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Suicide attempts among incarcerated homicide offenders

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Abstract

The aim was to investigate the role of age, drug abuse, period of confinement, loneliness, difficulty in controlling emotions, having no friends in prison, victimization in prison, guilt over crimes, insomnia, nightmares, anxiety, depression, and mood change in predicating suicide attempts in a sample of homicidal young prisoners. Poisson regression model indicated that five variables contributed significantly to the prediction of suicide attempts. Specifically, participants reporting drug abuse, difficulty in controlling emotions, victimization in prison, nightmares, and depression were significantly more likely to report suicide attempts while incarcerated.

Keywords: Suicide Attempts; Prisoners; Pakistan; Young Offenders; Homicide

Suicide attempts among incarcerated homicide offenders

Approximately one million people die by suicide each year worldwide (World Health Organization; WHO, 2008). Attempted suicides are believed to far exceed this number, with an estimated 10 to 25 non-lethal suicide attempts occurring for every death by suicide (Maris, 2002). Raised risk among criminal offenders has been widely reported; with rates of suicide in prisoners four to five times greater than those found in the general population (Fazel, Grann, Kling, & Hawton, 2010). Given such high rates, and with the numbers of prisoners increasing in over 70% of the countries in the world (Fazel et al., 2010), suicide in prisons is an important challenge to public health and policy. Gover (1880) argued that prisoners who could be violent towards others could also be violent to themselves (see Liebling, 1992). However, although the association between aggression, violence, and suicide risk has been extensively studied in the general population, limited research has examined the association between self- and other- directed violence in offender samples. This is an important omission as, in line with Gover's 1800 contention, research indicates that violent inmates are over-represented in the suicide statistics (Bogue & Power, 1995; Dooley, 1990). Consequently, there is need to explore the risk factors for suicidal behaviours among prisoners convicted for serious violent crimes, particularly homicide, in order to enhance our ability to intervene and prevent death by suicide.

As already indicated, an accumulating body of research indicates that people who are aggressive or violent are more likely to attempt suicide irrespective of gender and ethnic subsamples (Angst & Clayton, 1998; Borowsky, Ireland, & Resnick, 2001; Debowska, Boduszek, & Dhingra, in-press; Orpinas, Basen-Engquist, Grunbaum, & Parcel, 1995; Sosin, Koepsell, Rivara, & Mercy, 1995). Angst and Clayton (1998), for instance, followed a cohort of army recruits and noted that aggression predicted subsequent suicide, while Oquendo (2004) studies 308 mood-disordered individuals in treatment for depression and found that

aggression was a significant predictor of suicide attempt during the two-year follow-up period. A further study (Escard, Haas, & Killias, 2003) showed a very high association between suicide attempts and self-reported violent behaviour among more than 21,000 Swiss army recruits.

A particularly high risk for self- and other- directed violent behaviour is evident in those with antisocial personality disorder (Links, Gould, & Ratnayake, 2003; Repo-Tiihonen, Halonen, Tiihonen, & Virkunen, 2002). Although the reasons for the overlap between self-directed harm and interpersonal violence are unclear, biological factors may play an important role. Disturbances in the regulation of the serotonin (5-HTT) system, for instance, may lead to higher risk via aggression and impulsivity (Bondy, Erfurth, de Jonge, Kruger, & Meyer, 2000) – traits associated with death by suicide (Conner, Cox, & Duberstein et al., 2004), particularly among younger age individuals (McGirr, Renaud, & Bureau et al., 2008). Beck (1999) has also argued that anger, hostility, and violence are expressions of the same type of cognitive distortions (e.g., egocentric bias, automatic thoughts, dichotomous thinking, catastrophizing) that account for the genesis of depression and suicidal behaviour. He proposes that loss and fear lead to distress and to a change in focus from the self to the “offender” (the person that is perceived to have caused the distress). This in turn leads to feelings of anger and the subsequent mobilisation for attack. If the focus switches to the “offender,” externally directed aggression occurs; without this switch of focus, self-directed aggression is more likely. Thus, Beck proposes that the same cognitive distortions that play a prominent causative role in suicidal behaviour exert a similar effect in violence against others.

