



Exploring Prison Misconduct and the Factors Influencing Rule Infraction in Northern Ireland

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Abstract

Research has linked prison misconduct to reoffending and re-entry experiences, yet no studies have sought to examine the factors influencing misconduct in Northern Ireland or if these factors operate differently for separated prisoners (those claiming their offences are politically motivated and demanding to be held separately to the rest of the prison population) compared to the general prison population. This study addresses this gap by examining the characteristics related to misconduct in Northern Ireland. Using a cross-sectional sample of 892 imprisoned adult men, the findings indicate that increased involvement in misconduct is associated with multiple needs. Younger age, racial/ethnic identity, accommodation issues, addiction, impairments, property offences, previous incarceration, prison complaints, not having a drug test and engagement/suspected engagement in serious self-harm while imprisoned increased the risk of misconduct. Reporting a nationality other than British, Irish or Northern Irish, passing prison drug tests and prison visitation lowered the risk of misconduct. Factors were found to operate in a similar manner for both the general prison population and separated prisoners, with the exception of prison complaints. Given the link between misconduct and reoffending, it is argued that specialist supports are required to address the multiple needs of those who frequently engage in misconduct if efforts to reduce recidivism are to be enhanced.

Keywords Prisoners · Prison misconduct · Rule infraction · Corrections · Rehabilitation

Prison misconduct affects the level of order and control within prison so understanding how to reduce misconduct may improve safety, as well as lessen violence and disorder (Bottoms, 1999; Rocheleau, 2013; van der Laan & Eichelsheim, 2013). Involvement in

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misconduct can also predict reoffending, signal desistance intentions and influence re-entry experiences (Brunton-Smith & Hopkins, 2013; Cochran & Mears, 2017; Cochran et al., 2014; Trulson et al., 2011). As individuals who engage in misconduct are more likely to reoffend, understanding the factors driving their misconduct may help inform efforts to reduce reoffending (Brunton-Smith & Hopkins, 2013; Cochran et al., 2014; Trulson et al., 2011). Additionally, involvement in misconduct may signal a disinclination to desist, potential challenges in adhering to supervision conditions and monitoring arrangements upon re-entry, as well as further 'ensnare' individuals in an antisocial lifestyle (Clark & Duwe, 2019; Cochran & Mears, 2017; Silver & Nedelec, 2018). For these reasons, researchers are interested in understanding the characteristics associated with misconduct. To date, much of this research has been conducted in North America (e.g. Berg & DeLisi, 2006; Cochran, 2012; Cunningham & Sorensen, 2007; Day et al., 2015; Delisi, 2003; Drury & DeLisi, 2011; Harer & Steffensmeier, 1996; Siennick et al., 2013; Steiner & Wooldredge, 2009, 2014; Trulson et al., 2010). While this research has played a key role in identifying potential risk factors for misconduct, the extent to which these factors are generalisable to other jurisdictions needs investigation, given the diversity that can exist between different countries, their cultures, prison populations, sentencing practices and prison conditions. Increasingly, studies are investigating the factors influencing misconduct in jurisdictions beyond North America (Beijersbergen et al., 2015; Bosma et al., 2020; Kuo, 2020; Reisig & Mesko, 2009).

This paper adds to this growing scholarship and contributes to new knowledge in two ways. Firstly, it examines whether previously identified risk factors for misconduct are generalisable to Northern Ireland (NI), as no previous studies have sought to identify the factors associated with misconduct in the Northern Ireland Prison Service (NIPS). Secondly, as NIPS continues to detain people who claim their offences are politically motivated and demand to be held separately to the rest of the prison population, this study provides an opportunity to examine if the factors influencing misconduct for this group operate differently to the rest of the prison population. Given the link between involvement in misconduct and reoffending, the findings are then used to offer suggestions for how the current management of misconduct may be amended to enhance efforts to reduce recidivism.

Risk Factors for Prison Misconduct

Prison misconduct can be defined as behaviour which violates prison rules (Delisi, 2003; Steiner & Wooldredge, 2014; Trulson et al., 2010). Prison misconduct can be assessed using official and self-report measures (Steiner & Wooldredge, 2014). Official measures assess how often someone has been found guilty of prison rule infraction through the prison disciplinary system, while self-report measures assess individuals' recollections of past involvement in misconduct (Bosma et al., 2020; Steiner & Wooldredge, 2014). Official measures may underestimate misconduct due to under-reporting and differences in recording and enforcement practices, while self-reporting may underestimate misconduct due to recollection or social desirability biases (Bosma et al., 2020; Bottoms, 1999; Steiner & Wooldredge, 2014). Studies suggest that official measures may underestimate verbal misconduct (e.g. being disrespectful, threatening, abusive or insulting to others), while self-report measures may underestimate contraband offences (e.g. possession of a prohibited item) (Bosma et al., 2020; Steiner & Wooldredge, 2014). When examining the differences between self-report and official measures, Steiner and Wooldredge (2014: 1097) conclude

that there are 'many more similarities than differences in the direction and magnitude of effects estimated with self-report vs. official data. Accordingly, researchers and practitioners should feel reasonably confident about the validity of the findings from studies of either data source'.

Research indicates that most (though not all) people engage in misconduct but only a few engage in frequent and/or serious misconduct (DeLisi, 2003; Trulson et al., 2010). Prominent theories explain misconduct as occurring due to environmental factors, individual factors or a combination of both (Blevins et al., 2010; Morris et al., 2012; Steiner et al., 2014). For instance, deprivation theory emphasises the role of prison environmental factors on behaviour (Sykes, 1958; Steiner et al., 2014). Studies support this perspective, with research identifying a number of risk factors for misconduct linked to the different characteristics of prison establishments, including their regime, climate, conditions, staffing levels and availability of work/rehabilitative programmes (Bosma et al., 2020; Dâmboeanu & Nieuwbeerta, 2016; Glazener & Nakamura, 2020; Lahm, 2009; Steiner & Wooldredge, 2009; Steiner et al., 2014). Managerialist theories similarly focus on prison conditions but emphasise the role that management and staff play in influencing behaviour (Colvin, 1992; Dilulio, 1987). According to this perspective, variations in misconduct are attributable to differences in management and staff practices (Steiner et al., 2014). Research supports this view, with staff-prisoner relationships, perceptions of procedural justice, use of coercive disciplinary practices, inconsistent/unclear rules and the submission of prison complaints found to be risk factors for misconduct (Beijersbergen et al., 2015; Bierie, 2013; Bosma et al., 2020; Day et al., 2015; Reisig & Mesko, 2009; Steiner et al., 2014).

