Suicidal ideation while incarcerated: Prevalence and correlates in a large sample of male prisoners in Flanders, Belgium

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Abstract

Prisoners constitute a high-risk group for suicide. As an early stage in the pathway leading to suicide, suicidal ideation represents an important target for prevention, yet research on this topic is scarce in general prison populations. Using a cross-sectional survey design, correlates of suicidal ideation while incarcerated were examined in a sample of 1203 male prisoners, randomly selected from 15 Flemish prisons. Overall, a lifetime history of suicidal ideation and attempts was endorsed by 43.1% and 20.3% of respondents, respectively. Approximately a quarter of all prisoners (23.7%) reported past-year suicidal ideation during their current incarceration, which was significantly associated with both imported vulnerabilities (psychiatric diagnoses and a history of attempted suicide) and variables unique to the prison experience (lack of working activity, exposure to suicidal behaviour by peers, and low levels of perceived autonomy, safety and social support) in the multivariate regression analysis. A first-ever period of imprisonment and a shorter length of incarceration (≤12 months) were also associated with increased odds of recent suicidal ideation. Collectively, the current findings underscore the importance of both vulnerability factors and prison-specific stressors for suicidal ideation in prisoners, and hence the need for a multi-faceted approach to suicide prevention in custodial settings. In addition to the provision of appropriate mental health care, environmental interventions that target modifiable aspects of the prison regime could provide a substantial buffer for the onset and persistence of suicidal ideation in this at-risk population.

1. Introduction

Globally, suicide persists as a major public health concern, affecting people across the lifespan regardless of gender, culture or socioeconomic background (Turecki & Brent, 2016). According to the World Health Organization (WHO, 2014), over 800,000 people die by suicide each year, making it the fifteenth leading cause of death worldwide. An extant body of research indicates that contact with the criminal justice system is associated with a heightened risk for suicide (Webb et al., 2011; Gunter, Chibnall, Antoniak, Philibert, & Hollenbeck, 2011; King et al., 2015; Sattar, 2003) and incarcerated offenders. Moreover, with respect to the latter group, suicide is a leading cause of mortality in custodial settings across the globe (Konrad et al., 2007; Rabe, 2012), accounting for roughly half of all deaths during imprisonment (Fazel & Baillargeon, 2011). Based on data sampled across 12 high-income countries, suicide rates in male prisoners have been reported as being three to eight times higher than those recorded in their non-incarcerated counterparts in the population at large, reflecting rates over 100 suicides per 100,000 inmates (Fazel, Grann, Kling, & Hawton, 2011).

The reasons contributing to these elevated suicide rates in prisoners are twofold. First, as they are disproportionately drawn from socioeconomically disadvantaged groups in the community, prisoners represent a vulnerable population that is already at greater risk of suicide before imprisonment (WHO, 2007). Well-established risk factors for suicide in the general population (including psychosocial adversity, impulsive-aggressive personality traits, maladaptive coping strategies, childhood maltreatment and a history of suicidal behaviour) are highly prevalent among incarcerated offenders (Enggist, Möller, Galea, & Udesen, 2014; Fazel & Baillargeon, 2011). Furthermore, systematic reviews have clearly demonstrated an overrepresentation of mental illness (Fazel & Seewald, 2012) and high levels of substance use disorders (Fazel, Yoon, & Hayes, 2017) in the prisoner population—two factors significantly associated with an increased risk of suicide (Hawton & van Heeringen, 2009; Nock, Hwang, Sampson, & Kessler, 2010). According to the importation model, these pre-existing vulnerabilities that are brought with the individual as they enter prison are what primarily account for the high suicide rate among inmates.

Second, irrespective of this ‘imported’ risk profile, prisoners may experience additional strains due to the specific context of confinement...
(Liebling & Ludlow, 2016). Imprisonment itself is a stressful experience, and an established body of literature has illustrated that the loss of freedom and autonomy, social isolation, lack of purposeful activity, overcrowding, and victimization (e.g., violence, intimidation, and bullying) are all prison-specific stressors that increase the likelihood of suicide in custody (Blaauw, Winkel, & Kerkhof, 2001; Huey & McNulty, 2005; Leese, Thomas, & Snow, 2006; Liebling, 2006). Accordingly, the deprivation model argues that inmates’ increased risk of suicide is attributable to the depriving nature of the correctional environment and its inherent stressors.

Examination of the aforementioned risk factors suggests that suicide in prison is most likely to be the result of a complex interplay between prisoners’ imported vulnerability, and the highly demanding and deprivating environment they find themselves in when imprisoned (Dear, 2006; Liebling, Durie, Stiles, & Tait, 2005; Liebling & Ludlow, 2016). Indeed, contemporary research clearly supports the notion of a combined importation-deprivation model of prison suicide, emphasizing the exposure of vulnerable individuals to a stressful setting (Blaauw, Kerkhof, & Hayes, 2005; Dye, 2010; Marzano, Hawton, Rivlin, & Fazel, 2011; Rivlin, Hawton, Marzano, & Fazel, 2013). This empirical finding is consistent with the diathesis-stress model of suicide: a psychiatric-oriented framework in which suicide is purported to result from the dynamic interaction between proximal stressful experiences on the one hand, and the individual’s predispositional diathesis to respond with suicidal behaviour when stress is encountered on the other hand (Mann, 2003; van Heeringen, 2012). Such a framework—whether criminological (importation-deprivation) or psychiatric (diathesis-stress)—in nature— is capable of explaining why most prisoners, all exposed to a stressful environment, do not go on to commit suicide, and why biopsychosocial vulnerabilities (which are overrepresented in correctional settings) do not constitute a sufficient cause for suicide. In other words: “it cannot be argued that there is no psychiatric element in or predisposition to suicide in those who succeed, both in and out of prison; but what should be acknowledged is that just as outside, it is more usually a combination of (psychiatric) vulnerability, situational stress and individual perceptions which trigger the final suicide act than either component alone” (Liebling, 1992, p. 85).