Limited research has attempted to accurately or precisely quantify risk of suicide in people who have perpetrated specific offense types. One exception to this is a study by Webb, Shaw and Stevens (2012) which used a Danish national dataset. Providing further

support for the findings of small-scale studies indicating that prisoners serving sentences for violent crimes (e.g., homicide, assault and sexual offences) are over-represented in the suicide statistics (e.g., Camilleri, McArthur, & Webb, 1999; Hatty & Walker, 1986; Morrison, 1996), a marked rise in suicide risk was found with increasing levels of violence. Risk was particularly elevated for female homicidal or attempted homicidal offenders (female OR = 30.9; male OR = 12.0). Although this, and other studies, have contributed significantly to the literature by documenting an incremental rise in suicide risk with increasing levels of violence, the factors associated with this heightened risk for suicide among homicide offenders are not known, thus this represents an important gap in the literature.

Risk factors specific to suicide in correctional settings have been identified, such as poor adjustment to the prison situation (Libling, 1992), withdrawal from drugs or alcohol (Humber, Piper, Appleby, & Shaw, 2011), being in a single cell or in segregation (Libling, 1992), having no close or good friends living or working inside a prison (Rivlin, Hawton, Marzano, Fazel, 2013), violence or recent inmate-to-inmate conflicts (Blaauw, Winkel, & Kerkhof, 2001; Konrad, Daigle, & Daniel et al., 2007; Rivlin et al., 2013; Way, Miraglia, Sawyer, Beer, & Eddy, 2005), and lower levels of perceived social support (Fazel, Cartwright, Norman-Knott, & Hawton, 2008; Rivlin et al., 2013). Incarceration is also associated with added stress over time, such as difficulties within the institution, legal frustration, and physical and emotional breakdown. Accordingly, the suicide rate of long-term inmates seems to increase with length of stay (Frottier, Fruehwald, & Ritter et al., 2002). Those sentenced to life in prison in particular seem to be at a particularly high risk for suicide attempts (Borrill, 2002; Liebling, 2006).

An individual's vulnerability to the above factors may in turn be influenced by personal characteristics and predispositions that prisoners 'import' into the correctional setting (Rivlin et al., 2013). Among them are current and lifetime psychopathology (e.g.,

depression and anxiety; Rivlin, Hawton, Marzano, & Fazel, 2010), sleep disturbances (insomnia and nightmares; e.g., Agargun & Beisoglu, 2005), and substance use disorders (Esposito-Smythers, & Spirito, 2004) which are likely to influence an individual's opinion of themselves, their adaptation to the environment, and the likelihood of acting on suicidal thoughts (Brezo, Paris, Tremblay, Vitaro, & Zoccolillo et al., 2006). The importation model presumes that suicidal behaviour is more an expression of the offenders' background characteristics than the oppressive, painful, and criminogenic physical and environmental features of the prison (DeLisi, Trulson, Martquart, Drury, & Kosloski, 2010). Consistent with this contention that suicide among prisoners is largely due to their personal characteristics, Stattar and Killias (2005) found that suicide and other non-natural deaths are as frequent among non-incarcerated offenders (see also Sattar, 2003).

A recent systematic review of case-control comparison studies of suicide found that factors specific to the correctional setting and psychiatric factors contribute to suicidal behaviour. The strongest risk factors were environmental (social and physical isolation and lack of accessible resources associated with being in a single cell), psychiatric, and criminal history (being on remand, having received a life sentence, and having a violent index offence) (Fazel et al., 2008). The extent to which these factors apply to homicidal juvenile offenders is, however, unclear, as research to date has not focused exclusively on this sub-group of offenders.

Current study

Little research has been carried examining suicide attempts among those incarcerated for homicide. The paucity of research in this area is perhaps due to the rarity of this occurrence; while both suicide and homicide are uncommon, homicide followed by later suicide is perhaps particularly rare. In light of previous research documenting an association between the perpetration of violent offences (particularly homicide) and suicide, and research indicating that

having received a life sentence is one of the strongest predictors of suicide (Fazel et al., 2008), the main aim of the current study was to examine the factors associated with suicide attempts in a sample of juvenile prisoners incarcerated for homicide in prisons in Khyber Pakhtunkhwa (KPK) Pakistan. More specifically, this research investigates the role of age, drug abuse, period of confinement, loneliness, difficulty in controlling emotions, having no friends in prison, victimization in prison, guilt over crimes, insomnia, nightmares, anxiety, depression, and mood change in predicating suicide attempts.