In contrast, importation theory emphasises the role that individual factors play in explaining behaviour (Irwin & Cressey, 1962). Based on this perspective, involvement in misconduct is attributed to the experiences, attitudes, beliefs and psychological characteristics individuals import into prison with them (Steiner et al., 2014). Numerous studies support this theory, finding many individual factors to be risk factors for misconduct. For instance, age, previous criminal offences, gang membership, substance misuse/addiction, mental health, brain/head injury, neighbourhood deprivation and past imprisonment are risk factors for involvement in misconduct (Cunningham & Sorensen, 2007; Drury & DeLisi, 2011; Kuanliang et al., 2008; Schenk & Fremouw, 2012; Steiner & Wooldredge, 2009; Steiner et al., 2014). Results are mixed on whether race and ethnicity are a risk factor for misconduct, with some studies arguing that race and ethnicity are significant while others find no significant relationship (Berg & DeLisi, 2006; Bottoms, 1999; Gaes et al., 2002; Harer & Steffensmeier, 1996; Wright, 1989). Moreover, research indicates that individual factors remain important risk factors for misconduct even when environmental factors are controlled for, suggesting the key role individual variation may play in explaining misconduct when individuals are exposed to similar situations (Bosma et al., 2020; Dâmboeanu & Nieuwbeerta, 2016; Drury & DeLisi, 2011; Lahm, 2009; Steiner & Wooldredge, 2009; Steiner et al., 2014). Of course, a focus solely on individual factors can lead to environmental factors being minimised and Irwin and Cressey (1962) recognised the need to consider environmental factors when developing the importation theory.

Researchers have started to integrate these perspectives and draw parallels to the theories used to explain general offending behaviour (Blevins et al., 2010; Steiner, 2018). For example, general strain theory proposes that people are usually compliant but engage in rule infractions in response to strain (Agnew, 2001; Steiner, 2018). This perspective proposes that prison conditions highlighted by the deprivation and managerialist approaches can act as a source of strain, with individual factors influencing how people adapt to this strain and the coping strategies they employ (Blevins et al., 2010; Morris et al., 2012;

Wooldredge, 2020). These coping strategies may include engaging in drug use, violence, self-harm or seeking support from others (Rocheleau, 2013; Sykes 1958; van der Laan & Eichelsheim, 2013; Wooldredge, 2020). Some of these coping strategies involve rule infractions (e.g. using drugs or engaging in violence), while others (such as seeking support through prison visitation) are thought to reduce misconduct, although the effects of visitation on misconduct can vary (Cochran, 2012; Siennick et al., 2013; Steiner et al., 2014).

Prison Misconduct in Northern Ireland

NI has a small prison population and a lower rate of imprisonment when compared to other jurisdictions (ICPR, 2020). The NIPS consists of four prisons (two adult male prisons, one female prison and a prison for young men) (NIPS, 2020). Similar to other jurisdictions, the prison population predominately consists of adult males, although a slightly higher percentage are on pre-trial detention/remand and are foreigners when compared to other jurisdictions (ICPR, 2020). The conditions, regime and management of NI prisons are also comparable to other Western, democratic jurisdictions (Butler, 2016). However, the history of conflict in NI has meant that nationality and religion played a greater role in shaping identity, diversity and equality than experienced elsewhere (Harvey, 2012; O'Dowd et al., 1980). Since the creation of NI, the conflict has arisen over whether NI should remain in the United Kingdom or form a United Ireland, with religion and nationality often used as an indicator of political ideology (Harvey, 2012; O'Dowd et al., 1980). As those in power sought to consolidate their position and reduce threats to NI's position in the United Kingdom, discriminatory practices sometimes emerged based on religion and nationality, shaping people's identity, experiences of equality and perceptions of state officials (Harvey, 2012; O'Dowd et al., 1980). Within this context, paramilitary groups were formed and involved in policing communities, crime, protest and conflict (Knox, 2002; Hogg & Butler, 2018). This history has resulted in the main 'gangs' operating in the community and within NIPS being paramilitary-related, reflecting the historical tensions surrounding politics, nationality and religious identity in NI (Butler, 2020; Butler et al., 2018; Hogg & Butler, 2018; Hourigan et al., 2018). Presently, NIPS holds a small number of 'separated prisoners' (roughly 4% of the average daily prison population) who are paramilitary members, claim their offences are politically motivated and demand to be held separately to the rest of the prison population (Butler, 2020; Criminal Justice Inspection Northern Ireland, 2016).

Within NIPS, misconduct is defined as behaviour which violates prison rules and can include behaviours such as assaults; fighting; escape; escape attempts; fire setting; possession of a prohibited item (e.g. drugs, weapons); manufacturing, consuming, selling or buying drugs; disobeying an order; being disrespectful, threatening, abusive or insulting to others; offending against good order or discipline and/or inciting others to commit an offence (NIPS, 2010a, b). When NIPS staff charge a person with misconduct, there is an investigation with all parties presenting evidence in an adjudication hearing (NIPS, 2007). The purpose of this process is to help maintain order, control, discipline and a safe environment, as well as ensure the use of authority in prison is lawful, reasonable and fair (NIPS, 2007). If found guilty, a punishment is awarded in accordance with the guidelines issued by NIPS authorities (NIPS, 2007). The punishments imposed include a caution; stoppage of earnings; stoppage of any or all privileges; exclusion

from associated work; cellular confinement or some combination of the above (NIPS, 1995, 2007). Punishments are supposed to be imposed in a consistent manner, be proportionate to the offence, take account of the person's general conduct, consider the effect of the behaviour on the regime, general order and discipline of the prison, as well as discourage the person and others from repeating this behaviour (NIPS, 2007). However, concerns have been raised that as adjudication hearings are primarily punishment focused, they may miss opportunities to promote change and rehabilitation (Fitzalan Howard, 2017; Fitzalan Howard & Wakeling, 2020).