The public health goal of reducing the number of prison suicides has been highlighted as an international priority (WHO, 2007). However, suicides reflect only a small proportion of the total impact of suicidality. Indeed, death by suicide can be conceptualized as the endpoint of a continuum (Sveticic & De Leo, 2012), describing the development and progression of suicidality as a process occurring within the individual and in interaction with his or her surrounding (van Heeringen, 2001). This concept of a suicidal process implies a gradual transition from thoughts about suicide (suicidal ideation) to suicide attempts of varying degrees of medical severity, to fatal suicide. Not surprisingly, as is the case with suicide, research in custodial settings reports elevated rates of suicidal ideation and attempts among prisoners in reference to the general population (Jenkins et al., 2005). International studies have documented that approximately one in six prisoners (15–21%) attempted suicide at some point in life, and that an estimated 34–44% of inmates self-report a lifetime history of suicidal ideation (Larney, Topp, Indig, O’Driscoll, & Greenberg, 2012; Sarchiapone, Carli, Di Giannantonio, & Roy, 2009). This high prevalence is a cause for concern, since suicidal ideation has been identified as a robust risk factor for subsequent suicidal behaviour (suicide attempt and suicide), in the general population (Castelví et al., 2017; Franklin et al., 2017; Hubers et al., 2016; Ribeiro et al., 2016; Rosson et al., 2017) and in correctional settings alike. A 2008 meta-analysis comprising nearly 5,000 cases of suicide reported a 15-fold increase in the odds of suicide among prisoners with recent suicidal ideation (Fazel, Cartwright, Norman-Nott, & Hawton, 2008) and a prospective case-control study in Greece found that 18% of prisoners with baseline suicidal ideation attempted suicide during the 12 months following assessment, as opposed to none of the prisoners in the control group (Lekka, Argyriou, & Beratis, 2006).

Hence, considering this close relationship between suicidal ideation and subsequent suicidal behaviour, improved understanding of suicidal ideation and its correlates could contribute to the early identification of at-risk prisoners. Although only a small proportion of those considering suicide will actually engage in suicidal behaviour (Nock et al., 2008; ten Have et al., 2009), studying suicidal ideation provides opportunities to prevent the progression to more severe forms of suicidality, by halting the suicidal process in its early stage (Gooding, Sheehy, & Terrier, 2013; Sveticic & De Leo, 2012). However, in spite of clinical concern and academic relevance, research on suicidal ideation among adult prisoners is relatively scant to date. Whereas studies have been conducted in specific samples of prisoners, for example women serving life sentences (Dye & Adlay, 2013), HIV-infected inmates (Peng et al., 2010), older (≥50 years of age) prisoners (Barry, Wakefield, Trestman, & Conwell, 2016), and inmate-patients receiving mental health treatment (Way, Kaufman, Knoll, & Chlebowski, 2013), there is a dearth of research in general inmate populations. Notably, one Australian study found that lifetime suicidal ideation in a large mixed-gender sample of prisoners was associated with violent offending, traumatic brain injury, depression, previous self-harm, and psychiatric hospitalization (Larney et al., 2012). In a similar vein, studies in Italy (Sarchiapone et al., 2009), England and Wales (Jenkins et al., 2005), China (Zhang, Grabiner, Zhou, & Li, 2010), and the United States (Schaef er, Esposito-Smythers, & Tangney, 2016) indicated that sociodemographic variables (e.g., white ethnicity), psychiatric morbidity, a history of attempted suicide, childhood adversity, poor social support, and certain personality traits were significantly related to suicidal ideation in general prison populations (see Table 1 for a summary). While yielding important insights, however, these few studies have two major shortcomings. First, most of the research on suicidal ideation has included a relatively narrow range of variables, focusing particularly on prisoners’ pre-existing vulnerabilities, thereby neglecting the role of prison-specific factors. Second, the majority of studies examined a lifetime history of suicidal ideation as the outcome variable, consequently limiting our knowledge about correlates and risk factors of suicidal ideation while incarcerated. Given these limitations, and the paucity of empirical data on this topic in Belgium (Favril & Vander Laenen, 2015; Wittouck et al., 2016), the aims of the current study were to (1) specify the prevalence of suicidal ideation and attempts among a large sample of male prisoners in Flanders, and to (2) investigate a wide range of both importation and deprivation variables in relation to suicidal ideation while incarcerated, in order to (3) formulate recommendations for clinical and policy efforts aimed at suicide prevention in Belgian prisons.

2. Material and methods

2.1. Setting

With an incarceration rate of 105 per 100,000 individuals (Walmsley, 2016), the average daily prison population in Belgium was just over 11,000 in 2015 (DG EPI, 2016). Approximately half of these inmates are residing in the northern (Dutch-speaking) part of Belgium (Flanders; 16 prisons), whereas the other half is incarcerated in Wallonia and Brussels (18 prisons). While in some countries individuals held in custody on criminal charges (i.e., pre-trial/remand prisoners) are housed in facilities that are separate from sentenced prisoners, the majority of Belgian prisons detain both types of inmates. Males comprise approximately 95% of all prisoners in Belgium, and 8.2% of the total prison population are offenders who are deemed criminally irresponsible (ODCI). With

1 As formulated by De Smet et al. (2016), in Belgium, offenders who are deemed criminally irresponsible (ODCI; also referred to as ‘internees’ or ‘mentally ill offenders’) for their criminal actions because of mental illness or intellectual disability are subject to a specific safety measure with the dual objective of protecting society and providing mandated care to the offender. While Belgian law requires that ODCI should be in a hospital, clinic or other appropriate institution outside of prison, in practice, about one-third of all such offenders still reside in prison—a situation for which Belgium has repeatedly been criticized by the European Court of Human Rights (see Meyzman, 2016).
Table 1
Summary of cross-sectional studies examining suicidal ideation among general adult inmate populations.

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Sample</th>
<th>Methodology</th>
<th>Outcome variable</th>
<th>Prevalence</th>
<th>Independent predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenkins et al., 2005</td>
<td>England and Wales</td>
<td>3139 prisoners (24% females) randomly selected from all prisons in England and Wales</td>
<td>Interview-based</td>
<td>Lifetime suicidal ideation was assessed using the Paykel Suicide Scale (&quot;Have you ever thought of taking your own life, even though you would not actually do it?&quot;)</td>
<td>40% of male prisoners and 55% of female prisoners had experienced suicidal ideation in their lifetime</td>
<td>Psychotic disorders, young age, single status, white ethnicity, leaving school early, poor social support, social adversity</td>
</tr>
<tr>
<td>Sarchiapone et al., 2009</td>
<td>Italy</td>
<td>903 male prisoners detained in five prisons in the region of Abruzzo</td>
<td>In-depth psychiatric interview + questionnaire</td>
<td>Lifetime suicidal ideation was assessed using the Mini International Neuro-psychiatric Interview (MINI)</td>
<td>43.7% of prisoners had a lifetime history of suicidal ideation</td>
<td>Violent behaviour in prison, substance abuse, familiarity, history of childhood abuse, neuromytenosis, depression, lack of social support, child mistreatment (male prisoners only), low self-esteem (female prisoners only)</td>
</tr>
<tr>
<td>Zhang et al., 2010</td>
<td>China</td>
<td>514 adult prisoners (39% females) recruited from three correctional facilities in the Zhejiang province</td>
<td>Self-report questionnaire survey</td>
<td>The 19-item Scale for Suicide Ideation (SSI) was used as a measure of past-week suicidal ideation</td>
<td>About 70% of all inmates reported past-week suicidal ideation</td>
<td>Depression, lack of social support, child mistreatment (male prisoners only), low self-esteem (female prisoners only)</td>
</tr>
<tr>
<td>Larney et al., 2012</td>
<td>Australia</td>
<td>996 prisoners (20% females) randomly selected from 30 adult correctional centres in New South Wales</td>
<td>Survey administered via telephone</td>
<td>Lifetime suicidal ideation was assessed by asking participants &quot;have you ever thought about suicide?&quot;</td>
<td>One-third of inmates (33.7%) reported a lifetime history of suicidal ideation</td>
<td>Violent offending, traumatic brain injury, depression, self-harm, psychiatric hospitalisation</td>
</tr>
<tr>
<td>Schaefer et al., 2016</td>
<td>United States</td>
<td>511 prisoners (32% females) recruited from one US jail</td>
<td>Interview + questionnaire</td>
<td>Suicidal ideation upon incarceration was measured with the 12-item suicidality scale from the Personality Assessment Inventory (PAI)</td>
<td>16% of participants reported clinically significant suicidal ideation upon incarceration</td>
<td>White ethnicity, history of psychiatric diagnosis, history of suicide attempt</td>
</tr>
</tbody>
</table>

