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Trauma exposure and PTSD *among men entering jail*:
A comparative study with the general population

Running Title: Trauma exposure and PTSD on admission to jail

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ABSTRACT (238 words)

Research has consistently shown high levels of post-traumatic stress disorder (PTSD) in correctional settings. We aimed to compare the prevalence rates of trauma exposure, subthreshold PTSD, and full PTSD in incarcerated people with those observed in the general population. We used the *Mini-International Neuropsychiatric Interview* to screen for psychiatric disorders among men upon admission to jail (N=630) and non-incarcerated men living in the same geographic area (the northern district of France; N=5,793). We utilized a multinomial regression model to assess the association between admission to jail and the prevalence rates of trauma exposure, subthreshold PTSD, and full PTSD. We employed logistic regression models to verify the interaction between admission to jail and PTSD status on the presence of psychiatric comorbidities. Full PTSD was overrepresented among men in jail after adjustment for all covariates (OR [95% CI] = 3.49 [1.55-7.85], $p=0.002$). The association between PTSD status and the presence of at least one psychiatric comorbidity was also more important upon admission to jail than in the general population. Admission to jail was not associated with a higher prevalence rate of trauma exposure (OR [95% CI] = 1.12 [0.85-1.46], $p=0.419$) or subthreshold PTSD (OR [95% CI] = 1.17 [0.81-1.68], $p=0.413$). These results suggest higher prevalence rates of full PTSD and psychiatric comorbidities associated with PTSD symptoms in incarcerated people than in the general population. The provision of trauma-focused interventions tailored to these clinical specificities should be considered for the jail population.

KEYWORDS

Correction; Jail; PTSD; Trauma; Vulnerability; Comorbidity.

HIGHLIGHTS

- PTSD is over-represented in men recently admitted to jail compared to the general population.
- People with a history of incarceration but also first-time entrants to jail show a higher rate of full PTSD.
- Psychiatric comorbidities associated with PTSD symptoms are more frequent in incarcerated people than in the general population.

INTRODUCTION

Psychiatric disorders are highly prevalent in the correctional population (Fazel and Seewald, 2012a). Research has consistently shown high levels of major depression, psychosis, substance use disorder, and post-traumatic stress disorder (PTSD), which is one of the most common psychiatric disorders in correctional settings (Fazel et al., 2016). In a recent meta-analysis of 56 samples comprising 21,099 people in prison from 20 countries, the random effects pooled point prevalence of PTSD was 6.2% (95% CI 3.9-9.0) and 21.1% (95% CI 16.9-25.6) for incarcerated men and women, respectively (Baranyi et al., 2018). In the same study, the lifetime prevalence estimates of PTSD were 17.8% (95% CI 12.4-23.9) and 40.4% (95% CI 31.8-49.3) among incarcerated men and women, respectively. **In the general population, the cross-national lifetime prevalence of PTSD was 3.9% in a recent study on 71,083 respondents from 24 different countries (Koenen et al., 2017).**

Several hypotheses have been proposed to explain the high prevalence rates of PTSD in prisons and correctional facilities. First, many individual risk factors for PTSD, such as a low economic and education level or poor mental health status, are frequent in the prison population (Fazel et al., 2016). Notably, high rates of childhood and adulthood traumatic exposure to physical, sexual, and emotional violence have been widely documented in incarcerated people (Abram et al., 2015; Facer-Irwin et al., 2021; Karatzias et al., 2018; Wolff et al., 2014; Wolff and Caravaca Sánchez, 2019). In fact, more than half the people in prison are likely to have a history of abuse and neglect (Bodkin et al., 2019; Johnson et al., 2006; Wolff et al., 2009), which is a well-known risk factor for subsequent PTSD (Dunn et al., 2017). Second, the prison environment, which includes numerous potentially traumatic events (such as threats, bullying, humiliation, and sexual assaults), may also contribute to the overrepresentation of PTSD in correctional settings (Wolff et al., 2007). While violent acts in detention settings are known to be poorly reported (Kubiak et al., 2018), Wolff and colleagues

found that approximately a quarter of people in prison had experienced physical violence in the previous 6 months (Wolff et al., 2009).