The Present Study

The present study investigates the factors associated with involvement in officially recorded misconduct for adult men in NIPS. More specifically, it examines the robustness and validity of previously identified risk factors by investigating their applicability to the NI context. Special attention is paid to whether the factors influencing misconduct for the general prison population operate in a similar manner for all adult men imprisoned in NIPS or if these factors operate differently for separated prisoners. Based on the findings, it is argued that whilst many risk factors are sufficiently robust to be generalisable to the NI context, differences do emerge suggesting that cultural context does matter.

Methodology

Data

The present study utilised anonymised administrative cross-sectional data collected by NIPS. The dataset contained rich information on several previously identified risk factors for misconduct that captured accumulated official information on individuals for the entirety of their imprisonment in NIPS. Although measures on the changing nature of prison conditions, staffing levels and the attitudes and experiences of those imprisoned were outside the scope of the dataset, administrative data can provide an exact record of official measures of misconduct, offence history, prison drug test results, etc., that otherwise risk recall or social desirability bias. Moreover, administrative data has proven to provide valid rich data and is frequently used to investigate misconduct internationally (Berg & DeLisi, 2006; Bosma et al., 2020; Cunningham & Sorensen, 2007; Kuanliang et al., 2008; Steiner & Wooldredge, 2014; Steiner et al., 2014).

The analytic sample captures the full population of all 892 adult males detained in Maghaberry prison on 22 November 2017. There are only two adult male prisons in NI, Maghaberry and Magilligan prison. Maghaberry is the larger of the two and holds all high security, remand and separated male prisoners (NIPS, 2020). Of the 892 population sample, 38 were categorised as separated prisoners. All adult males entering NIPS are first committed to Maghaberry, with those with a lower security risk and fewer than 6 years remaining on their sentence potentially being transferred to the smaller Magilligan prison at a later date (NIPS, 2020). Based on NIPS statistics for 20,017/2018, the sample captured about 69% of the total average adult male daily prison population (NISRA, 2018).

Measures

The dataset contained measures of misconduct, demographic and socioeconomic information (age, race/ethnicity, nationality, religion and neighbourhood deprivation), medical history, offence history and a number of prison-related variables (separated prisoner, prison complaints, prison visitation, the proportion of prison drug tests passed, referrals to the Supporting Prisoners at Risk (SPAR) process, periods of incarceration and days spent imprisoned). It is important to note that the prison-related variables and the measure of misconduct captured information about participants for the entirety of their imprisonment in NIPS and therefore represented participants' behaviour across all three male prisons in NIPS (including the two adult male prisons and prison for young men) up until 22 November 2017.

Prison Misconduct Misconduct is the dependent variable taken from the official NIPS records capturing the total number of times an individual was found guilty of prison rule infraction through the prison disciplinary system. Unfortunately, the nature of the dataset did not allow distinctions to be drawn between different categories of misconduct or their seriousness.

Age Age was measured in years and an age squared variable was included to account for the curvilinear relationship observed between age and misconduct.

Race/Ethnicity Participants were recorded as 'white, excluding Travellers' and 'non-white or a Traveller' based on reported race/ethnicity. Due to small numbers, non-white were collapsed into one group and Travellers were included with non-whites as they are recognised as a distinct racial group in NI under the race relations (Northern Ireland) Order 1997.

Nationality Due to the history of conflict in NI, nationality is a key marker of identity and can shape attitudes towards state officials. For example, people in NI who identify as 'Irish' can be more likely to hold negative attitudes towards criminal justice agencies and less likely to work in these organisations (Deloitte, 2016; Ellison & Smyth, 2000; O'Dowd et al., 1980). Nationality was measured by participants self-identifying as one of the following: 'Irish', 'British', 'Northern Irish' or 'Other nationality'.

Religion Religion is a meaningful characteristic in NI which captures identity rather than religiosity. This is due to the historical context, with people often treated differently during the conflict depending on their religious identity (Harvey, 2012). Religion was measured as a categorical variable with participants identified as 'Catholic', 'Protestant' or 'Other religion'.

Neighbourhood Deprivation To obtain a measure of neighbourhood deprivation, NI postcodes prior to incarceration were matched to the NI Multiple Deprivation Measures 2017 (NISRA, 2017). NI is divided into 890 small areas and the neighbourhood deprivation measure ranks these from 1–890 (NISRA, 2017). The rankings were reverse coded for ease of interpretation, with higher values indicating higher levels of neighbourhood deprivation. Of the 892 participants, 723 had NI postcodes, while 169 participants did not as they had no fixed abode ($n=109$, 12%), their address was unknown ($n=31$, 4%) or they reported an address outside of NI ($n=29$, 3%). As these 169 participants were not random,

observations for these cases were imputed from the average deprivation rank and a separate dummy variable was included to flag these as missing. Robustness checks showed no notable differences when excluding or including this group. Notably, most people in NI stay in the same postcode and those that do move usually relocate short distances to areas with similar deprivation rankings (Shuttleworth et al., 2013).

Medical History Information about participants' self-declared medical history was captured in the dataset and recoded into six measures on history of mental health issues; head injury/epilepsy; behavioural issues; impairments (including hearing, vision, speech or communication); addiction and self-harm. Each measure was recoded into a dummy variable, with 'Yes' or 'No' indicating a history of experiencing that issue on committal.

Offence History Involvement in four different types of offences (violence, property, drugs and other offences) was captured, with each measure dichotomised to indicate if participants had or had not engaged in a history of that particular type of offence.

