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1 **Challenges of conducting research with young offenders with traumatic brain injury**

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8 **Introduction**

9 A growing body of research has developed around traumatic brain injury (TBI) among offender
10 populations. Rates of TBI amongst these populations are reported as substantially higher than those
11 of the general population (1). Many of the neuropsychological outcomes of TBI (e.g. aggression,
12 impulsivity, disinhibition, and self-regulation) may place an individual at significant disadvantage when
13 dealing with the criminal justice system. More recently, it has been suggested that a causal link may
14 exist between TBI and offending, though the accuracy and complexity of this link is unknown (2).
15 Though many studies in this area utilise populations of offenders, few offer critical reflections on the
16 complexity and challenges of working with such groups. Drawn from first-hand experience of
17 conducting research within prisons, the aim of this article is twofold; to highlight the issues
18 researchers and clinicians can face when working with these populations, and provide critical
19 considerations for future research conducted in this area.

20 **Heterogeneity in offending**

21 Recruiting from prison populations requires acknowledgment of the differences between, for example,
22 individuals who are incarcerated for drug offences versus sexual offences. Both crimes incorporate
23 very different behaviours which may be guided by different motivations and circumstances. There is a
24 tendency for TBI studies in offending populations to combine different criminal convictions without
25 acknowledging or running sub-group analyses based on these. In order to help reduce heterogeneity,
26 future studies should consider limiting recruitment to those convicted of similar crimes, or aim to
27 collect suitably sized samples to enable differentiation between types of criminal behaviour. Further to
28 this, in attempting to draw conclusions about criminal behaviours using prison population data, it is

29 important to note that the composition of and fluctuations in prison populations over time does not
30 necessarily reflect wider crime rates. Prison populations are highly sensitive to changes in sentencing
31 and enforcement. One such example is the rise in custodial sentences for sexual offences in the UK
32 (3). While the number of offenders serving sentences for sexual offences remained largely stable
33 between 1993 and 2004, the introduction of the Sexual Offences Act 2003 saw a steady and
34 continuing rise in the number of sexual offence convictions (3). This is complicated further when
35 considering the myriad of factors that can influence custodial sentencing decisions. Quality of legal
36 representation, race (4), socioeconomic background (5), and gender can impact the composition of a
37 sample, with males, for example, much more likely to receive an immediate custodial sentence than
38 females (6).

39 **Complexity of Need**

40 Examinations of offender groups often fail to acknowledge the highly complex needs of this
41 population. There is a tendency in research to overlook the broader behavioural, health, and social
42 difficulties experienced by this vulnerable group. Work by the Prison Reform Trust (2016) highlighted
43 physical and mental disability, depression, anxiety, and psychosis, alongside severe drug and alcohol
44 abuse among the challenges experienced by offenders in the UK (7). Significantly high rates of dual-
45 diagnoses require particular consideration, with Pycroft and Green (2016) noting the unique and often
46 unaddressed needs of this group (8).

47 Such complexity poses issues of both an ethical and practical nature. Researchers must consider
48 whether their study would be appropriate for a young offender if such issues are present. Indications
49 of disability or disorder should be taken into account when considering eligibility for participation,
50 although it is important not to make presumptions about an individual's capacity based on these. This
51 should also be considered in relation to capacity to give informed consent, ensuring that individuals
52 fully understand what is involved and have been given an opportunity to consider and ask questions
53 about the research. Comprehension should be checked before formally taking consent (for example,
54 by questioning the young person on aspects of the information sheet or by asking them to describe
55 the research process).

56 This should not only be considered in relation to informed consent, but also quality of data collected.
57 Psychometric assessments which contain statements, vocabulary, or phrasing unfamiliar to the
58 individual may be compromised if task comprehension is poor. This is equally important when aiming
59 to encapsulate offenders' voices and experiences (11). Researchers may have differing views on
60 offenders' ability to participate and express an opinion, and should be conscious as to whether their
61 approach is tailored to this population. While critical analysis of research tools and methods is
62 required, acknowledging these individuals as active agents, capable of understanding, influencing and
63 directing research (12) is equally important.

64 Due consideration must be given not only to an individuals' capacity to consent but to ensuring they
65 have a clear understanding of their role in the research. This consideration also relates to section 4 of
66 the British Psychological Society (BPS) Code of Human Research Ethics (9). It is essential to make
67 clear that the study is separate to the work conducted by criminal justice services. It must be
68 emphasised that participation is voluntary and will not impact upon their sentence or affect privileges
69 for good behaviour. Prison staff and researchers can be in a position of real or perceived authority
70 and the potential for coercion should be recognised and addressed. This is true for prisoners and
71 young people generally, but additional precautions should be taken when working with members of
72 these populations with a TBI, given their heightened vulnerability.

73 Another aspect to consider, especially when collecting sensitive data regarding head injury history,
74 substance use, mental health issues and early adversity is the personal and sometimes upsetting
75 nature of these measures. Participants should be made aware of the sensitive nature of such
76 questions prior to their administration, and understand that they can choose to omit those which make
77 them uncomfortable. Procedures and pathways should be in place in the event participants do
78 experience distress as a result of such questioning. If a young person discloses information indicating
79 an intention to harm themselves or others, it is vital that a thorough protocol is in place to breach
80 confidentiality and inform all necessary parties (10). Any doubts regarding these should be discussed
81 with appropriate criminal justice staff who are familiar with the young person.