a All of the included studies adopted a multivariate regression analysis, with the exception of the research by Schaefer et al. (2016), who employed bivariate analyses (independent samples t-tests) for each of the independent variables separately.

an estimated 17.4 suicides per 100,000 inhabitants in 2013, the suicide rate in the general Belgian population is among the highest in Europe (OECD, 2015). In that same year, the prison suicide rate in Belgium was 110 per 100,000 inmates, compared to a mean rate of 76 suicides per 100,000 inmates in the Council of Europe member states’ correctional facilities (Aebi, Tiago, & Burkhardt, 2016).2

2.2. Sampling and data collection

Between October 2015 and May 2016, a cross-sectional study was conducted in Flanders, Belgium. All 16 Flemish correctional facilities housing adult prisoners agreed to participate in the study. However, one prison was unable to actually participate due to situational circumstances. At each prison consecutively, an up-to-date list of all inmates detained in the facility was obtained from the respective prison administration. ODCI were a priori excluded from the list, since they constitute a specific population, and inclusion of this group may limit a reliable comparison to other international inmate samples, given this unique situation in Belgium (Vandevelde et al., 2011). A random sample of a minimum of one-third of all eligible prisoners was drawn in every prison. After sampling, further exclusionary criteria included an intellectual disability or severe psychiatric illness that prevented inmates from providing informed consent. As all Belgian prisons house adult prisoners, the minimum age of all participants was 18 years. In total, 1414 male prisoners were recruited to participate in the study, equating to 38.9% of the eligible male population physically present in the 15 Flemish prisons during the survey period (N = 3636).

The principal researcher (LF) personally approached all of the randomly selected prisoners. During this first informal and face-to-face contact, inmates were provided with a verbal description of the study, and were explicitly informed about the voluntary, confidential and anonymous nature of participation. In the event of the researcher being unable to contact a particular prisoner at the time of recruitment, for example due to hospitalization, placement in solitary confinement, sudden release or transfer to another prison, the prisoner was replaced by an inmate drawn from the reserve recruitment list, who was subsequently contacted. In cases where a selected inmate was contacted but refused to participate, a non-response was registered and was not substituted by another prisoner.

Questionnaires (available in Dutch, French and English) were administered either in groups (±10 people) in a secluded room in the facility only in the presence of the researcher, or individually. In the latter case, questionnaires were handed to the prisoners in their cells. For reasons of anonymity, and to provide prisoners with the opportunity to ask additional questions concerning the survey, the researcher personally collected the surveys in their sealed envelopes, one or two days later. In both scenarios, for inmates who identified themselves as (semi-)illiterate, or those who could not comprehend (some of) the survey’s contents, the researcher collected the data by interviewing the prisoners in Dutch, French or English. The route of survey administration depended primarily on the prisoners’ characteristics. Completion of the self-report questionnaire took on average 35 min, depending on participants’ language proficiency.

2.3. Measures

A survey was developed based on a thorough review of prior research relevant to this study, in order to cover a broad range of risk factors, addressing both importation and deprivation variables (e.g., Blaauw et al., 2005; Fazel et al., 2008; Jenkins et al., 2005; Liebling & Ludlow, 2016; Rivlin et al., 2013). The survey was first pilot-tested in a convenience sample of 12 prisoners from the target population, in order to evaluate its clarity, comprehensiveness and validity. The pilot research was conducted in September 2015, and feedback was incorporated into the final survey, prior to actual implementation. The contents of the survey are described below.

2.4. Sociodemographic and criminological characteristics

The questionnaire covered details on age (continuous), nationality (Belgian/other), partnership (dichotomized in single/divorced/widowed
vs. married/partner) and religiosity (no/yes). Next, a range of criminological variables were assessed, including prior incarceration as an adult (no/yes), current custodial status (remand/sentenced), offence type (recoded into violent/sexual vs. other), and length of current incarceration (categorical). Participants were asked an additional three dichotomous questions about their current employment status in prison (no/yes), their current cell accommodation (single/shared cell), and perceived overcrowding causing a subjective burden (no/yes).

2.5. Clinical variables

In line with an Australian inmate health survey (Indig et al., 2010), participants were asked about their illicit drug use (12 months prior to incarceration; during their current incarceration; lifetime history); current psychotropic medication on prescription (benzodiazepines, antipsychotics, antidepressants, opioid substitution treatment, lithium, and stimulants as pharmacological treatment for ADHD); history of psychiatric treatment before imprisonment (both inpatient and outpatient); and lifetime history of psychiatric disorders, formally diagnosed by a professional (including substance use disorders).