A better understanding of the factors underlying the high level of PTSD in correctional settings has major clinical implications, especially for optimizing the currently inadequate management of PTSD in prison (Jakobowitz et al., 2017). Comprehensive identification of the clinical characteristics of people suffering from this disabling condition in prison is also crucial from this perspective. Importantly, previous research has demonstrated high rates of psychiatric comorbidities (i.e., depression, anxiety, and substance use) among imprisoned people with PTSD (Facer-Irwin et al., 2021, 2019). However, no study has directly compared disorders coexisting with PTSD in prisons and general populations of the same region, an approach that would overcome several limitations (Fovet et al., 2021). Indeed, as the lifetime prevalence of PTSD shows large variations depending on the country in both the general population (Koenen et al., 2017) and the prison population (Baranyi et al., 2018), cross-country comparisons are not very informative about the impact of being imprisoned on the prevalence and clinical features of PTSD. In contrast, a direct comparison between the prison and the general populations provides an opportunity to address the specific characteristics of incarcerated people with PTSD. This approach also allows for the investigation of trauma and post-traumatic symptoms in patients who do not meet the criteria for PTSD (i.e., subthreshold PTSD). Notably, subthreshold PTSD is associated with levels of social and occupational morbidity comparable to full PTSD (Brancu et al., 2016; Zlotnick et al., 2002), but has been little studied in prison settings.

In the present study, our main objective was to compare the prevalence rates of trauma exposure, subthreshold PTSD, and full PTSD in incarcerated people upon admission to jail with those observed in the general population in the same geographic area. The secondary objectives were to explore the psychiatric comorbidities associated with these conditions in both groups.

MATERIAL AND METHODS

Study population

This study is an explorative secondary analysis of the *Mental Health in the Prison Population* (MH-Prison Population) and the *Mental Health in the General Population* (MH-General Population) surveys. Since women represent only a small proportion of the prison population (3.5% of the participants who responded to the MH-Prison Population) and significant differences in the mental health status of incarcerated men and women are well documented (Bartlett and Hollins, 2018), we focused on the male population.

Mental Health in the Prison Population survey (MH-Prison Population)

For the cross-sectional MH-Prison Population survey, conducted between March 2014 and April 2017 by the *Fédération régionale de recherche en psychiatrie et santé mentale* (Regional Federation for Research in Psychiatry and Mental Health, F2RSMPsy) and the *World Health Organization Collaborating Centre in Mental Health* (WHOCC Lille), 653 randomly selected men and women who had recently been committed to the French general population prison system in the north district of France were interviewed. The number of subjects to be included was calculated based on the Clopper-Pearson method (Newcombe, 1998). The lowest expected prevalence for a psychiatric disorder evaluated by the *Mini-International Neuropsychiatric Interview* (MINI) was for psychotic syndrome with an estimated prevalence rate of 5%. In these conditions, the number of individuals to be recruited was 655. For the present study, all 630 men interviewed were included in the analysis (23 women were excluded).

Legal authorization was obtained by the “*Comité de Protection des Personnes*” (CPP) with number IDRCB 2012 A0144835, the “*Commission Nationale Informatique et Liberté*” (CNIL) with number MMS/VCS/AR152838, and the “*Agence nationale de sécurité du*

médicament et des produits de santé” (ANSM) with number 130500B-31. All interviewees provided written informed consent. The data were collected between March 2014 and April 2017. Each participant was interviewed for 45 to 60 minutes within the jail medical unit under strict conditions of confidentiality.

Subjects were randomly approached for inclusion from admission lists of consecutively committed people in 8 of the 9 jails of Nord and Pas-de-Calais in France: *Arras, Douai, Dunkirk, Sequedin, Annoeullin, Longuenesse, Maubeuge, and Valenciennes*. In France, jails are detention centres before trial or remand centres where incarcerated people on sentences shorter than 2 years reside. Subjects were included in the study if they met the following criteria: (1) provided informed consent to participate in the survey, (2) spoke French, (3) were aged 18 years or older, (4) were free of any mental or psychological incapacity to participate due to acute decompensation of a psychiatric disorder or severe substance withdrawal (i.e., a health condition requiring emergency hospitalization), and (5) had been incarcerated for less than 72 hours (sentenced or on remand). For each jail, the recruitment days were selected at random. People with a safeguarding vulnerable adult legal measure were included. Exclusion criteria were the inability to communicate in French, a lack of capacity to provide informed consent, and mental or psychological incapacity to participate due to acute decompensation of a psychiatric disorder or severe substance withdrawal. For a full description of the MH-Prison Population survey procedure, see (Fovet et al., 2020).