The context of this study is particularly important. Islam is considered to forbid the taking of one's life. Therefore, suicide is considered a sin and subsequently a criminal offence (Pakistan Penal Code 309 of the Criminal Procedures Act), punishable with a jail term and/or fine. Pakistan is 97% Muslim, and religious views are held strongly. Consequently, reporting and data collection on suicide is a difficult task in Pakistan. Indeed, data on suicide is not included in the annual national morbidity statistics, and, as a result, rates on suicide are neither known nor reported to the WHO (2008). Data on homicide in Pakistan is, however, collected, and the homicide rate is 7 per 100,000 people (United Nations Office on Drugs and Crime, 2010).

Method

Participants and procedure

Participants were 102 males incarcerated in prisons in Khyber Pakhtunkhwa (KPK) Pakistan for homicide. The respondents ranged in age from 13-19 years ($M = 16.75$, $SD = 1.41$). Most offenders came from rural areas (72.7%), 37.3% reported secondary education, 39.6% primary education only, 22.8% were not formally educated. Nearly eight percent (7.8%) had no parents, 47.1% had one parent only, and 45.1% reported having both parents. Forty

percent reported drug abuse. The duration of imprisonment reported by participants ranged from 1 to 60 months ($M = 8.80$; $SD = 9.64$) at the time of this study.

The short survey was administered by the lead researcher. Each participant was provided with a brief description of the study including the general area of interest, how to complete the questionnaire, and the general expected completion time. Participants completed an anonymous, self-administered, paper and pencil questionnaire, which was compiled into a booklet along with an instruction sheet and a consent form attached to the front of the booklet. Participants were assured about the confidentiality of their participation and informed that they could withdraw from the study at any time. The participation was voluntary without any form of reward.

Measures

The nature of the sample and access difficulties precluded a comprehensive assessment from being undertaken. Consequently, a brief questionnaire was created by the research team to assess factors commonly associated with suicide attempts. All items were measured on a three-point Likert scale (1 = *not true*, 2 = *somewhat true*, 3 = *true*) except drug abuse (dummy coded), age (years), period of confinement (months), and suicide attempts (frequency). *Drug abuse* was measured by “Would you consider yourself dependent on drugs?”; *Loneliness* by “I feel completely alone”; *Difficulty in controlling emotions* by “When I'm upset, I believe there is nothing I can do to make myself feel better”; *No friends in prison* by “I do not get along with other prisoners”; *Victimization in prison* by “I am bullied by other prisoners”; *Guilt over crimes* by “I feel guilty for my crimes”; *Insomnia* by “I have difficulty falling asleep, staying asleep, or wake up too early”; *Nightmares* by “I have reoccurring nightmares”; *General anxiety* by “I feel anxious or worried most of the time”; *Depression* by “I feel down or depressed”; *Mood change* by “My emotions change very quickly, and I experience intense episodes of sadness or irritability”

Suicide attempts. To assess the number of suicide attempts participants had made, they were asked, “how many serious attempts have you made to kill yourself since being incarcerated?”

Results

The frequency of suicide attempts ranged from zero to four ($M = 1.40$, $SD = 1.42$). Most offenders ($n = 42$, 41.2%) reported not having tried to die by suicide while in prison. Of those reporting a suicide attempt, 12.7% ($n = 13$) reported four attempts, 7.8% ($n = 8$) reported three attempts, 27.5% ($n = 28$) reported two attempts, and 10.8% ($n = 11$) reported one attempt. Rates of endorsement for independent variables are reported in Table 1.