Separated Prisoner Information on whether individuals were claiming their offence was politically motivated and demanding to be held separately to the rest of the prison population was contained in the dataset. This information was coded as a dummy variable with 'Yes' and 'No' used to indicate separated prisoner status.

Prison Complaints The dataset also contained information about the number of official complaints participants had submitted to NIPS. This information was included as a continuous variable, as previous research had identified prison complaints as a possible risk factor for misconduct (Bierie, 2013). An interaction term was included in the analysis to examine if the relationship between complaints and misconduct varied depending on separated prisoner status. Previous research indicates that separated prisoners are more likely to complain and use the complaints process as a means of resisting the prison regime (McEvoy, 2001; Prisoner Ombudsman for Northern Ireland, 2019). Furthermore, preliminary analysis detailed in the results below highlighted a possible interaction with separated prisoners.

Prison Visitation Additionally, past studies link prison visitation to misconduct (Cochran, 2012; Siennick et al., 2013; Steiner et al., 2014). For this reason, information on the number of prison visits participants had attended was included as a continuous variable in the analysis.

Proportion Prison Drug Tests Passed The anonymised administrative dataset contained information on the proportion of prison drug tests participants had passed (ranging from 0 (none) to 1 (all)), which provided information on individuals' use of illicit substances in contravention of prison rules. NIPS does not administer drug tests during the first 30 days of an individual's imprisonment (NIPS, 2010a, b). As such, there were a number of participants ($n=100$, 11%) who had not yet taken a drugs test or had refused a drug test. To keep the measure as continuous, these missing cases were imputed as 1 as this was the highest mode response by a notable degree (42.68%). The measure described below identifies the imputed cases and preliminary analysis excluding this group showed no notable changes in the analysis.

No Completed Drug Test To flag those imputed in the previous variable, this measure identified those who had not completed a drug test either because they were within their first 30 days of imprisonment and had not yet received a test or had refused a drug test. Importantly, refusing a drug test does not mean that participants would have failed the test as separated prisoners routinely refuse these tests on principle that they should not be subjected to drug testing.

Supporting Prisoners at Risk Referrals Within NIPS, individuals are referred under the Supporting Prisoners at Risk (SPAR) process if they engage in serious incidents of self-harm, attempt to take their own life or if staff express concerns that they are very likely to engage in/attempt serious self-harm (Sudgen, 2016). The number of times individuals were referred under the SPAR process was included in the analysis as a continuous variable.

Periods of Incarceration Experience of custody has been identified as a possible risk factor for misconduct (Cunningham & Sorensen, 2007; Schenk & Fremouw, 2012; Steiner et al., 2014). This information was included as a continuous variable indicating the number of times that participants had been imprisoned.

Days Spent Imprisoned Lastly, the total days spent imprisoned in NIPS were included as a continuous variable. This variable was included as a control variable, as days spent imprisoned influenced the opportunities participants had to amass misconduct, submit complaints, attend prison visits or acquire SPAR referrals. The Stata command `exposure` was used, which adjusted the risk output for days spent imprisoned when exposure times vary; the command takes the log of days spent imprisoned and includes it as a constant set at 1 (see Hilbe, 2011).

Procedure

Permission to access the dataset and ethical approval to conduct the research was obtained from NIPS and Queen's University Belfast (QUB). NIPS and the QUB researchers discussed what information was routinely captured by NIPS Prison Records Information Management System (PRISM) to identify variables of interest. It was agreed that an anonymised dataset containing the variables of interest would be provided to the QUB researchers for analysis, with the findings used to inform NIPS prison policies and practices. A 'snapshot' of all those imprisoned in Maghaberry prison on 22 November 2017 was taken to generate the dataset and a prison employee, familiar with conducting research, was assigned to work with the QUB researchers to collate the information from PRISM into an anonymised dataset. This ensured that only prison personnel had access to the PRISM system. The anonymised dataset was provided to the QUB researchers in an excel file format and was cleaned, coded and entered into STATA version 15 for analysis. Any queries that emerged were resolved through discussions with the NIPS employee, or management, where necessary.

Analytic Strategy

To determine the type of count regression that best fit the model, the `countfit` command in Stata was executed, which supported using a negative binomial regression (preferred for over-dispersed count dependent variables). Due to the nature of the data, involvement in

misconduct ranged from 0–217. The Stata exposure command was employed to account for varying days spent imprisoned, ranging from 3 to 15,837 days. To ensure that the use of a negative binomial regression and adjusting for time spent imprisoned adequately dealt with potential outliers, sensitivity tests were performed by excluding those cases with notably higher charges from the analysis. These preliminary tests showed nominal differences between the models, suggesting that the analysis was robust. The final model presented includes all cases.

Findings

Table 1 presents the descriptive statistics. The dependent variable prison misconduct had a mean of 8, median of 1, with a standard deviation (SD) of 18.6. Over a third (39.2%) of participants had not engaged in misconduct, while 31.3% had 1–5 incidents of misconduct, 20.4% between 5 and 25, 6.3% between 26 and 50 and 2.8% over 50. The average age was 35.3 years, with 7% identifying as non-white or a Traveller. Almost two-thirds identified as Northern Irish, 11.9% as Irish, 15.3% as British and 12% as ‘Other nationality’. Over half identified as Catholic, with 33.2% as Protestant and 14.6% as ‘Other religion’. In comparison to the general NI population, this over-represents non-white or a Traveller, Northern Irish and Catholic identities; however, this is consistent with the annual demographics of NIPS (NIPS, 2020). The average deprivation ranking was 609.1, indicating that participants predominately came from more deprived areas, which aligns with the characteristics of prison populations more generally (Wacquant, 2009). The vast majority had a NI post-code (81.1%).