2.6. Suicidal ideation and behaviour

The primary outcome of interest in this study, suicidal ideation, was assessed using the questionnaire developed by Paykel, Myers, Lindenth, and Tanner (1974). The Paykel Suicide Scale (PSS), frequently adopted in studies both in the general population (Bebbington et al., 2010; De Leo, Cerin, Spathonis, & Burgis, 2005) and in correctional settings (Jenkins et al., 2005; Leekha et al., 2006), fits well with the conceptualization of the suicidal process. Endorsement of suicidal thoughts (“Have you ever thought of taking your life, even if you would not really do it?”) was taken as indicative of suicidal ideation. This item was scored dichotomously: one with reference to the period before their current incarceration (no/yes), and once with reference to the period during the current incarceration (no; yes, in the past year; yes, longer than 12 months ago). Past-year suicidal ideation is referred to as “recent”, and survey instructions explicitly stated that, if prisoners were currently imprisoned for less than one year, the response option “in the past year” should reflect the period since the beginning of their imprisonment. Lifetime attempted suicide (“Have you ever made an attempt to take your life?”) was dichotomously coded (no/yes). Following the PSS items, two additional questions were included to assess exposure to suicidal behaviour by fellow inmates (“Have you ever been confronted with or witnessed a suicide or suicide attempt by a fellow prisoner during your incarceration?”), and a familial history of suicidal behaviour (“Is there anyone in your family that you know of [partner, parent, grandparent, sibling, or child] who has ever committed suicide or attempted suicide?”). Responses to both items were recorded as either “no” or “yes”.

2.7. Social support

Prisoners’ self-perceived social support was measured using the Social Support Scale (SSS); a 7-item instrument used in previous prison research (Jenkins et al., 2005; Marzano et al., 2011; Rivlin et al., 2013). The frame of reference expands from family and friends to “everyone you know (including those here at prison, such as other prisoners and staff, as well as those outside prison)”, in order to reflect the fact that, for some prisoners, the most important sources of support might be people within the prison system who might not have been regarded as family and friends (Jenkins et al., 2005). Each item (e.g., “There are people I know who can be relied on, no matter what happens”) has three response options (not true; partly true; certainly true), respectively scored between 1 and 3. Overall scores range from 7 to 21, with higher scores suggesting higher levels of self-perceived social support. Composite scores of ≥17 indicate that respondents perceive a severe lack of social support, scores between 18 and 20 reflect a moderate lack of social support, and an overall score of 21 is indicative of no perceived lack of social support (Rivlin et al., 2013).

2.8. Quality of prison life

Prisoners’ perceptions of their quality of life in prison were gathered using the Measuring the Quality of Prison Life (MQPL) survey; a validated self-report instrument asking prisoners directly about the prison regime and relationships within it (Liebling, 2004; Liebling, Hulley, & Crewe, 2012). The most recent version of the MQPL consists of 126 items relating to prisoners’ treatment and experiences within prison, forming 22 dimensions, which prisoners (dis)agree with on a five-point Likert scale (ranging from “strongly disagree” to “strongly agree”). To minimize the questionnaire burden for participants, assessment was limited to the following five dimensions (23 statements in total), which were most relevant to the current study: Personal autonomy (4 items, e.g., “I have no control over my day-to-day life in here”), Physical safety (5 items, e.g., “I feel safe from being injured, bullied, or threatened by other prisoners in here”), Decency (4 items, e.g., “Prisoners spend too long locked up in their cells in this prison”), Contact with family and friends (3 items, e.g., “I am able to receive visits often enough in this prison”), and Staff-prisoner relationships (7 items, e.g., “Overall, I am treated fairly by staff in this prison”). Lower scores indicate a more negative judgement of the particular prison dimension.

2.9. Statistical analysis

Contingency tables were used to describe characteristics of the sample. To determine whether there were statistically significant differences between prisoners who reported recent suicidal ideation (SI group) and those who did not (NSI group), bivariate associations between suicidal ideation and the independent variables of interest were conducted using Pearson’s $\chi^2$-tests for categorical variables and independent-samples t-tests for continuous variables. Next, a multivariate logistic regression analysis was performed to assess independent effects of the predictors with the dependent variable (i.e., past-year suicidal ideation while incarcerated), while simultaneously controlling for potential confounders. All independent variables were entered unconditionally into the multivariate logistic regression model (i.e., irrespective of their significance at the $p < 0.05$ level in the bivariate analyses) since this averts the omission of potentially significantly associated independent variables in a multivariate context. Crude (OR) and adjusted (aOR) odds ratios, and their 95% confidence intervals (CI), are reported as estimates of the strength of the associations. Cases with missing data were list-wise deleted for all analyses, which were conducted in SPSS version 24. All tests were two-tailed, and p-values < 0.05 were considered statistically significant.

2.10. Ethics and approval

Ethical approval for the study protocol was granted by the Ethics Committee of Ghent University, Faculty of Law and Criminology. Permission to carry out the study in all Flemish prisons was obtained from the Directory-general of Penitentiary Institutions (DG EPI)—the department of the Federal Public Service of Justice responsible for all prison affairs in Belgium.

3. Results

3.1. Sample characteristics

Across 15 Flemish prisons, a total of 1414 randomly selected male prisoners were approached to participate in the study, of whom 1203 (85%) agreed and completed the survey. The majority of them had Belgian nationality (72.1%), and participants’ mean age was 37.7 ±
11.9 years (range 18–77). One-third of the sample (34.2%) was aged 25–34 years. Sixty per cent was single (which includes being divorced, separated or widowed), whereas 40% of prisoners had a partner or was married. More than half of the respondents (58.9%) had been in custody on more than one occasion as an adult (not necessarily sentenced). One in three was currently on remand (34.3%), while the remaining 790 participants (65.7%) were sentenced. One-fourth of the participants (25.5%) was charged with, or convicted of, a violent offence (i.e., murder or manslaughter) or a sexual crime. The modal length of time in prison was 1–6 months (28%), and 48.9% of the sample had been incarcerated for one year or less at the time of assessment. Further details on respondents’ characteristics are presented in Table 2, stratified by the presence (SI group) or absence (NSI group) of recent suicidal ideation while incarcerated.

3.2. Prevalence rates and bivariate analyses

A total of 43.1% of male prisoners in Flanders self-reported a lifetime history of suicidal ideation, and 20.3% had attempted suicide at some point in their lives. During their current incarceration, the proportion of participants reporting past-year suicidal ideation was 23.7% (N = 285). As shown in Table 2, bivariate analyses indicate that past-year suicidal ideation while incarcerated was significantly associated with all clinical variables, suicidality factors, and MQPL-measures (all p < 0.001). This was also the case for nationality, perceived overcrowding, working activity in prison, and social support (all p < 0.001). Of the criminological factors, only type of offence (p = 0.011) and length of incarceration (p = 0.036) showed a significant bivariate association with recent suicidal ideation. Of those significant, odds ratios ranged from 1.48 (violent/sexual offence; 95% CI 1.10–1.99) to 5.25 (lifetime suicide attempt; 95% CI 3.87–7.10) for positive associations, and from 0.72 (staff–prisoner relationships; 95% CI 0.62–0.84) to 0.48 (perceived autonomy; 95% CI 0.40–0.58) for negative associations.