Mental Health in the General Population survey (MH-General Population)

The cross-sectional MH-General Population survey, conducted by the WHOCC, interviewed 12,568 subjects in the north district of France between 2001 and 2008. Subjects were selected from 14 sites (900 subjects per site) using a quota-sampling method. This method provides a sample of subjects with a sociodemographic profile similar to that of the general population profile with regard to age, sex, education level, and occupational category according

to census figures from 1999 provided by the *French National Institute of Statistics and Economic Studies* (INSEE). Subjects were included in the study if they met the following criteria: (1) provided informed consent to participate in the survey, (2) spoke French, (3) were aged 18 years or older, (4) were residing in Nord or Pas-de-Calais, and (5) were neither institutionalized nor homeless. A full description of the MHGP survey procedure is available elsewhere (Amad et al., 2013; Bellamy et al., 2005; Caria et al., 2010; Pignon et al., 2018, 2017).

Data collected

The MH-Prison Population and MH-General Population surveys used the same methodology to collect clinical and sociodemographic data.

To characterize the samples, sociodemographic data were collected for gender, age in years (categorized into four bands: 18-24, 25-34, 35-44, and over 44), education level (no education or primary level, secondary level, university level), marital status (single, married or coresiding with a partner, separated/divorced/widowed), employment status (employed, unemployed), monthly income in euros per household per month (categorized into five bands: <€534, €535-840, €841-1,300, €1,301-2,520, >€2,520), and history of migration for the participant, as well as his/her parents or grandparents (yes, no).

For each subject, the MINI (French version 5.0.0), a standardized psychiatric interview, was used to screen for psychiatric disorders as defined by the *10th International Classification of Diseases* (ICD-10). Good inter-rater and test-retest reliabilities of the MINI have been previously reported. A good convergent validity relative to the Composite International Diagnostic Interview (CIDI) and the Structured Clinical Interview for Diagnostic and Statistical Manual (SCID), with a Kappa value of 0,78 for PTSD, has also been described (Lecrubier et al., 1997; Sheehan et al., 1997, 1998). All of the MHPP interviewers (nurses and psychologists) were trained to administer the MINI over a 1-day session provided by WHOCC experts.

The following psychiatric disorders were assessed using the MINI: (i) mood disorders, i.e., manic episodes (F30), depressive disorders (current and recurrent, F32 and F33), and current dysthymia (F34.1); (ii) anxiety disorders, i.e., panic disorder with or without agoraphobia (F41.0 and F40.01), social anxiety disorder (SAD, F40.1), and generalized anxiety disorder (GAD, F41.1); (iii) psychotic syndromes (isolated or recurrent, F2[x]), always confirmed by a senior psychiatrist or psychologist); (iv) PTSD (F43.1); (v) alcohol dependence (F10.2); and (vi) substance dependence (F1[x]). Suicide risk was also screened.

Statistical analyses

Participants were classified into one of three PTSD status groups based on the results of the MINI: (i) full PTSD, (ii) subthreshold PTSD, and (iii) trauma exposure without any PTSD symptoms. Full PTSD was defined according to the ICD-10 criteria. We defined subthreshold PTSD as the combination of trauma exposure (i.e., criterion A [having been exposed to a stressful event or situation of exceptionally threatening or catastrophic nature, which would likely cause pervasive distress in almost anyone]) and any clinically significant PTSD symptoms below the threshold (i.e., at least criterion B [persistent remembering or “reliving” of the stressor in intrusive “flashbacks”, vivid memories, or recurring dreams, or in experiencing distress when exposed to circumstances resembling or associated with the stressor]). Trauma exposure without any PTSD symptoms was defined as meeting only criterion A.