Next, examining the proportion reporting medical conditions, the least common condition was behavioural issues indicated by 4.3% of the sample, whereas the most common were addiction (55.3%) and self-harm (52.6%). Mental health (36.5%), head injury (15.7%) and impairments (11.1%) fell in between these groups. For offence history, the most frequent offence was violence (85.5%), followed by property offences (52.5%), drug offences (28.0%) and other offences (36.8%). Four percent were separated prisoners, which reflects prior research (Butler, 2020). The mean number of complaints submitted was 19.8, median 1, with a SD of 86.5. The mean number of prison visits attended was 56.5, median 19, with a SD of 86.9. Participants had passed a mean proportion of 0.809 of prison drug tests (median=0.949, SD 0.25) or passed 81%. Mean SPAR referrals were 2.9, with a median of 0 and SD of 7.4. Mean periods of incarceration were 5.3, with a median of 3 and SD of 5.2. Only 11.2% had not completed a prison drugs test. The average number of days spent imprisoned was 1438.2, median of 765, with a SD of 1748.7. For prison visitation, complaints, SPAR referrals, days spent imprisoned and misconduct, most individuals fell at the lower ranges, with averages skewed right, which is a frequent occurrence with count measures.

Additional descriptives were executed separately by separated prisoner status to determine if separated prisoners had distinctly different characteristics than the general prison population. As the number of separated prisoners was small ($n=38$), the descriptives are not shown in Table 1 as some characteristics would indicate 100% or 1 person, which would inhibit the anonymity of the data. Some key differences between the groups were found. Separated prisoners were less likely to be non-white or a Traveller, ‘Other nationality’ or ‘Other religion’, which is not surprising considering the history of the conflict in NI. Similar percentages of Catholics, Northern Irish and British were observed across

Table 1 Descriptive statistics for entire sample ($n=892$)

Prison misconduct	%	Mean	SD	median	min	max
		8	18.6	1	0	316
Demographic background						
Age		35.3	10.6	33	21	89
Non-White or a Traveller	7					
<i>Nationality</i>						
Northern Irish	60.8					
Irish	11.9					
British	15.3					
Other	12					
<i>Religion</i>						
Catholic	52.2					
Protestant	33.2					
Other religion	14.6					
Deprivation		609.1	220.9	609.1	7	888
Deprivation missing		1.2	0.4			
Medical history						
Mental health	36.5					
Head injury/epilepsy	15.7					
Behavioural issues	4.3					
Impairments	11.1					
Addiction	55.3					
Self-harm	52.6					
Offence history						
Violence	85.5					
Property	52.5					
Drugs	28					
Other	36.8					
Prison-related characteristics						
Separated prisoners	4.3					
Prison complaints		19.8	86.5	1	0	908
Prison visitation		56.5	86.9	19	0	482
Proportion prison drug tests passed		.809	.25	.949	0	1
No completed drug test	11.2					
SPAR referrals		2.9	7.4	0	0	77
Periods of incarceration		5.3	5.2	3	1	44
Days spent imprisoned		1438.2	1748.7	765	3	15,837

both groups, while those identifying as Irish and Protestant were slightly more prevalent among separated prisoners compared to the general prison population. Separated prisoners also had far less reporting of medical conditions compared to the general population. For instance, addiction was reported among 24% of separated prisoners versus 57% of the general population. Similarly, the separated group had lower average SPAR referrals compared to the general population (0.34 compared to 2.97 respectively). Furthermore, separated

prisoners were less likely to have a history of committing property, drug or other offences, but were more likely to have committed a violent offence. Separated prisoners also had on average fewer periods of custody, spent more days incarcerated, attended more visits and had fewer incidents of misconduct. These differences support separated prisoners being a select group who tend to be incarcerated for particular offences, involving longer periods in custody. However, the most notable difference between the two groups was their average number of prison complaints. Among separated prisoners, the mean average number of prison complaints was 247.6 (SD 301.6) with a median of 79 and a range of 0 to 908. This was much lower among the general population, which had an average of 9.7 (SD 38.3) with a median of 1 and a range of 0 to 664. The distinctively higher average number of complaints among separated prisoners is likely due to this group using the complaints process as a means of resisting the prison regime.

To investigate which characteristics relate to misconduct, Table 2 presents the multivariate results. Due to the small population size of the separated prisoners, it was not feasible to execute a separate regression for this group. Preliminary analysis was conducted executing regressions with and without this group to determine if any of the risk factors influenced or behaved differently for this select group. This preliminary analysis pointed to complaints as the only risk factor revealing noticeable differences when taking account of this small group. An interaction term between complaints and separation status was therefore included to capture this relationship. The incidence rate ratio (IRR) for age (IRR=0.847) and age squared (IRR=1.001) suggests risk of misconduct decreases with age and plateaus at older ages. Those with a non-white or a Traveller racial/ethnic identity had a higher risk of misconduct (IRR=1.474) than those that were white, excluding Travellers. In other words, being non-white or a Traveller related to a 47% increased rate of misconduct. Among nationalities, only 'Other nationality' was significantly different, with those reporting an 'Other nationality' having a 50% lower rate of misconduct than those reporting a Northern Irish nationality (IRR=0.502). Those who did not have a NI postcode had higher risk of misconduct compared to those with a NI postcode (IRR=1.391). Some medical history measures were also positively related to misconduct, with those reporting a history of impairments (IRR=1.276) and addiction (IRR=1.231) having a higher risk of misconduct compared to those who did not report having a history of these conditions. Having a history of property offences also increased the risk of misconduct compared to those who had no history of that offence (IRR=1.284).

Prison complaints was positively related to misconduct (IRR=1.003), indicating that those who submit complaints are at a higher risk of misconduct. Separated prisoner status did not reach significance. However, the interaction term between separated prisoner status and complaints was significant (IRR=0.996). This indicates that the separated prisoners' use of the complaints process is distinctly different from the general prison population. In other words, the increase in misconduct with more complaints seen in the general prison population is not as pronounced among separated prisoners. To help illustrate the interaction, the 95% margins are presented in Fig. 1. This shows the predicted misconduct (y axis) for number of complaints. The predicted misconduct is estimated by increments of 25 complaints from 0 to 400. The range ends at 400 for visualisation purposes only. Due to smaller numbers of participants with complaints above 400 (about 30% of separated prisoners but only 2% in the general population), confidence intervals were wider and overlapped at the higher complaints values. Additionally, the scale better shows the difference in slopes at the lower ends where the difference is more robust. The pattern does continue in that misconduct in the general population continually increases as complaints increase, while there is a slight decline in misconduct at the higher level of complaints for separated prisoners.