3.3. Multivariate logistic regression analysis

Results of the multivariate analysis of prisoners’ recent suicidal ideation are presented in Table 3. Overall, the model was statistically significant (χ²(29) = 245.37; p < 0.0001), and correctly classified 79.7% of all cases. The model’s pseudo-R² measure suggests good model fit (Nagelkerke R² = 0.311). None of the sociodemographic variables remained significant in the multivariate model (all p ≥ 0.053). A previous incarceration (aOR = 0.61, 95% CI 0.42–0.89; p = 0.01) and being employed during their incarceration (aOR = 0.69, 95% CI 0.49–0.98; p = 0.039) were both significantly associated with decreased odds of recent suicidal ideation while incarcerated. Likewise, higher levels of autonomy (aOR = 0.66, 95% CI 0.51–0.88; p = 0.002), contact

Table 2

Participants’ characteristics stratified by past-year suicidal ideation (N = 1203).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total sample (N = 1203)</th>
<th>NSI group (N = 918)</th>
<th>SI group (N = 285)</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sociodemographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>37.7 ± 11.9</td>
<td>37.6 ± 12.1</td>
<td>37.7 ± 11.1</td>
<td>1.01 (0.99–1.02)</td>
<td>.963</td>
</tr>
<tr>
<td>Non-Belgian nationality</td>
<td>27.9</td>
<td>30.6</td>
<td>19.1</td>
<td>.54 (0.39–0.74)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Religiousness</td>
<td>71.2</td>
<td>72.5</td>
<td>66.9</td>
<td>.77 (0.58–1.02)</td>
<td>.009</td>
</tr>
<tr>
<td>Partner/married</td>
<td>40.0</td>
<td>39.8</td>
<td>40.7</td>
<td>1.04 (0.79–1.36)</td>
<td>.777</td>
</tr>
<tr>
<td>Criminalological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous incarceration</td>
<td>58.9</td>
<td>59.8</td>
<td>56.1</td>
<td>.86 (0.65–1.13)</td>
<td>.272</td>
</tr>
<tr>
<td>Violent/sexual offence</td>
<td>25.5</td>
<td>23.7</td>
<td>31.4</td>
<td>1.48 (1.10–1.99)</td>
<td>.010</td>
</tr>
<tr>
<td>Sentenced status</td>
<td>65.7</td>
<td>67.1</td>
<td>61.1</td>
<td>.77 (0.58–1.01)</td>
<td>.009</td>
</tr>
<tr>
<td>Duration incarceration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1 month</td>
<td>10.0</td>
<td>9.4</td>
<td>11.9</td>
<td>1.71 (1.00–2.90)</td>
<td>.049</td>
</tr>
<tr>
<td>1–6 months</td>
<td>28.0</td>
<td>27.3</td>
<td>30.5</td>
<td>1.50 (0.98–2.31)</td>
<td>.063</td>
</tr>
<tr>
<td>&gt;6–12 months</td>
<td>10.9</td>
<td>10.1</td>
<td>13.3</td>
<td>1.76 (1.05–2.96)</td>
<td>.031</td>
</tr>
<tr>
<td>&gt;1–3 years</td>
<td>21.1</td>
<td>22.7</td>
<td>16.1</td>
<td>.95 (0.59–1.54)</td>
<td>.848</td>
</tr>
<tr>
<td>&gt;3–5 years</td>
<td>13.1</td>
<td>12.6</td>
<td>14.7</td>
<td>1.56 (0.95–2.57)</td>
<td>.080</td>
</tr>
<tr>
<td>&gt;5 years</td>
<td>16.8</td>
<td>17.9</td>
<td>13.3</td>
<td>1.00</td>
<td>–</td>
</tr>
<tr>
<td>Clinical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illicit drug use in prison</td>
<td>35.1</td>
<td>32.1</td>
<td>44.6</td>
<td>1.70 (1.29–2.23)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>History of psychiatric treatment</td>
<td>38.9</td>
<td>35.2</td>
<td>50.9</td>
<td>1.91 (1.46–2.49)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Lifetime psychiatric diagnosis</td>
<td>44.8</td>
<td>39.8</td>
<td>61.1</td>
<td>2.38 (1.81–3.12)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Psychotropic medication</td>
<td>34.4</td>
<td>29.7</td>
<td>40.5</td>
<td>2.31 (1.76–3.04)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Suicidality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifetime suicide attempt</td>
<td>20.3</td>
<td>13.0</td>
<td>43.9</td>
<td>5.25 (3.87–7.10)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Familial history</td>
<td>24.7</td>
<td>21.4</td>
<td>35.4</td>
<td>2.02 (1.51–2.70)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Exposure suicidal behaviour</td>
<td>47.8</td>
<td>44.1</td>
<td>39.6</td>
<td>1.87 (1.43–2.45)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Institutional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single cell accommodation</td>
<td>50.3</td>
<td>50.4</td>
<td>49.8</td>
<td>.98 (0.75–1.27)</td>
<td>.856</td>
</tr>
<tr>
<td>Perceived overcrowding</td>
<td>22.2</td>
<td>18.9</td>
<td>32.4</td>
<td>2.05 (1.52–2.77)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Working activity in prison</td>
<td>53.9</td>
<td>57.2</td>
<td>43.5</td>
<td>.58 (0.44–0.75)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Quality of prison life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>2.8 ± .76</td>
<td>2.9 ± .74</td>
<td>2.5 ± .75</td>
<td>.48 (0.40–0.58)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Contact family/friends</td>
<td>3.0 ± .98</td>
<td>3.1 ± .96</td>
<td>2.7 ± .98</td>
<td>.67 (0.58–0.77)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Staff–prisoner relationships</td>
<td>2.8 ± .88</td>
<td>2.9 ± .88</td>
<td>2.7 ± .86</td>
<td>.72 (0.62–0.84)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Safety</td>
<td>3.2 ± .82</td>
<td>3.3 ± .79</td>
<td>2.9 ± .82</td>
<td>.51 (0.43–0.60)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Decency</td>
<td>2.6 ± .76</td>
<td>2.7 ± .73</td>
<td>2.4 ± .77</td>
<td>.64 (0.53–0.77)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Perceived social support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No lack</td>
<td>29.3</td>
<td>32.6</td>
<td>19.1</td>
<td>1.00</td>
<td>–</td>
</tr>
<tr>
<td>Moderate lack</td>
<td>23.3</td>
<td>23.0</td>
<td>24.0</td>
<td>1.78 (1.19–2.65)</td>
<td>.005</td>
</tr>
<tr>
<td>Severe lack</td>
<td>47.4</td>
<td>44.4</td>
<td>56.9</td>
<td>2.19 (1.53–3.08)</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Note. NSI = Prisoners without past-year suicidal ideation; SI = Prisoners with past-year suicidal ideation. Data are presented as percentages (categorical data) or mean ± standard deviation (continuous data) as appropriate. a Odds ratios and their 95% confidence intervals. b p-values by χ²-tests for categorical data and by independent-samples t-tests for continuous variables. * Reference category.
with family and friends (aOR = 0.80, 95% CI 0.67–0.98; p = 0.30) and perceived safety (aOR = 0.69, 95% CI 0.55–0.87; p = 0.002), as measured by the MQPL, were inversely associated with suicidal ideation. Conversely, while controlling for all other factors, exposure to suicidal behaviour in prison (aOR = 2.05, 95% CI 1.43–2.96; p < 0.001) and a history of attempted suicide (aOR = 2.97, 95% CI 1.99–4.41; p < 0.0001) were both positively associated with male prisoners’ suicidal ideation, as was a lifetime diagnosis of a psychiatric disorder (aOR = 1.69, 95% CI 1.09–2.62; p = 0.02). Recent suicidal ideation also showed a robust independent relationship across length of incarceration (p = 0.008), with similar high odds ratios for those incarcerated for less than one month (aOR = 2.34, 95% CI 1.43–7.34; p = 0.005), one to six months (aOR = 2.53, 95% CI 1.30–4.93; p = 0.006) and more than six months to one year or less (aOR = 3.68, 95% CI 1.83–7.39; p < 0.001), relative to the reference category (>5 years). The two remaining categories (more than one year up to five years) did not significantly differ from the reference category. Lastly, prisoners with a moderate (aOR = 1.92, 95% CI 1.19–3.10; p = 0.008) or severe (aOR = 2.26, 95% CI 1.47–3.48; p < 0.001) lack of perceived social support were approximately twice as likely to report suicidal ideation while incarcerated, compared to those who did not perceive a lack social support (p = 0.001).