We measured crude prevalence rates (and 95% confidence intervals [95% CI]) in the MH-General Population and MH-Prison Population samples. We also calculated age-standardized prevalence rates [95% CI] in the MH-Prison Population sample using the MH-General Population sample as a reference. We compared the prevalence rates in the two samples using chi-square tests.

We relied on multinomial regression models to assess how admission to jail (MH-Prison Population versus the MH-General Population) was associated with PTSD status. We used the three groups described above (i.e., history of trauma exposure without PTSD symptoms, subthreshold PTSD, full PTSD) and a reference group (i.e., no trauma exposure) as the four categories of the dependent variable. The multivariate model included age, education level, marital status, employment, monthly income, and history of migration. We have presented associations as crude and adjusted odds ratios and 95% confidence intervals (OR and aOR [95% CI]). To ensure that the association between admission to jail and PTSD status was not explained by a history of incarceration, we applied the same analyses after excluding individuals with a history of incarceration in the MH-Prison Population sample.

Finally, we hypothesized interaction between admission to jail (MH-Prison Population versus the MH-General Population) and PTSD status on the presence of psychiatric comorbidities. We thus used a logistic regression model: The outcome was the presence of at least one psychiatric comorbidity (mood disorder, anxiety disorder, psychotic syndrome, alcohol dependence, substance dependence, or high suicidal risk). We introduced an interaction term, “PTSD status * sample” and adjusted the model for all covariates. The PTSD status term was categorical (i.e., history of trauma exposure without PTSD symptoms, subthreshold PTSD, full PTSD), and the sample term was either the MH-General Population or the MH-Prison Population. Psychiatric comorbidities were also described for each trauma category and in each sample.

We performed data analysis using R 3.6.1. The significance level was set at $\alpha = 0.05$, and all tests were 2-tailed.

RESULTS

Sample characteristics

We included and analyzed a total of 5,793 and 630 men in the MH-General Population and the MH-Prison Population samples, respectively (see **Table 1**). All the sociodemographic characteristics collected differed significantly from one group to another. Individuals in the MH-Prison Population sample were younger, more precarious, and more often single. They were also more likely to report a history of migration.

PTSD status on admission to jail

Compared to the MH-General Population sample, prevalence rates of trauma exposure, PTSD symptoms (subthreshold or full PTSD), and full PTSD were significantly higher in the MH-Prison Population sample (see **Table 2**): 1.15 times higher for trauma exposure (37.0% vs. 32.1%, $p=0.016$), 1.71 times higher for PTSD symptoms (15.4% vs. 9.0%, $p<0.001$), and 8 times higher for full PTSD (4.8% vs. 0.6%, $p<0.001$). After having standardized the prevalence rate of full PTSD by age, it remained 5.83 times higher in the MH-Prison population than in the MH-General population.

Association between admission to jail and PTSD status

Table 3 presents multivariate multinomial regression models testing associations between admission to jail (MH-Prison Population versus the MH-General Population) and PTSD status. Compared to the MH-General Population sample, people in the MH-Prison Population were more likely to have a full PTSD (OR=3.49, 95% CI: 1.55-7.85, $P=0.002$). This association persisted even after excluding reincarcerated persons (OR=4.87, 95% CI: 1.82-12.99, $P=0.001$). After adjustment, we found no association for trauma exposure without PTSD symptoms or probable subthreshold PTSD.

Psychiatric comorbidities

Figure 1 depicts the prevalence rates of psychiatric comorbidities. In the MH-General Population sample, 29.4% of the participants without trauma exposure presented with at least one psychiatric disorder, versus 53.6% of the MH-Prison Population sample. The median number of comorbidities was 0 (interquartile range [IQR]: 0-1) in the MH-General Population sample, regardless of the PTSD status, except in the full PTSD subgroup, in which the median number was 1 (IQR: 0-2). The median number of comorbidities was higher in the MH-Prison Population sample: 1 (IQR: 0-2) among participants without trauma exposure or with trauma exposure without PTSD symptoms, 2 (IQR: 1-4) among respondents with subthreshold PTSD, and 3 (IQR: 2-4) in cases of full PTSD.

