325-344.

Cochran, J. C. and Mears, D. P. (2017). The path of least desistance: Inmate compliance and recidivism. *Justice Quarterly*, 34(3), 431-458.

Cochran, J. C., Mears, D. P., Bales, W. D, and Stewart, E. A. (2014). Does inmate behavior affect post- release offending? Investigating the misconduct-recidivism relationship among youth and adults. *Justice Quarterly*, 31(6), 1044-1073.

Cohen, L. E. & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44(4), 588–608. <https://doi.org/10.2307/2094589>

Collica-Cox, K, (2014). Counting down: HIV prison-based peer education programs and their connection to reduced disciplinary infractions. *International Journal of Offender Therapy and Comparative Criminology*, 58(8), 931–952.

Cooke, B. K., Hall, R. C. W., Friedman, S. H., Jain, A. and Wagoner, R. (2019). Professional boundaries in corrections. *Journal of the American Academy of Psychiatry and the Law*, 47(1), 1-98.

Crewe, B. and Liebling, A. (2015). Staff culture, authority and prison violence. *Prison Service Journal*, 221, 9-14.

Crewe, B., Liebling, A. and Hulley, S. (2011). Staff culture, use of authority and prisoner quality of life in public and private sector prisons. *Australian and New Zealand Journal of Criminology*, 44(1), 94-115.

Crewe, B., Liebling, A. and Hulley, S. (2015). Staff-prisoner relationships, staff professionalism, and the use of authority in public- and private-sector prisons. *Law and Social Inquiry*, 40(2), 309-344.

Day, A., Newton, N., Cooke, D. and Tamatea, A. (2022). interventions to prevent prison violence: A scoping review of the available research evidence. *Prison Journal*, 102(6), 745-769.

Day, A., Newton, N. and Tamatea, A. (2023). A scoping review of family focussed interventions to prevent prison violence. *International Journal of Offender Therapy and Comparative Criminology*, 67(2-3), 151-163.

Day, J. C., Brauer, J. R. and Butler, H. D. (2015). Coercion and social support behind bars: Testing an integrated theory of misconduct and resistance in U.S. prisons. *Criminal Justice and Behavior*, 42(2), 133-155.

Debus-Sherrill, S. A., La Vigne, N. G. and Downey, P. M. (2017). CCTV In jail housing: An evaluation of technology-enhanced supervision. *Security Journal*, 30(2), 367–384.

<https://doi.org/10.1057/sj.2014.31>

Dedrick, R. F., Ferron, J. M., Hess, M. R., Hogarty, K. Y., Kromrey, J. D., Lang, T. R., Niles, J. D. and Lee, R. S. (2009). Multilevel modelling: A review of methodological issues and applications. *Review of Educational Research*, 79(1), 69-102.

Dent, P., Dorrell, D. and Howard, P. (2015). Understanding prison violence trends and correlates. *Prison Service Journal*, 221, 4-8.

Derlic, D. (2020). A systematic review of literature: Alternative offender rehabilitation - prison yoga, mindfulness, and meditation. *Journal of Correctional Health Care*, 26(4), 361-35.

Dickens, G. L., O'Shea, L. E. and Christensen, M. (2020). Structured assessments for imminent aggression in mental health and correctional settings: Systematic review and meta-analysis. *International Journal of Nursing Studies*, 104, <https://doi.org/10.1016/j.ijnurstu.2020.103526>

Duwe, G. (2017). *The Use and Impact of Correctional Programming for Inmates on Pre- and Post-Release Outcomes*. NCJ 250476. Washington DC: Office of Justice Programs, National Institute of Justice.

Duwe, G. (2020). The development and validation of a prison classification system designed to predict severe and frequent misconduct. *Prison Journal*, 100(2), 173-200.

Duwe, G., Hallett, M., Hays, J., Jang, S. J. and Johnson, B. R. (2015). Bible college participation and prison misconduct: A preliminary analysis. *Journal of Offender Rehabilitation*, 54, 371-390.