4. Discussion

4.1. Interpretation of the results

The results of this study indicate that suicidality is common among inmates in Flemish prisons. During their lifetime, an estimated two out of five (43.1%) male prisoners have experienced suicidal ideation, and one-fifth (20.3%) report at least one suicide attempt over the lifespan. These prevalence rates are very similar to (albeit at the high end of the range of) previous estimates from large studies with general prisoner samples (Larney et al., 2012; Sarchiapone et al., 2009), where more than one-third of all male inmates (33.4–43.7%) reported suicidal ideation in the course of their lifetime, and circa one in six (14.5–19.9%) had ever attempted suicide. As expected, lifetime prevalence rates are highly elevated compared to those observed in the population at large, both globally (Nock et al., 2008) and nationally. In comparison, 12.9% of Belgian male adults in the 2013 national Health Interview Survey (Gisle, 2014) reported a lifetime history of suicidal ideation, and 3.2% reported one or more suicide attempts at some point in life.

During their current incarceration, past-year suicidal ideation was endorsed by nearly a quarter (23.7%) of all prisoners, which was independently associated with both vulnerability and prison-specific factors, but not with any of the sociodemographic variables included in the study (see Huang, Ribeiro, Musacchio, & Franklin, 2017). Echoing findings from prior research, both in community-based (Batterham, Calear, Christensen, Carragher, & Sunderland, 2017; Nock et al., 2009) and prison (Jenkins et al., 2005; Pennington, Cramer, Miller, & Anastasi, 2015; Schaefer et al., 2016) settings, we found psychiatric disorders to be associated with significantly increased odds of suicidal ideation—a finding also supported by research on near-lethal suicide attempts in male prisoners (Rivlin, Hawton, Marzano, & Fazel, 2010). In contrast, other clinical variables, including illicit drug use, failed to show such a significant association. As noted previously (Larney et al., 2012; Stokes, McCoy, Abram, Byck, & Teplin, 2015), the overall high prevalence of substance use in prisoners (Fazel et al., 2017; Fazel, Hayes, Bartellas, Clerici, & Trestman, 2016) may limit its predictive value, while still contributing to higher rates of suicidal ideation among prisoners.

As expected (Joiner et al., 2005), a lifetime history of attempted suicide was significantly related to recent suicidal ideation in prison (Palmer & Connelly, 2005). Given the importance of suicidal ideation as a precursor for suicidal behaviour, it appears that individuals with a past suicide attempt continue to be at a heightened risk of suicide (Fazel et al., 2008; Mendez-Bustos, de Leon-Martinez, Miret, Baca-Garcia, & Lopez-Castroman, 2013). Moreover, repetition of suicide attempts is common, which is significantly associated with a further increased risk of subsequent suicide (Hawton, Linsell, Adeniji, Sariasan, & Fazel, 2014). Furthermore, being exposed to fellow inmates’ suicidal behaviour was associated with a twofold increase in the odds of experiencing past-year suicidal ideation. This is in accordance with a recent finding by Hales, Edmondsson, Davison, Maughan, and Taylor (2015), documenting that young men who witnessed another’s suicide (attempt) in prison reported significantly more suicidal ideation over the past year than those who had no contact with suicidal behaviour by their incarcerated peers. This close association between direct exposure and suicidal ideation is particularly important given the possible contagion effect among individuals exposed to another person’s (attempted) suicide (Haw, Hawton, Niedzwiedz, & Platt, 2013), and clustering of suicidal behaviour has also been reported in prison settings (Hawton et al., 2014). In contrast to general population studies (Ribeiro et al., 2016), we did not observe a significant effect of familial history of suicidal behaviour. However, we only inquired about mere knowledge of suicidal behaviour by a family member, rather than direct exposure to such suicidal acts. Furthermore, the nature of the personal relationship and perceived closeness to the decedent was not assessed, which could possibly explain the absence of a significant association (Cerel et al., 2017; Cerel, McIntosh, Neimeyer, Maple, & Marshall, 2014).

Factors related to the prison environment and prisoners’ experiences of incarceration were found to be highly explanatory for experiencing suicidal thoughts. For example, prisoners in Flanders reporting low levels of perceived safety were more likely to report recent suicidal ideation. In a UK-based study that also adopted the
MQPL, one of the measures of the prison environment that contributed most directly to psychological distress was inmates’ rating of perceived physical safety (Liebling et al., 2005). One specific aspect of safety includes bullying, which has been linked to suicidality in prison populations. More specifically, a dose-response relationship has been documented between prisoners’ suicide risk and the nature of bullying during their incarceration (Blaauw et al., 2001). This finding was confirmed by more recent qualitative studies on suicide attempts in prison, lending support to the impact of bullying experiences on the suicidal process in prisoners (Marzano et al., 2016; Suto & Arnaut, 2010).