The interaction term “PTSD status * sample” was significant ($P < 0.001$). **Figure 2** shows associations between PTSD status and the presence of at least one psychiatric comorbidity in each of the samples. In the MH-General Population sample, the probability of presenting with at least one psychiatric comorbidity increased with PTSD status. Compared to participants without trauma exposure, participants with trauma exposure without PTSD symptoms (OR=1.16, 95% CI: 1.01-1.33, $P=0.040$), subthreshold PTSD (OR=1.76, 95% CI: 1.44-2.15, $P < 0.001$), and full PTSD (OR=4.03, 95% CI: 1.98-8.56], $P < 0.001$) were at higher risk of presenting with at least one psychiatric comorbidity. We noted the same tendency in the MH-Prison Population sample, but with a more important effect of PTSD status. The aORs were 1.83 (95% CI: 1.19-2.84, $P=0.006$), 7.31 (95% CI: 3.43-18.10, $P < 0.001$) and 13.33 (95% CI: 3.83-84.38, $P < 0.001$) for trauma exposure, subthreshold PTSD, and full PTSD, respectively.

DISCUSSION

We directly compared trauma exposure and PTSD between a population of recently incarcerated men and the general population of men living in the same geographic area (the north district of France). The main results revealed that (i) full PTSD is overrepresented among men in jail and (ii) the association between PTSD status and the presence of at least one psychiatric comorbidity is more important upon admission to jail than in the general population.

The overrepresentation of full PTSD in incarcerated people compared to the general population is consistent with previous research in the field (Goff et al., 2007). In addition, the prevalence of full PTSD in our sample of incarcerated men (4.8% 95% CI: 3.3-6.8]) is in line with the findings of a recent meta-analysis in which the point prevalence of PTSD ranged from 0.1% to 27% for incarcerated men (Baranyi et al., 2018). **Our results are also consistent with a previous study conducted in French prisons for men that found a prevalence of 6.6% for the diagnosis of PTSD identified with the MINI** (Falissard et al., 2006). Epidemiological data about subthreshold PTSD in prison and jail are scarce and mainly focus on incarcerated women (Wolff et al., 2007). In our sample, 10.6% (95% CI: 8.4-13.4) of the incarcerated men had symptoms of PTSD without meeting the criteria for full PTSD, which is consistent with one of the rare studies that measured a prevalence rate of 11.6% for subthreshold PTSD in Puerto Rico prisons (Caraballo et al., 2013). We did not find any difference between the jail and general population samples for subthreshold PTSD rates after adjusting for covariates. Regarding traumatic exposure, 37% (95% CI: 33.2-40.9) of the jail sample indicated that they had experienced a traumatic event, which appears to be slightly lower than the rates found in past studies (Abram et al., 2015; Facer-Irwin et al., 2021; Karatzias et al., 2018; Wolff et al., 2014; Wolff and Caravaca Sánchez, 2019). However, the majority of studies have been conducted during incarceration, whereas our analysis concerns people when entering jail. Importantly, the proportion of people exposed to trauma without PTSD symptoms did not differ between jail

and the general populations. Altogether, these results indicate that the higher prevalence of PTSD in our sample of incarcerated people compared to the general population cannot be explained by a higher rate of exposure to traumatic events. Several alternative hypotheses can be proposed.

First, while the proportion of people affected by a traumatic event is roughly the same upon admission to jail as in the general population, the type of trauma may differ between the two populations. Notably, high levels of assaultive violence, both physical and sexual, have been described during incarceration (Wolff et al., 2009), and this type of traumatic event is associated with a high rate of PTSD (Kessler et al., 1995). In our study, excluding people with a history of incarceration did not change the results. As with the overall MH-Prison Population, first-time entrants to jail showed a higher rate of full PTSD, but not of subthreshold PTSD or trauma exposure without PTSD symptoms compared to the MH-General population and after adjusting for all covariates. This suggests that the possible role of the type of trauma in the overrepresentation of PTSD upon admission to jail may be related to events before incarceration, rather than jail-specific factors.