Ellison, J. M. and Caudill, J. W. (2020). Working on local time: Testing the job-demand-control-support model of stress with jail officers. *Journal of Criminal Justice*, 70, <https://doi.org/10.1016/j.jcrimjus.2020.101717>

Engstrom, K. V. and van Ginneken, E. F. J. C. (2022). Ethical prison architecture: A systematic literature review of prison design features related to wellbeing. *Space and Culture*, 25(3), 479-503.

Farrington, D. P., Gottfredson, D. C., Sherman, L. W. and Welsh, B. C. (2002). The Maryland scientific methods scale. In L. W. Sherman, D. P. Farrington, B. C. Welsh and D. L. MacKenzie (eds.) *Evidence-Based Crime Prevention*. Pp.13-21. London: Routledge.

Finney, C., Sterfiopoulos, E., Hensel, J., Bonato, S. and Dewa, C. S. (2013). Organizational stressors associated with job stress and burnout in correctional officers: a systematic review. *BMC Public Health*, 13, <http://www.biomedcentral.com/1471-2458/13/82>

Forman-Dolan, J., Caggiano, C., Anillo, I. and Kennedy, T. D. (2022). Burnout among professionals working in corrections: A two stage review. *International Journal of Environmental Research and Public Health*, 19, 9954. <https://doi.org/10.3390/ijerph19169954>

Fortescue, B., Fitzalan Howard, F., Howard, P., Kelly, G. and Elwan, M. (2021). *Examining the impact of sanctions on custodial misconduct following disciplinary adjudications*. London: Ministry of Justice Analytical Series.

Genschow, O., Noll, T., Wänke, M. and Gersbach, R. (2015). Does Baker-Miller pink reduce aggression in prison detention cells? A critical empirical examination. *Psychology, Crime and Law*, 21(5), 482-489.

Glazener, E. and Nakamura, K. (2020). Examining the link between prison crowding and inmate misconduct: Evidence from prison-level panel data. *Justice Quarterly*, 37(1), 109-131.

Griffin, M. L. and Hepburn, J. R. (2013). Inmate misconduct and the institutional capacity for control. *Criminal Justice and Behavior*, 40(3), 270-288.

Griffin, M. L., Hogan, N. L., Lambert, E. G., Tucker-Gail, K. A. and Baker, D. N. (2010). Job involvement, job stress, job satisfaction, and organizational commitment and the burnout of correctional staff. *Criminal Justice and Behavior*, 37(2), 237-255.

Hacin, R. and Meško, G. (2018). Prisoners' perception of legitimacy of the prison staff: A qualitative study in Slovene prisons. *International Journal of Offender Therapy and Comparative Criminology*, 62(13), 4332-4350.

Hausam, J., Lehmann, R. J. B. and Dahle, K.-P. (2018). Predicting offenders' institutional misconduct and recidivism: The utility of behavioral ratings by prison officers. *Frontiers in Psychiatry*, 9, art. no. 679.

Hausam, J., Lehmann, R. J. B. and Dahle, K.-P. (2020). A person-centred approach to prison behavior based on officers' observations: Relations to risk, prison misconduct, and recidivism. *Frontiers in Psychiatry*, 11, art. no. 241.

Hogan, N. L., Lambert, E. G. and Barton-Bellessa, S. M. (2012). Evaluation of CHANGE, an involuntary cognitive program for high-risk inmates. *Journal of Offender Rehabilitation*, 51(6), 370–388.

Howard, M. V. A., Corben, S. P., Raudino, A. and Galouzis, J. J. (2020). Maintaining safety in the prison environment: A multilevel analysis of inmate victimisation in assaults. *International Journal of Offender Therapy and Comparative Criminology*, 64(10-11), 1091-1113.

Isenhardt, A. and Hostettler, U. (2020). Inmate violence and correctional staff burnout: the role of sense of security, gender, and job characteristics. *Journal of Interpersonal Violence*, 35(1-2), 173-207.

Irwin, J. and Cressey, D. R. (1962). Thieves, Convicts and the Inmate Culture, *Social Problems*, Volume 10, Issue 2, Autumn 1962, Pages 142–155.