Table 2 Negative binomial regression for prison misconduct $n=892$

	Coef		SE	95% CI	IRR
Age	-0.166	***	0.025	[-0.215, -0.117]	0.847
Age squared	0.001	***	0.000	[0.001, 0.002]	1.001
Non-White or a Traveller (<i>ref=White, excluding Travellers</i>)	0.388	*	0.194	[0.007, 0.769]	1.474
<i>Nationality (ref=Northern Ireland)</i>					
Irish	0.049		0.135	[-0.216, 0.315]	1.050
British	-0.147		0.125	[-0.393, 0.098]	0.863
Other	-0.689	**	0.215	[-1.110, -0.268]	0.502
<i>Religion (ref=Catholic)</i>					
Protestant	-0.148		0.097	[-0.338, 0.041]	0.862
Other religion	-0.220		0.142	[-0.498, 0.058]	0.803
Deprivation	0.000		0.000	[0.000, 0.000]	1.000
Deprivation missing (<i>ref=has NI postcode</i>)	0.330	**	0.103	[0.129, 0.532]	1.391
<i>Medical history (ref=does not report this condition)</i>					
Mental health	0.138		0.091	[-0.040, 0.316]	1.148
Head injury or epilepsy	0.099		0.105	[-0.107, 0.305]	1.104
Behavioural issues	-0.120		0.171	[-0.456, 0.215]	0.887
Impairments	0.244	<i>t</i>	0.131	[-0.014, 0.501]	1.276
Addiction	0.208	*	0.102	[0.008, 0.408]	1.231
Self-harm	0.070		0.099	[-0.124, 0.265]	1.073
<i>Offence history (ref=no history of committing this offence)</i>					
Violence	0.016		0.135	[-0.249, 0.282]	1.017
Property	0.250	**	0.091	[0.072, 0.427]	1.284
Drugs	0.004		0.089	[-0.171, 0.180]	1.004
Other	0.017		0.085	[-0.148, 0.183]	1.018
Separated prisoner (<i>ref=no</i>)	0.010		0.247	[-0.473, 0.493]	1.010
Prison complaints	0.003	*	0.001	[0.000, 0.005]	1.003
Separated status \times complaints	-0.004	**	0.001	[-0.006, -0.001]	0.996
Prison visits	-0.001	<i>t</i>	0.001	[-0.002, 0.000]	0.999
Proportion prison drug tests passed	-2.170	***	0.179	[-2.521, -1.820]	0.114
No completed drug test (<i>ref=no</i>)	1.100	***	0.214	[0.681, 1.520]	3.005
Number of SPAR referrals	0.026	***	0.005	[0.016, 0.037]	1.027
Periods of custody	0.020	*	0.008	[0.003, 0.036]	1.020
Constant	-0.569		0.534	[-1.616, 0.478]	0.566
LR chi2 (df)	611.11(27)				
Log likelihood	-1893.422				

$t p < .10$, $*p < .05$; $**p < .01$; $***p < .001$

In other words, complaints are not as steeply positively related to misconduct for separated prisoners than the rest of the prison population, which aligns with the context that this group may be engaging with the complaints process differently.

A negative relationship was also observed between visitation and misconduct (IRR=0.999), with each prison visit on average decreasing the rate of misconduct by 1%. The proportion of prison drug tests passed was negatively related to misconduct

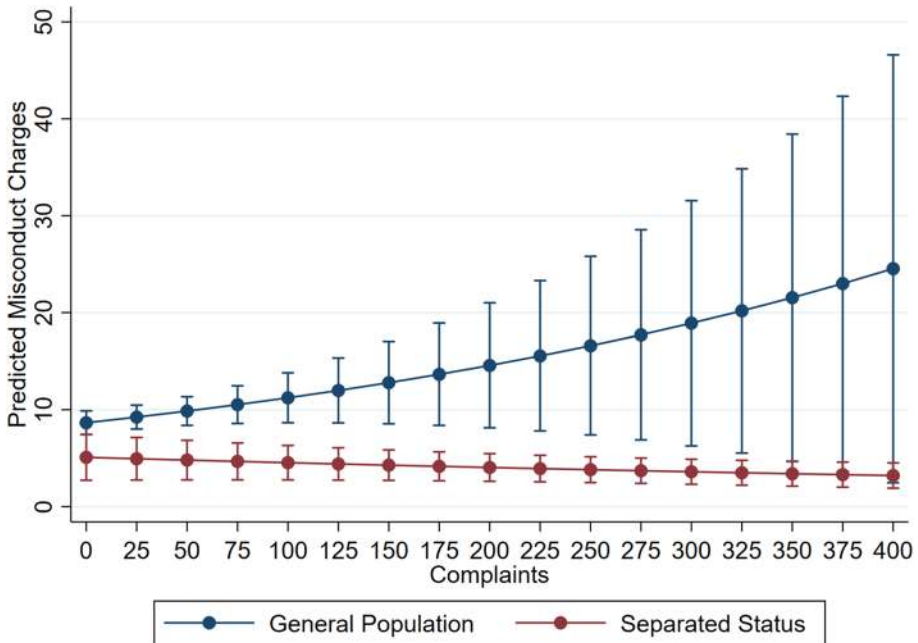


Fig. 1 Interaction between separated prisoner status and number of complainants: 95% predicted margins

(IRR=0.114), meaning on average those with a higher proportion of passed drug tests had a lower risk of misconduct. Those who had not completed a prison drugs test had a higher risk of misconduct than those who had completed a prison drugs test (IRR=3.005) and SPAR referrals were positively related to misconduct (IRR=1.027), with each SPAR referral increasing on average the rate of misconduct by 2.7%. Lastly, periods of incarceration were positively related to misconduct (IRR=1.020), with more periods of incarceration being associated with an increasing risk of misconduct.