Also related to the prison experience, we found that prisoners who were employed during their current detention were less likely to experience suicidal ideation. As underlined by previous research (Leese et al., 2006; Liebling, 2007; Ludlow et al., 2015), the availability of and access to purposeful activity within prison appears to exert a protective effect on prisoners’ suicide risk. Activities such as work, education and sports can provide an ‘escape’ for (distressed) prisoners. As such, active correctional regimes are capable of ameliorating the pains of imprisonment, which is consistent with the findings regarding prisoners’ perceived level of autonomy in prison. Participants in our study stating, for example, that they had little or no control over their day-to-day life in prison were significantly more likely to report past-year suicidal ideation. In their qualitative study, Kerkhof and Bernasco (1990) found that the feeling of total dependency on others, and having no control over or influence on decisions imposed on them, was a central theme in the narratives of prisoners who recently attempted suicide while incarcerated. Facility characteristics, such as security-level and restricted regimes, have shown to affect the prison climate and prisoners’ personal sense of autonomy (Woodall, Doxy, & South, 2014), which on its turn can impact suicide risk in prisoners (Liebling et al., 2005). For example, in open-regime prisons one’s physical freedom and personal autonomy are less restricted than in high-security prisons characterized by a closed regime, which can possibly explain the observed effect of perceived autonomy on suicidal ideation (Dye, 2010; Huey & McNulty, 2005). However, in the current analysis, facilities’ characteristics were not taken into account.

One aspect that can mitigate the impact of (prison-related) stressors is the supportive actions of others, and even just the belief that such support is available. In the current study, we measured two aspects of social support—the extent to which prisons facilitate social contact with family and friends by providing sufficient opportunities for (long-enough) visits, and prisoners’ own perceptions of social support from people on the outside, as well as from prison staff and fellow prisoners. Replicating previous research findings (Jenkins et al., 2005; Zhang et al., 2010), the present study indicates that perceived levels of social support significantly predicted prisoners’ suicidal ideation. More specifically, inmates experiencing recent suicidal thoughts were significantly more likely to report a moderate or severe lack of social support. The buffering effect of social support has been previously highlighted (Rivlin et al., 2013), and resonates with the current finding that the ability to maintain meaningful contact with family and friends (as measured by the MQPL) is associated with a reduced likelihood of experiencing suicidal ideation. Studies of completed suicide in inmates also underline this finding (Duthé, Hazard, Kensey, & Shon, 2013; Fruehwald, Matschning, Koenig, Bauer, & Frottier, 2004). Although significant at the bivariate level, staff-prisoner relationships were not significantly associated with recent suicidal ideation once we controlled for the other variables in the multivariate analysis. A potential explanation is that staff-prisoner relationships have considerable overlap with social support, which accounted for the variance in suicidal ideation to be explained by perceived social support, as its frame of reference also included prison staff.

Lastly, with regard to criminological variables, the current study clearly shows a negative relationship between length of incarceration and recent suicidal ideation; a two- to threefold increase in the odds of experiencing recent suicidal ideation was observed in individuals imprisoned for one year or less. The above-mentioned stressors and deprivations inherent to incarceration are arguably more pronounced in the early phase of imprisonment (Harvey, 2005). This may explain why offenders who have been incarcerated for up to one year exhibit a significant higher risk of experiencing suicidal ideation than their peers who have been in prison for longer periods of time. This finding corroborates previous studies identifying the early phase of custody (Favril, Wittouck, Audenaert, & Vander Laenen, 2017; O’Driscoll, Samuels, & Zacka, 2007; Shaw, Baker, Hunt, Moloney, & Appleby, 2004) and the pre-trial period (Duthé et al., 2013; Fazel et al., 2008; Humber, Webb, Piper, Appleby, & Shaw, 2013) as high-risk periods for suicide. With regard to the latter group—prisoners detained on remand—the current analyses did not show a uniquely significant effect of custodial status in predicting suicidal ideation (see also Larney et al., 2012). However, relative to sentenced inmates, overall time spent in custody is generally shorter for pre-trial inmates, which could explain why current length of incarceration was a significant predictor, rather than custodial status per se. Irrespective of custodial status, one can assume that this negative experience of (early) imprisonment is especially true for first-time prisoners. As individuals who are imprisoned for the very first time are forced to adapt to a harsh and completely new environment, the ‘shock of imprisonment’ is likely to be more pronounced for them, compared to offenders with a prior history of imprisonment. Indeed, a first incarceration has been shown to be a particular stressful event, producing intense psychological distress (Maccio et al., 2015). Correspondingly, the current results show that being incarcerated for the very first time can be regarded as a factor increasing the likelihood of experiencing recent suicidal ideation. This finding, however, contrasts with case-control studies focusing on prisoners’ suicidal behaviour (Blaauw et al., 2005; Rivlin et al., 2013), in which a prior conviction was identified as a risk factor. Similarly, whereas single cell occupancy has been repeatedly linked to suicide in custody (Fazel et al., 2008; Humber et al., 2013), it was not significantly associated with suicidal ideation in the present study. It is plausible that inmates identified as suicidal by prison staff had been placed in a multiple-occupant cell as a preventive measure (WHO, 2007), consequently confounding the association between suicidal ideation and type of cell occupancy. Alternatively, it can be hypothesized that single cell accommodation is a risk factor for the progression from suicidal ideation to behaviour, rather than for suicidal ideation per se (for a discussion, see Klonsky & May, 2014). Although to our knowledge not yet investigated in prison samples, such a factor may predict the transition to suicidal behaviour amongst ideators, just like access to lethal means can be regarded as a risk factor facilitating the enactment on suicidal thoughts, rather than causative for the onset or persistence of suicidal ideation (Klonsky, May, & Safer, 2016).

4.2. Strengths and limitations

The current study has several important strengths. First, these are the first published data specifically examining suicidal ideation and its correlates in a large sample of prisoners in Belgium. Second, the current sample—recruited from all Flemish prisons but one—accounted for 33% of the total eligible study population and was broadly representative of the annual census data on male prisoners in Belgium during the study period (Aebi et al., 2016; DG EPI, 2016). Third, rather than using lifetime history of suicidal ideation as the outcome variable (e.g., Larney et al., 2012; Peng et al., 2010; Sarchiapone et al., 2009), this study explicitly differentiated between suicidal ideation before and during imprisonment. Consequently, we were also able to examine prison-specific correlates of suicidal ideation while incarcerated, which has received relatively little attention in prior research.

A number of limitations should nonetheless be considered in interpreting this study’s findings. First, as no collateral information about the participants could be obtained due to the confidential nature of the study, the results rely entirely on self-reported data, embedding
possible bias. In addition to the common caveats of self-report measures (Mars et al., 2016), it is possible that the sensitivity of several variables may have led to underreporting. For example, respondents might under-report illicit drug use in prison as they may fear disciplinary sanctions (Duke & Kolind, 2016), or suicidal behaviour, because of the stigma associated with (disclosing) suicide-related phenomena (Moore, Gaskin, & Indig, 2015; Way et al., 2013).