Jaspers, S.Ø., Andersen, D.R., Karlsen, I.L., Pedersen, A.H.M., Andersen, L.P.S., Conway, P.M., Aust, B. and Dyreborg, J. (2022). Contextualizing violence prevention - how contextual aspects influence the implementation of a violence prevention initiative in prisons and psychiatry. *Scandinavian Journal of Work and Organizational Psychology*, 7 (1), 4, 1-16. doi: <https://doi.org/10.16993/sjwop.141>

Kerekes, N., Apelqvist, S., Fielding, C., Anckarsäter, H. and Nilsson, T. (2018). The Prison Adjusted Measure of Aggression (PAMA): Psychometric characteristics of a new tool measuring change in aggressive behaviors in correctional settings. *Psychiatry Research*, 263, 130-138.

Kiriakidis, S. P. (2010). Bullying in penal settings: Empirical findings and suggestions for future research. *Journal of Behavior Analysis of Offender and Victim: Treatment and Prevention*, 2(2), 124-133.

Labrecque, R. M. (2021). Interpersonal violence and institutional misconduct in the Los Angeles County jail system: A mixed method investigation. *International Journal of Offender Therapy and Comparative Criminology*, 65(13-14), 1520-1535.

Labrecque, R. M. and Smith, P. (2019). Assessing the impact of time spent in restrictive housing confinement on subsequent measures of institutional adjustment among men in prison. *Criminal Justice and Behavior*, 46(10), 1445–1455.
<https://doi.org/10.1177/0093854818824371>

Lerman, A. E. and Harney, J. (2019). Feedback effects and the criminal justice bureaucracy: Officer attitudes and the future of correctional reform. *Annals of the American Academy of Political and Social Science*, 685(1), 227-249.

- Lerman, A. E., Harney, J. and Sadin, M (2022). Prisons and mental health: Violence, organizational support, and the effects of correctional work. *Criminal Justice and Behavior*, 49(2), 181-199.
- Listwan, S. J., Daigle, L. E., Hartman, J. L. and Guastaferro, W. P. (2014). Poly-victimization risk in prison: The influence of individual and institutional factors. *Journal of Interpersonal Violence*, 29(13), 2458-2481.
- Lugo, M., Wooldredge, J., Pompoco, A., Sullivan, C. and Latessa, E. J. (2019). Assessing the impact of unit management programs on institutional misconduct and prison “returns”. *Justice Quarterly*, 36(1), 59–92.
- Maglinger, L. W., Hughey, A.W. and Burke, M. G. (2013). Assessing the efficacy of a modified therapeutic community on the reduction of institutional write-ups in a medium security prison. *US-China Education Review B*, 3(7), 538–547.
- Majid, U. and Vanstone, M. (2018). Appraising qualitative research for evidence syntheses: A compendium of quality appraisal tools. *Qualitative Health Research*, 28(13), 2115-2131.
- Mason, R., Smith, M., Onwuegbusi, T. and Roberts, A. (2022). New psychoactive substances and violence within a UK prison setting. *Substance Use and Misuse*, 57(14), 2146-2150.
- McDougall, C., Pearson, D.A.S., Willoughby, H. and Bowles, R.A. (2013). Evaluation of the ADViSOR project: Cross-situational monitoring of high-risk offenders in prison and the community. *Legal and Criminological Psychology*, 18(2), 205-228.
- McGuire, J. (2018). *Analytical Summary: Understanding Prison Violence: A Rapid Evidence Assessment*. London: Ministry of Justice Analytical Series.
- McNeeley, S. (2021). Situational risk factors for inmate-on-staff assaults. *Prison Journal*, 101(3), 352-373.

Meško, G. and Hacin, R. (2019). Social distance between prisoners and prison staff. *Prison Journal*, 99(6), 706-724.

Meyers, T. J., Infante, A. and Wright, K. (2018). Addressing serious violent misconduct in prison: Examining an alternative form of restrictive housing. *International Journal of Offender Therapy and Comparative Criminology*, 62(14), 4585–4608.
<https://doi.org/10.1177/0306624X18778451>

Miller, O., Bruenig, D. and Shakespeare-Finch, J. (2022). Well-being in frontline correctional officers: A mixed-method systematic review. *Criminal Justice and Behavior*, 49(11), 1559-1579.