82 **Self-reported health status**

83 Cognitive and learning difficulties may call into question the reliability of offenders' responses,
84 particularly in the context of self-report health measures. Despite this concern, and the high number of
85 self-report based studies in this area, little research exists examining the reliability of offenders as
86 research participants. Bai and colleagues (2014) noted the difficulty in obtaining objective sources of
87 data for this group, with medical records often limited by illegibility or incomplete documentation (13).
88 Work by Schofield and colleagues (2011) examining the reliability of offenders in reporting TBI when
89 compared to medical records, concluded that offender self-report was generally accurate (14). The
90 authors additionally acknowledge that medical records are themselves often incomplete and may not
91 include information on the Glasgow Coma Scale (GCS), loss of consciousness duration (LOC), or
92 even record that a TBI has occurred. More recently, McKinlay and Horwood (2017) showed adults to
93 have relatively low accuracy of recall for childhood mild TBI events, with 9% recalled between the
94 ages of 0-4 years and 31% between 5-9 years (15). With such paediatric events showing low rates of
95 adult recall, it is possible that many of the most significant injuries in childhood remain hidden from
96 adult self-report.

97 In the context of offenders, both medical records and self-report measures are susceptible to
98 inaccuracy and likely present with disparate prevalence rates. Nonetheless, researchers in the area
99 must consider both the comparability and usefulness of their collected TBI data. Single question
100 assessments of TBI, or exclusion of injuries without LOC offer limited information to the reader, and
101 thus limited usefulness when comparing datasets. Studies examining self-reported TBI among
102 offenders should aim to collect data on; the most severe injury, the earliest injury, the presence of
103 multiple injuries, and where possible, the cause of injury.

104 **The prison environment**

105 Some of the greatest difficulties within our research arose from the prison system itself. The rigid,
106 controlled nature of prison life meant that interruptions to planned activities were met with frustration
107 from both young people and prison staff. Interviews had to be scheduled around education and work
108 times, with participants often re-arranging or cancelling interviews so as not to miss particular classes.
109 For this reason, flexibility on the part of the researcher is paramount. Having an internal contact within
110 the prison administration greatly helped with difficulties such as security, freedom of movement, and
111 clearance of research materials. The value of the research to prison services should also be made

112 clear from the outset and it is important to develop relationships with all levels of prison staff to ensure
113 successful uptake. It is also important that staff have a clear understanding of the purpose of the
114 research and are allowed some influence on how it is delivered. As with any large institution, while
115 some individuals will see value in the work, others will be more sceptical. It is often helpful and
116 effective to give a presentation on the topic of the research prior to study commencement with training
117 on the procedures of the study and a discussion or focus group regarding study logistics. Ideally staff,
118 and where possible, offenders, should have input into the design and conduct of the research. This
119 will encourage staff engagement with the research, which is vital. We strongly advise running a
120 structured feasibility study or pilot prior to the definitive full research study. This could also be
121 supplemented with qualitative staff and participant interviews regarding the acceptability of the
122 research study and an opportunity to feedback on any encountered issues. For an example of one our
123 current feasibility studies and details of the procedural plan, see the following pre-registered protocol
124 (<https://osf.io/u29qq/>).

125 **Research ‘burden’**

126 Many services within the criminal justice system are strained and experience substantial cut-backs to
127 funding, resulting in staff and service shortages. Research is often a lengthy process, and whilst our
128 work has received support (and often enthusiasm) from criminal justice staff, these individuals often
129 have very limited time to conduct their core duties. Involvement in research can place strain on
130 available staff and resources, putting them at risk of becoming overburdened. It is the responsibility of
131 the researcher to manage the scale of the study and to adjust data collection procedures, or if
132 necessary, discontinue the research effort if they perceive this to be burdensome.

133 The demands upon researchers within these environments should also be considered. Prisons and
134 criminal justice services are difficult environments within which to conduct research and the nature of
135 TBI research often requires collecting personal and sensitive data. This information can be of a
136 distressing nature, with earlier injuries commonly arising through assault or abuse. Research staff
137 need to be suitably trained in safety procedures, well supported by members of a wider research
138 team, and have the opportunity for supervision regarding more difficult cases. Due to the
139 aforementioned heterogeneity surrounding these populations, large-scale projects are essential, yet
140 these types of studies are often conducted by small teams, or independent researchers. This puts

141 pressure on the researcher to recruit a required number of participants within a restricted timescale,
142 which, given the difficulties engaging members of this population – is not always realistic or possible.
143 Unachievable or unrealistic expectations of sample sizes can lead to additional burden and in some
144 cases, termination of research studies leading to wasted or unreported research effort. We should
145 address this in future by encouraging collaboration between institutions and the development of large-
146 scale, multi-centre research projects with a supportive network of researchers and expertise.

147 **Conclusions**

148 Several important factors should be considered when working with young offenders. The diverse and
149 challenging nature of this population poses barriers to the scope and depth of possible investigation.
150 Additionally, though progress is evident, there is a long way to go in terms of fostering a consistent
151 culture of research in this environment. Many of the challenges faced by researchers can be linked to
152 the divergent priorities of researchers and correctional staff. While researchers should reflect on the
153 impact of their presence in this environment, the social context of prison alongside the motivations of
154 offenders as participants also merits consideration.

155 Implications:

- 156 1. Detailed reporting of demographic and criminal history factors are of specific importance
157 given the heterogeneity of this group.
- 158 2. Offender groups can present with highly complex, interrelated, and often undiagnosed
159 difficulties and attempts should be made to understand such complexity.
- 160 3. The reliability of self-report from offenders is not well known and alternative methods of data
161 collection should be considered.
- 162 4. Logistical and bureaucratic challenges mean researchers must be clear with their aims yet
163 flexible in their approach, we encourage conducting pilot and feasibility studies prior to the
164 main study to support this.
- 165 5. The social context of the prison environment and group dynamics must be considered when
166 attempting to recruit and work with young offenders.
- 167 6. We encourage large-scale, collaborative research efforts when planning future studies
168 involving these complex populations.

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