Table 1
Percentage of endorsement for independent variables

Variable	<i>Not true</i>	<i>Somewhat true</i>	<i>True</i>
Drug abuse	39.2%	N/A	60.8%
Loneliness	22.8%	28.7%	48.5%
Victimization in prison	37.3%	22.5%	40.2%
No friends in prison	42.2%	28.4%	29.4%
Difficulty in controlling emotions	42.6%	19.8%	37.6%
Guilt over crimes	33.3%	21.6%	45.1%
Insomnia	63.4%	26.7%	9.9%
Nightmares	44.1%	27.5%	28.4%
General anxiety	24.8%	32.7%	42.6%
Depression	19.6%	28.4%	52.0%
Mood change	26.5%	38.2%	35.3%

Poisson regression analysis was used to develop a model for predicting suicide attempts among incarcerated for homicide young males. Thirteen independent variables were included in the model: age; drug abuse; period of confinement; loneliness; difficulty in controlling emotions; no friends in prison; victimization in prison; guilt over crimes; insomnia; nightmares; general anxiety; depression and mood change. Little's MCAR test (1998) indicated that data was missing completely at random ($\chi^2=34.91$, $df = 35$; $p = .47$). Consequently, missing values were not problematic and regression analysis was conducted without imputation being made (only 4 cases were removed from final analysis).

Since no a priori hypotheses had been made to determine the order of entry of the independent variables, a direct method was used. The model as a whole was statistically significant (Likelihood Ratio Chi-Square = 46.96, $df = 13$, $p < .001$). Five independent variables made a significant contribution in terms of predicting suicide attempts among incarcerated for homicide young males. Participants who reported increased drug abuse, difficulty in controlling emotions, victimization in prison, having reoccurring nightmares, and increased scores on depression scale were significantly more likely to report suicide attempt while incarcerated (for details see Table 2).

Table 2

Poisson regression model predicting suicide attempts

Variable	<i>B</i>	<i>SE</i>	Exp(<i>B</i>)
Age	-.07	.06	.93
Drug abuse	.49	.18	1.65**
Period of confinement	.01	.01	1.01
Loneliness	.20	.12	1.22
Victimization in prison	.24	.12	1.26*
No friends in prison	.12	.12	1.12
Guilt over crimes	-.09	.12	.91
Insomnia	-.15	.12	.86
Nightmares	.28	.12	1.33*
General anxiety	-.10	.18	.90
Depression	.27	.14	1.31*
Mood change	-.04	.12	.96
Difficulty in controlling emotions	.22	.12	1.25*

Note: * $p < .05$; ** $p < .01$

Discussion

The aim of the current study was to examine the factors associated with suicide attempts in a sample of juvenile prisoners incarcerated for homicide in prisons in Khyber Pakhtunkhwa (KPK) Pakistan. Specifically, this study investigated the role of age, drug abuse, period of confinement, loneliness, difficulty in controlling emotions, having no friends in prison, victimization in prison, guilt over crimes, insomnia, nightmares, general anxiety, depression, and rapid mood change in predicating suicide attempt frequency.

Suicide attempts were associated with depression, emotion regulation difficulties, and drug abuse, which is consistent with previous research, both in prisons and in the community (Brezo et al., 2006; Morgan & Hawton, 2004; Palmer & Connelly, 2005). The current study's findings further converge with a growing body of research, indicating a relationship between sleep disturbance and suicidal thoughts and behaviour (Sabo, Reynolds, Kupfer, & Berman, 1991; Sjöström, Waern, & Hetta, 2007; Ribeiro, Pease, & Gutierrez et al., 2012). However, the relationship between sleep problems and suicide attempts was specific to nightmares and not insomnia. Victimization experiences was the strongest predictor of suicide attempt in the present research, which is line with research indicating that a thwarted sense of belongingness is associated with the development of the most serious form of suicide ideation (Joiner, 2005; (Shagufta, Boduszek, Dhingra, & Kola-Palmer, in-press). These state and trait-dependent characteristics may influence vulnerability to suicide by affecting an individual's opinion of themselves, their adaptation to the prison environment, and the chances of acting on thoughts of death by suicide (Brezo et al., 2006).