Discussion

This study has identified several characteristics related to misconduct in NI. These findings support theoretical explanations emphasising both environmental and individual factors in explaining misconduct. In particular, it found that many of the previously identified risk factors for misconduct are sufficiently robust to be generalisable to NI and across all adult men imprisoned in NIPS, including separated prisoners. However, some differences emerged and are discussed below. The individual factors of age, race/ethnicity, nationality, not having a NI postcode and reporting a history of impairments, property offences and previous imprisonment were found to be significant. Prison-related experiences that were significant included the submission of complaints, visitation, prison drug tests and SPAR referrals. While a history of addiction was also significant, it is difficult to distinguish whether this should be considered an individual or environmental factor as the prison environment may contribute to the development of an addiction. These findings suggest that theories integrating both individual and environmental factors may be the most useful

in explaining misconduct. As in past studies, age, past imprisonment, substance misuse/addiction, mental health, previous criminal offences, prison complaints and visitation were found to be risk factors for misconduct (Bierie, 2013; Cochran, 2012; Cunningham & Sorensen, 2007; Kuanliang et al., 2008; Schenk & Fremouw, 2012; Siennick et al., 2013; Steiner et al., 2014), although these findings suggest that there is an association between engaging in serious self-harm in prison and misconduct rather than their history of mental health more generally. However, it is recognised that mental health prior to imprisonment may influence how people respond to the prison environment and their probability of engaging in serious self-harm while in prison; in supplemental analysis (not shown) having a mental health condition showed a positive relationship with misconduct and reached significance at the $p < 0.05$ level if SPAR referrals were excluded from the model. Moreover, the findings confirm a relationship between racial/ethnic identity and misconduct, supporting previous studies that have identified race and ethnicity as a risk factor (Berg & DeLisi, 2006; Bottoms, 1999; Harer & Steffensmeier, 1996), yet the findings contradict past studies showing a link between gang membership and misconduct, as well as neighbourhood deprivation and misconduct (e.g. Cunningham & Sorensen, 2007; Gaes et al., 2002; Steiner & Wooldredge, 2009; Steiner et al., 2014). Historically, separated prisoners focused on demanding separate detention conditions, political recognition of their offences and undermining the legitimacy of the State rather than controlling illegal prison markets, which tend to be the focus of prison gangs elsewhere (Butler, 2020; Butler et al., 2018; Skarbek, 2016). This particular history, alongside the small number claiming separated status, may explain why no relationship was found in contrast to previous research (e.g. Cunningham & Sorensen, 2007; Gaes et al., 2002; Steiner & Wooldredge, 2009; Steiner et al., 2014). Additionally, the differential use of prison complaints by separated prisoners can be explained by the tendency for these individuals to submit more complaints as a means of undermining the prison's legitimacy and resisting the prison regime (McEvoy, 2001; Prisoner Ombudsman for Northern Ireland, 2019). Future research is needed to investigate whether this finding is only applicable to NI, given the unique historical origins of this group. Further research is also required to examine if the absence of a relationship with deprivation is unique to NI.

The relationship observed between 'Other nationality' and misconduct may also reflect the particular role nationality has played in shaping behaviour and interactions with State officials in NI and/or a tendency for foreign nationals to experience more isolation and less engagement with prison life (Barnoux & Wood, 2013; Deloitte, 2016; Ellison & Smyth, 2000; Harvey, 2012; O'Dowd et al., 1980). More research is needed to explore this issue as nationality has not emerged in past studies as a risk factor for misconduct (Steiner et al., 2014). These findings largely confirm the robustness and validity of most previously identified risk factors for misconduct when applied to the NI context, while challenging some and identifying nationality as another possible risk factor to consider. Based on these results, it seems that while many risk factors may be generalizable, variations are evident suggesting that cultural context does matter.

The results also indicate that those who have multiple needs are more likely to be involved in misconduct. Similar to past studies, this research found that while some did not engage in misconduct, many did, whilst relatively few frequently engaged in misconduct (DeLisi, 2003; Trulson et al., 2010). In particular, the findings indicate that being younger, non-white or a Traveller, lacking stable accommodation in NI, having a history of addiction, impairments, previous incarceration, property offences, being at risk of serious self-harm in prison, failing prison drug tests, receiving fewer visits, submitting prison complaints and having not completed a prison drug test were associated

with an increased risk of misconduct. Indeed, the findings suggest that while many people may only engage in misconduct once or twice throughout their imprisonment, some individuals frequently reappear in the prison disciplinary process. This finding raises questions as to whether the focus on using punishments to discourage future offending behaviour is an appropriate strategy for this group. As past punishments did not deter them from engaging in further offending behaviour, these individuals may require specialist support services to address the multiple needs that may be driving their recidivism, if they are to be discouraged from engaging in future misconduct and their probability of reoffending on release reduced.

A reliance on punishment to discourage future behaviour tends to be based on the assumption that individuals are rational actors who can control their behaviour and can be deterred from engaging in certain behaviours. However, Jacobs (2010) questions the extent to which people are deterrable, highlighting how variations in deterrability depend on an individual's ability to engage in rational calculations. There are also concerns about the extent to which individuals may be able to restrain their behaviour when faced with emotional, exciting or risky stimuli (Icenogle et al., 2019). For instance, people who have substance misuse issues, poor mental health, impairments, low self-control, impulsiveness, problems regulating their emotions or are younger may struggle to control their behaviour and/or engage in rational decision-making (e.g. Coid, 2002; Exum, 2002; Icenogle et al., 2019; Jacobs, 2010; Nagin & Paternoster, 1993; van Gelder, 2013). Moreover, individuals are unlikely to be deterred by the imposition of potential punishments when their behaviour and decision-making is driven by their emotions because emotions, such as anger, can hamper cognitive deliberations on behavioural intentions (Barnum & Solomon, 2019; van Gelder, 2013). Indeed, research has found that feelings of anger can predict misconduct (Beijersbergen et al., 2015). Consequently, a reliance on the use of punishment to reduce offending behaviour among those who frequently appears before the prison disciplinary system may not be effective due to the difficulties people can experience controlling their behaviour and engaging in rational calculations.