Ministry of Justice (2021). *Prisons Strategy White Paper*. CP 581. London: HMSO.

Ministry of Justice (2022). *Prisons Strategy White Paper: Response to Consultation Questions*. CP 686. London: HMSO.

Ministry of Justice (2025). Safety in Custody Statistics, England and Wales, London - [Safety in Custody Statistics, England and Wales: Deaths in Prison Custody to June 2025 Assaults and Self-harm to March 2025 - GOV.UK](#).

Moran, D., Jones, P. I., Jordaan, J. A. and Porter, A. E. (2021). Does nature contact in prison improve wellbeing? Mapping land cover to identify the effect of greenspace on self-harm and violence in prisons in England and Wales. *Annals of the American Association of Geographers*, 111(6), 1779-1795.

Morris, R. (2016). Exploring the effect of exposure to short-term solitary confinement among violent prison inmates. *Journal of Quantitative Criminology*, 32(1), 1–22.

Muzavazi, C. (2016). Violence at work in prison establishments: a preliminary study. *Journal of Criminological Research, Policy and Practice*, 2(4), 250-259.

- Nadkarni, N. M., Hasbach, P. H., Thys, T., Crockett, E. G. and Schnacker, L. (2017). Impacts of nature imagery on people in severely nature-deprived environments. *Frontiers in Ecology and the Environment*, 15(7), 395-403.
- Newton, M. (2010). Changes in prison offending among residents of a prison-based therapeutic community. In R. Shuker and E. Sullivan (eds.), *Grendon and the Emergence of Forensic Therapeutic Communities*. Chichester: Wiley. Pp.281-292.
- Pérez, D. M., Gover, A. R., Tennyson, K. M., Santos, S. D. (2010). Individual and institutional characteristics related to inmate victimization. *International Journal of Offender Therapy and Comparative Criminology*, 54(3), 378-394.
- Perry, A. E., Waterman, M. G., Dale, V., Moore, K. and House, A. (2021). The effect of a peer-led problem-support mentor intervention on self-harm and violence in prison: An interrupted time series analysis using routinely collected prison data. *EClinical Medicine*, 32, <https://doi.org/10.1016/j.eclinm.2020.100702>
- Pompoco, A., Wooldredge, J., Lugo, M., Sullivan, S. and Latessa, E. A. (2017). Reducing inmate misconduct and prison returns with facility education programs. *Criminology and Public Policy*, 16(2), 515-547.
- Pope, L., Wakeling, H., Box, G., Avis, S., Travers, R., Mann, R. and George, R. (2020). *Body Worn Video Camera (BWVC): Pilot Evaluation*. Ministry of Justice Analytics Series, HM Prison and Probation Service.
- Randol, B.M. and Campbell, C.M. (2017). Macro-correlates of inmate violence: The importance of programming in prison order. *Prison Journal*, 97(4), 451-474.
- Ricciardelli, R. and Perry, K. (2016). Responsivity in practice: Prison officer to prisoner communication in Canadian provincial prisons. *Journal of Contemporary Criminal Justice*, 32(4), 401-425

Ricciardelli, R. and Sit, V. (2016). Producing social (dis)order in prison: The effects of administrative controls on prisoner-on-prisoner violence. *Prison Journal*, 96(2), 210-231.

Rocheleau, A. M. (2015). Ways of coping and involvement in prison violence. *International Journal of Offender Therapy and Comparative Criminology*, 59(4), 359-383.

Sanhueza, G. E., Pérez, F., Candia, J. and Urquieta, M. A. (2021). Inmate-on-inmate prison violence in Chile: The importance of the institutional context and proper supervision. *Journal of Interpersonal Violence*, 36(23-24), NP13391-NP13414.

Schreiber, J. B. and Griffin, B. W. (2004). Review of multilevel modelling and multilevel studies in the Journal of Educational Research (1992-2002). *Journal of Educational Research*, 98(1), 24-34.