Second, the high rate of PTSD among men entering jail can also be explained by the high frequency of individual risk factors for PTSD found in this population. Indeed, individuals in the MH-Prison Population sample were younger, more precarious, and more often single than in the MH-General Population sample. These characteristics have been demonstrated as risk factors for PTSD (Hoge et al., 2014; Karam et al., 2014). However, the results were unchanged after adjusting for these variables, suggesting the implication of other factors, such as childhood trauma and a history of exposure to interpersonal violence (Ozer et al., 2003), which we could not assess in this study, but are known to be highly frequent among people in jail (Altintas and Bilici, 2018; Driessen et al., 2006).

Third, a relationship between PTSD and the perpetration of violence has been described (Aebi et al., 2017; Elbogen et al., 2014; Macmanus et al., 2012; Trevillion et al., 2015) and may contribute to the overrepresentation of this disorder upon entry to jail. Notably, this association could be partially mediated by substance and alcohol misuse, as proposed by some authors. For example, Elbogen et al. found that co-occurring PTSD and alcohol misuse was associated with an important rise in violence and aggression in veterans (Elbogen et al., 2014). In our study, more than half of people suffering from PTSD recently admitted to jail had a substance dependence, and more than a third had an alcohol dependence (versus 11% and 19% in the general population, respectively). PTSD has also been shown to increase the risk of criminal recidivism among justice-involved people (Sadeh and McNiel, 2015). Integrating trauma-informed care in correctional settings is a challenging task, but it could be a key point to optimize psychiatric care in prison (Ardino, 2012; Belet et al., 2020; Miller and Najavits, 2012). Further studies are needed to determine the optimal management of PTSD in correctional facilities. In addition, systematic screening for PTSD upon admission to jail could also be an interesting avenue to improve access to appropriate care (Guston et al., 2019).

Finally, it is well-known that PTSD frequently co-occurs with mood, anxiety, or substance use disorders. As previously shown (Facer-Irwin et al., 2019; Pietrzak et al., 2011), we found high levels of psychiatric comorbidities in individuals with PTSD both in jail and in the general population. However, we also found that the risk of having psychiatric comorbidity is significantly higher among incarcerated people than in the general population. These results may suggest additional vulnerability to psychiatric comorbidities in the jail population, but could also explain the high rate of PTSD in jail since prior psychiatric disorders influence the likelihood of having PTSD (Shalev et al., 2017).

Our study has some limitations that future research should address. The main one arises from a time lag of approximately 10 years between the MH-General Population and MH-Prison

Population surveys. This could notably explain the surprisingly higher level of education (especially for secondary level) in the MH-Prison Population than in the MH-General Population. The prevalence data in the general population may have also changed over time, but no more recent data are available. Importantly, despite this time lag, both surveys used strictly the same criteria to define full PTSD, subthreshold PTSD, and trauma exposure without any PTSD symptoms. It should be noted that there is currently no consensus regarding the definition of subthreshold PTSD (Kim et al., 2020). We defined it as the combination of trauma exposure and any clinically significant PTSD symptoms below the threshold. This definition, proposed by Zlotnick et al. (2002), is broad and may include all individuals with traumatic exposure and PTSD symptoms who do not fulfill the PTSD diagnosis. Importantly, a recent meta-analysis by Brancu et al. indicated that the variability in prevalence estimates of subthreshold PTSD was more related to population and sample composition than differences in the definition of subthreshold PTSD used (Brancu et al., 2016). Second, no information about the history of incarceration was available for the MH-General Population sample, making it impossible to assess the impact of past incarceration on PTSD status in the general population. In addition, no information about the index offense and criminal history (except for prior incarceration) was available for the MH-Prison Population sample. Third, it was not possible to compare the types of traumatic events, as this information was not available in either database. Fourth, the study's cross-sectional nature does not provide a basis for inferring the timing of PTSD and psychiatric comorbidities, which may be both complications and predisposing factors of PTSD. Fifth, exposure to potentially traumatic events during childhood has been related to some personality disorders (Battle et al., 2004). Personality disorders, which appear to be highly prevalent in correctional facilities (Conn et al., 2010), were not assessed in the present study. We were thus not able to investigate the potential relationship between personality disorders and PTSD in the prison population. Sixth, we only recruited recently