A second limitation that warrants attention relates to the cross-sectional nature of the study design, which inherently precluded any assertion about the causality and directionality of effects. It is therefore possible that some of the associations identified in the analysis might be due to reverse causality (Gunnell, Harbord, Singleton, Jenkins, & Lewis, 2004). For example, not being employed in prison and low levels of perceived safety might result from, rather than cause, suicidal ideation. Since associations may be bidirectional, factors found to be related to suicidal ideation in the present study can only be regarded as correlates, rather than risk factors (Kraemer et al., 1997). Prospective study designs are imperative in order to determine whether the examined correlates actually predict subsequent suicidal ideation.

Third, it is possible that those prisoners who chose to participate in the study differed significantly from those who did not (i.e., eligible non-participants), which may have skewed the current results (Borschmann et al., 2017). For example, previous research in the general population has reported that non-participants are more likely than participants to have increased rates of psychiatric morbidity (Haapea et al., 2008), substance use (Studer et al., 2013), and suicide risk (Svensson et al., 2015). Because no information was gathered on non-participants, it was not possible to evaluate potential selection bias. To the extent that this was the case, prevalence rates of both the dependent (suicidal ideation) and independent (psychiatric morbidity and substance use) variables are likely to be lower bound estimates. With regard to prisoners who were a priori excluded, an additional bias may apply. Inmates who were, for any reason, hospitalized or residing in solitary confinement at the time of recruitment were ineligible to participate and were substituted by another prisoner. Excluding this subgroup could again entail an underestimation of prevalence rates, given the well-established link between prisoners housed in segregation and suicidality (Bonner, 2006; Duthé et al., 2013).

Finally, the way suicidal ideation was defined and measured may have had an impact on the obtained results (Berman & Silverman, 2017). Whereas brief self-report instruments, such as the PSS, are indicated for use in large-scale population research (Batterham et al., 2015), other studies have included more comprehensive measures, additional assessments make it difficult to unambiguously compare prevalence rates, and hinder the integration of findings across studies, consequently, thwarting empirical progress in the field of suicidology (Chappell et al., 2017; Silverman & De Leo, 2016).

These limitations notwithstanding, the current findings provide novel insights regarding the correlates of suicidal ideation while incarcerated, which has several implications for policy efforts aimed at suicide prevention.

4.3. Implications for suicide prevention

In Belgium, a national suicide prevention policy in prison is currently non-existent (Favril et al., 2017). Yet, the provision of adequate and effective suicide prevention strategies is of paramount importance in order to reduce the burden of suicidality in custodial settings. Given its complex and multi-factorial aetiology (Turecki & Brent, 2016), the prevention of suicide requires a holistic approach, rather than singular strategies that aim to tackle one or more specific deprivation or importation factors (Dear, 2006). The available evidence indicates that effective programmes for suicide prevention in prison are indeed multi-faceted, which should include: adequate staff training, accurate screening of suicide risk (in the early phase of custody, but also at regular intervals throughout the period of detention), restriction of access to lethal means, sufficient provision and delivery of mental health care, and multi-disciplinary management and follow-up of high-risk prisoners once identified (Barker, Kölves, & De Leo, 2014; Konrad et al., 2007; Marzano et al., 2016). Given the well-established link between psychiatric morbidity and suicidality, as reflected in the current results, adequate treatment and management of psychiatric disorders by means of pharmacological and psychological interventions is likely to reduce the risk of suicidal behaviour (Bolton, Gunnell, & Turecki, 2015; Marzano et al., 2016; Wasserman et al., 2012), especially for depression (Zalsman et al., 2016). While such measures that target the detection and management of at-risk individuals constitute an essential component of any comprehensive prevention strategy, these alone are not sufficient. As underlined by the present study, such indicated interventions should be complemented by population strategies that help to mitigate the adverse effects of ongoing environmental stressors inherent to the prison setting. As Liebling (1998) already postulated 20 years ago, “whilst a number of risk factors are, to a large degree, set on arrival within the institution, the effects of additional stress presented by the prison environment can be manipulated by staff and managers to decrease the risk of suicide” (p. 62). Based on our findings, such environmental interventions and changes to the general prison regime should address concerns of safety, social support, and opportunities for purposeful activities (Daigle et al., 2007; Liebling, 2007; Marzano et al., 2016). Anti-bullying interventions can impact the wider correctional climate, and prisoners’ perceived safety more specifically. Prisons should also promote purposeful daily activity by providing sufficient opportunities for employment while imprisoned, as well as other activities (such as sports, education, and behavioural programmes) that are meaningful and provide prisoners not only with ‘something to do’, but also with an opportunity for personal improvement. Furthermore, acknowledging the protective role of social support in prisoners’ experience of suicidal ideation, it would appear reasonable to suggest that meaningful social interaction and social connectedness within prison should be fostered and mobilized, for example, by means of peer support schemes (Bagnall et al., 2015; Snow & Biggar, 2006). Following a suicide or suicide attempt in prison, the provision of post-incident (peer) support to those inmates confronted with the suicidal act could reduce the adverse effects of such exposure, including suicidality (Hales et al., 2015). Overall, prevention strategies that target both high-risk individuals and appropriate aspects of the prison environment should ideally be embedded in a close collaboration between all relevant services and organizations within prison (Daniel, 2006; Slade & Forrester, 2015), in which suicide is everyone’s concern (HMIP, 1999).

5. Conclusion

Consistent with research examining suicidal behaviour (Dye, 2010; Rivlin et al., 2013), the study outcomes support a combined model of both importation and deprivation factors in explaining prisoners’ suicidal ideation while incarcerated. The high prevalence of suicidal ideation underscores the need for evidence-based prevention in this at-risk population—in addition to being a robust risk factor for suicidal behaviour in prison, suicidal ideation is important in its own right as a marker of profound psychological distress. A comprehensive prison-wide approach to suicide prevention in (Belgian) prisons should unequivocally entail a multi-agency collaboration, focusing on both prisoners’ individual vulnerabilities and the stressors inherent to imprisonment. As the suicidal process represents a behavioural threshold, future research—both quantitative and qualitative—should...
delineate which prisoners are at highest risk of acting on their suicidal thoughts (Klonsky et al., 2016). Such perspectives could contribute to an advanced understanding of the suicide process while incarcerated, to inform suicide prevention strategies and, ultimately, to reduce the burden of suicides in prisons.

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References


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