Silver, I. A. and Nedelec, J. L. (2018). Ensnarement during imprisonment: Re-conceptualizing theoretically driven policies to address the association between within-prison sanctioning and recidivism. *Criminology and Public Policy*, 17(4), 1005-1035.

Sorensen, J. R., Cunningham, M. D. Vigen, M. P. and Woods, S. O. (2011). Serious assaults on prison staff: A descriptive analysis. *Journal of Criminal Justice*, 39, 143-150.

Steiner, B., and Wooldredge, J. (2009). Rethinking the link between institutional crowding and inmate misconduct. *Prison Journal*, 89(2), 205-233.

Steiner, B. and Wooldredge, J. (2014). Sex differences in the predictors of prisoner misconduct. *Criminal Justice and Behavior*, 41(4), 433–452.

Steiner, B. and Wooldredge, J. (2015). Individual and environmental sources of work stress among prison officers. *Criminal Justice and Behavior*, 42(8), 800-818.

Stephenson, T., Leaman, J., O'Moore, É., Tran, A. and Plugge, E. (2021). Time out of cell and time in purposeful activity and adverse mental health outcomes amongst people in prison: a literature review. *International Journal of Prisoner Health*, 17(1), 54-68.

- Sydes, M., Dodd, S. and Antrobus, A. (2022). Body cameras behind bars: Exploring correctional officers' feelings of safety with body worn cameras. *Criminology and Criminal Justice*, 22(2), 323-342.
- Tahamont, S. (2019). The effect of facility security classification on serious rules violation reports in California prisons: A regression discontinuity design. *Journal of Quantitative Criminology*, 35, 767-796.
- Thompson, B., Diamond, K. E., McWilliam, R., Snyder, P. and Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children*, 71(2), 181-194.
- Trammell, R., Cook, A. R., Marquez, M. V. D., Hinkle, P., Protze, L. M. and Rodriguez, N. (2018). From procedural justice to procedural injustice: Understanding prison staff and inmate conflict. *Howard Journal of Crime and Justice*, 57(4), 537-555.
- Trammell, R. and Rundle, M. (2015). The inmate as the nonperson: Examining staff conflict from the inmate's perspective. *Prison Journal*, 96(4), 472-492.
- Trulson, C. R., DeLisi, M. and Marquart, J. W. (2011). Institutional misconduct, delinquent background and rearrest frequency among serious and violent delinquent offenders. *Crime and Delinquency*, 57 (5), 709-731.
- Thompson, B., Diamond, K. E., McWilliam, R., Snyder, P. and Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children*, 71(2), 181-194.
- Vandenbroucke, J. P., von Elm, E., Altman, D. G., Gøtzsche, P. C., Mulrow, C. D., Pocock, S. J., Poole, C., Schlesselman, J. J. and Egger, M., for the STROBE Initiative (2014). Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and elaboration. *International Journal of Surgery*, 12, 1500-1524.

Vogel, J., Sauter, J., Vogel, B.-O. and Dahle, K.-P. (2020). Targeting misconduct in prison by modifying occupational factors in correctional facilities. *Frontiers in Psychiatry*, 11, Article 517. doi: 10.3389/fpsy.2020.00517

Weinrath, M., Tess, C. and Willows, E. (2021). Prison misconduct and the use of alternative resolutions by correctional officers in therapeutic communities and other custody units. *International Journal of Offender Therapy and Comparative Criminology*, 65, 1-22. <https://doi.org/10.1177/0306624X211049196>

Wilson, N.J. and Tamatea, A. (2010). Beyond punishment: Applying PRISM in a New Zealand maximum security prison. *International Journal of Forensic Mental Health*, 9(3), 192-204.

Wooldredge, J. (2020). Prison culture, management, and in-prison violence. *Annual Review of Criminology*, 3, 165-188.

Worthey, A., Thomas, A., Jones, C., Abuzeid, A. and White, C.Q. (2022). Violence in incarcerated populations: a review of the literature. *Current Trauma Reports*, 8(3), 172-178.