Our findings also confirm the importance of problematic relationships with other prisoners (Blaauw et al., 2001; Liebling, 1992) on suicide attempts. However, in the present research, suicide attempters were not significantly associated with anxiety, which is in contrast to previous research (Brezo et al., 2006; Goldston, Reboussin, & Daniel, 2006). The report of not having friends in prison was also not significantly associated with suicide attempt frequency in the present research. This is surprising as social isolation is arguably the strongest and most reliable predictor of suicidal ideation, attempts, and lethal suicidal behaviour among samples varying in age, nationality, and clinical severity (Joiner, Van Orden, & Witte et al., 2009). Furthermore, near lethal suicide attempts were found to be related to having fewer close or good friends both outside and inside prison in previous research (Rivlin et al., 2013). This suggests that although feelings of connectedness may be

even of even greater importance to the wider population of offenders than in the community (Rivlin et al., 2013), for homicidal offenders, this may not be the case. Age was also unrelated to suicide attempts, however, this was not unexpected given the limited age range of the present sample, and research indicating that those who attempt suicide in prison are generally between the ages of 30-35 years (Konrad et al., 2007). Similarly, period of confinement was unrelated to suicide attempt, and again, this was not unexpected as violent offenders who attempt suicide have been found to do so after spending a considerably longer time in custody than they had been in the present research (often 4 or 5 years; Konrad et al., 2007).

The findings of the present research suggest that suicide attempts in Pakistani juvenile prisoners incarcerated for a particularly violent crime (i.e., homicide) should be understood in relation to both individual and environmental factors (i.e., history drug abuse, victimization experiences, emotion regulation difficulties, mental health, and sleep quality). Accordingly, both sets of variables should be incorporated into risk assessments at time of reception to prison and during incarceration in efforts to reduce the incidence of suicide attempts in young homicidal Pakistani prisoners. Such interventions could include improved and more regular contact with mental health professionals, particularly in terms of screening for, and treating depression, as well as initiatives to improve prisoner relationships. In combination with the past literature on sleep disturbance (nightmares) and suicide, the present study also suggests sleep-focused interventions may be effective in reducing suicidal thoughts and behaviour. Assessing prisoner's sleep may be particularly important in prevention and intervention efforts, as sleep, unlike chronic risk factors, may be particularly amenable to treatment.

As with all research, the present study has a number of limitations that need to be taken into consideration when interpreting these findings. First, it is important to note that there is the potential for bias as a result of stigma and sensitivity surrounding suicide in

Pakistan, and the self-report nature of the data. Although it is not possible to determine the extent to which this may have affected the results, under-reporting of suicide attempts would contribute to more conservative findings. Second, due to time limitations, we measured variables using single items. Thus, future research will need to use psychometrically validated measures of the constructs that we attempted to capture using single items. Third, the sample size was somewhat limited. It should be emphasized, however, that conducting a study of homicidal offenders is complex and very laborious and, therefore, restricted sample size is an inevitable consequence. Fourth, the retrospective, cross-sectional nature of the survey prevented us from examining the ordering of onset of suicide risk factors and suicide attempts. Finally, a number of variables associated with suicide attempts (including the components of Joiner's 2005 model) were not included within the present study due to the reasons outlined above. Consequently, further research is needed to explore how a wider range of psychological characteristics (e.g., depressive symptoms, hopelessness, self-esteem, impulsivity, aggression and hostility), life events (e.g. childhood trauma), and environmental and criminological factors (e.g., prior incarceration, extent and quality of prisoners' social networks) impact on suicide attempts within this population. In particular, research adopting the life-course importation model of inmate behaviour (DeLisi et al., 2011), to examine the interconnectedness between pre-incarceration characteristics and facility-level factors/deprivation in relation to suicide may offer important new insights. Such an approach has proven useful in demonstrating the cascading effects of distal family adversity and proximal delinquent careers on institutional misbehaviour (see DeLisi, 2003; DeLisi et al., 2011).

Despite these limitations, the present research contributes important information on suicide in Pakistan, an Islamic country in which data collection poses considerable challenges, and results indicate that victimization experiences in prison, drug abuse prior to incarceration, sleeping difficulties, and mental health problems may contribute to suicidal

behaviour among juvenile offenders incarcerated for homicide. Thus, the present results have produced evidence for both importation and deprivation models of inmate behaviour and in doing so indicate that a life course importation model may provide a useful conceptual framework to study suicide in future research.

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