Furthermore, concern has been expressed that the manner in which adjudication hearings are conducted do not usually encourage reflection on the reasons for misconduct or change orientated behaviours, missing opportunities to promote rehabilitation (Fitzalan Howard, 2017). Instead, individuals may require specialist assistance to help address their multiple needs and the factors driving their recidivism. Rehabilitative services and supports are available in prison, but often, access to these programmes is dependent on eligibility criteria and perceptions regarding manageability, constructive engagement and probability of favourable outcomes (Bosma et al., 2018). Research indicates that those who are deemed more manageable (i.e. compliant) may get priority access to rehabilitative opportunities (Bosma et al., 2018). Access can also depend on risk level and prison incentivised schemes, with prison misconduct influencing risk assessments, status on prison incentivised schemes and perceptions of manageability. While participation in offence-focused work may influence placement on prison incentivised schemes, an absence of misconduct is a key criterion for progression, with the enhanced level offering extra visitation and access to other rehabilitative and work placements as a reward for compliance (NIPS, 2011). Additionally, the eligibility criteria and selection processes used for rehabilitative programmes can limit their accessibility to people who are experiencing multiple issues simultaneously, such as co-occurring mental health and substance misuse issues, learning difficulties or impairments (PBNI, 2016). This has led some researchers to question whether those who are most in need of rehabilitation services and likely to reoffend are actually getting access to the services and supports they need (Bosma et al., 2018).

Accordingly, those who frequently engage in misconduct may benefit from a specialist support service designed to address their multiple needs to reduce their offending and improve safety, order and control in prison. In particular, programmes that can work with individuals experiencing co-occurring mental health and substance misuse issues, as well as impairments, are required. Assisting these individuals in developing their ability to restrain their behaviour when faced with emotional, exciting or risky stimuli could also be beneficial, as would interventions seeking to reduce prison complaints by improving a sense of fairness and procedural justice, as well as supporting prison visitation to rebuild relationships between loved ones and those imprisoned. Other initiatives may include addressing accommodation issues and reasons for previous incarceration. Existing research supports these suggestions as integrated services have been found to be more effective in reducing offending behaviour for those with co-occurring issues, as well as demonstrating the effectiveness of cognitive behavioural interventions for reducing misconduct (French & Gendreau, 2006; Osher, 2006). Feelings of fairness and procedural justice have been found to influence compliance with prison rules, by directly influencing obedience and cooperation with prison authorities (Maguire et al., 2019). Prison visitation has been linked to misconduct, although this relationship can vary depending on who is visiting, the nature of their relationships, as well as whether the visitation is a positive experience (Cochran, 2012; Siennick et al., 2013; Steiner et al., 2014). Accommodation issues and reasons for past offending are also key criminogenic needs that research suggest should be tackled to reduce future offending (van der Knaap et al., 2012). Amending the current response to managing misconduct to incorporate the targeting of specialist support services to those who frequently engage in misconduct may help reduce recidivism and address concerns that those most in need of rehabilitation may have limited access to needed services. By providing such specialist support, the re-entry conditions of these individuals may also be improved as their potential limited access to rehabilitation and visitation is enhanced, thus improving their ability to comply with supervision and monitoring arrangements upon release.

There are limitations associated with this research. The cross-sectional design limits claims of causality, as relationships could be bi-directional. For instance, individuals who do not engage in misconduct often receive extra visitation as a reward for their compliance on prison incentivised schemes. Future research should seek to explore issues of causality by employing longitudinal research. The use of an official measure of misconduct may underestimate misconduct in comparison to self-report measures. Similarly, the inability of the dataset to draw distinctions between different categories of misconduct or seriousness is another limitation that should be addressed in future research. For example, future research could examine whether different risk factors emerge depending on whether official or self-report measures are used or different categories of misconduct or their seriousness investigated. Moreover, the unique context of NI and the exclusion of women and young people may limit the generalisability of the findings. Future research should seek to expand this research to different jurisdictions, women and young people. Additionally, small sample sizes on some of the variables may have limited the power of the analysis to detect effects. Future research should assess whether the current findings are due to the absence of statistically significant relationships with misconduct rather than limited power to detect effects. Measures of environmental factors that were outside the scope of this data should also be included in future research to assess how these factors may relate to misconduct.

Nonetheless, this research enhances knowledge by demonstrating that while many previously identified risk factors for misconduct are generalisable to NI, there are differences, suggesting that cultural context does matter when attempting to generalise risk factors for

misconduct from one jurisdiction to another. This study also provides the first examination of the risk factors for misconduct in NI, while demonstrating that these risk factors mostly operate in a similar manner for both separated prisoners and the general prison population. That is with the exception of prison complaints, whereby the separated prisoners' distinct use of the complaints process results in the increase in misconduct associated with the submission of more complaints witnessed in the general prison population being less pronounced among separated prisoners. Lastly, the findings enhance the development of interventions and rehabilitative work by identifying the characteristics linked to repeated involvement in misconduct and suggesting that increasing access to specialist supports to address the multiple needs of those who frequently reappear before the prison disciplinary process may be a promising avenue to reduce recidivism. Given the link between misconduct, reoffending and re-entry conditions, addressing the factors associated with increased involvement in misconduct may help reduce the probability of reoffending upon release, as well as improve the re-entry conditions, experiences and prospects of these individuals.

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Declarations

Competing Interests Mr Kelly is employed in the Psychology Services Department of the Northern Ireland Prison Service. All other authors declare no competing interests.

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