committed prisoners in the Nord and Pas-de-Calais departments. As a result, caution is needed before generalizing the results for the entire population of France or other countries. Last, significant gender differences exist in the mental health status of incarcerated people (Fazel and Seewald, 2012b; Wright et al., 2006). Importantly, PTSD is about 3 times more common in women than in men in prison (Baranyi et al., 2018). The present study focused on a male population and further studies are needed to investigate the epidemiology of trauma and PTSD in imprisoned women in France.

In conclusion, the results of this study imply an additional vulnerability of the jail population compared to the general population, resulting in higher prevalence rates of both full PTSD and psychiatric comorbidities associated with PTSD symptoms in incarcerated people. The provision of trauma-focused interventions tailored to these clinical specificities should be considered for the jail population.

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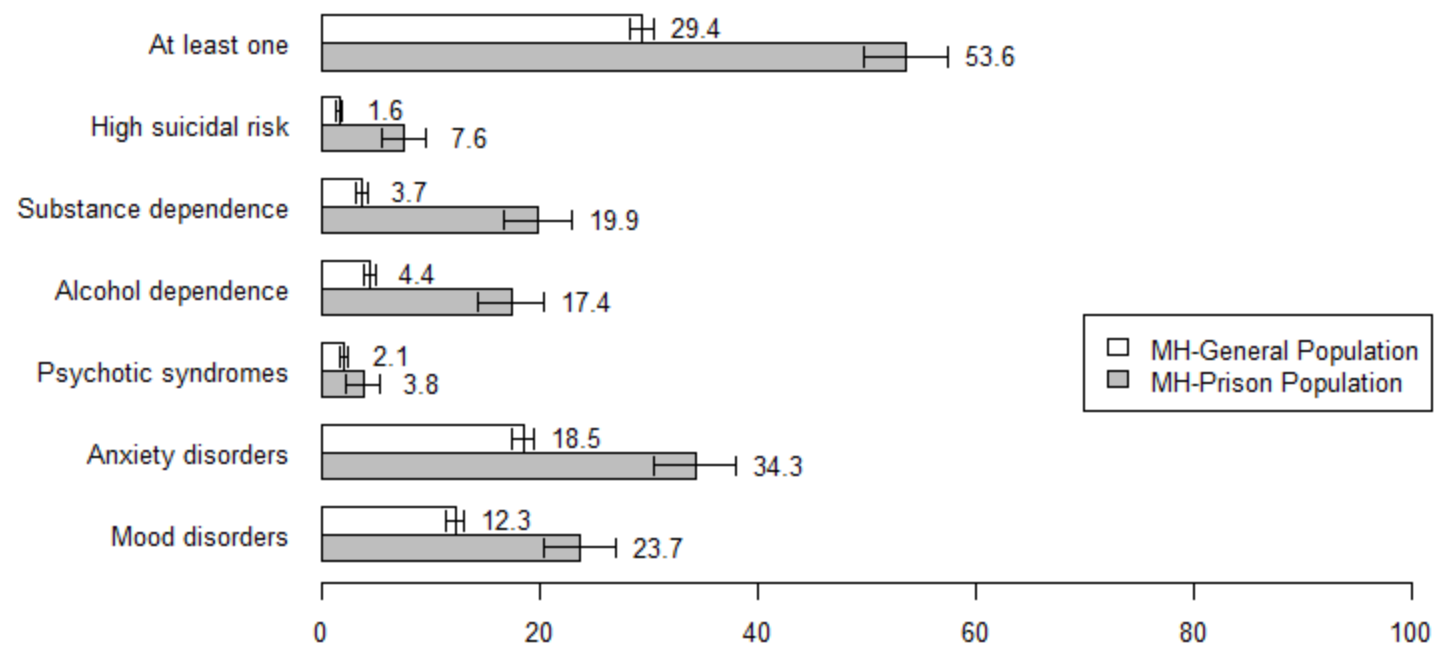
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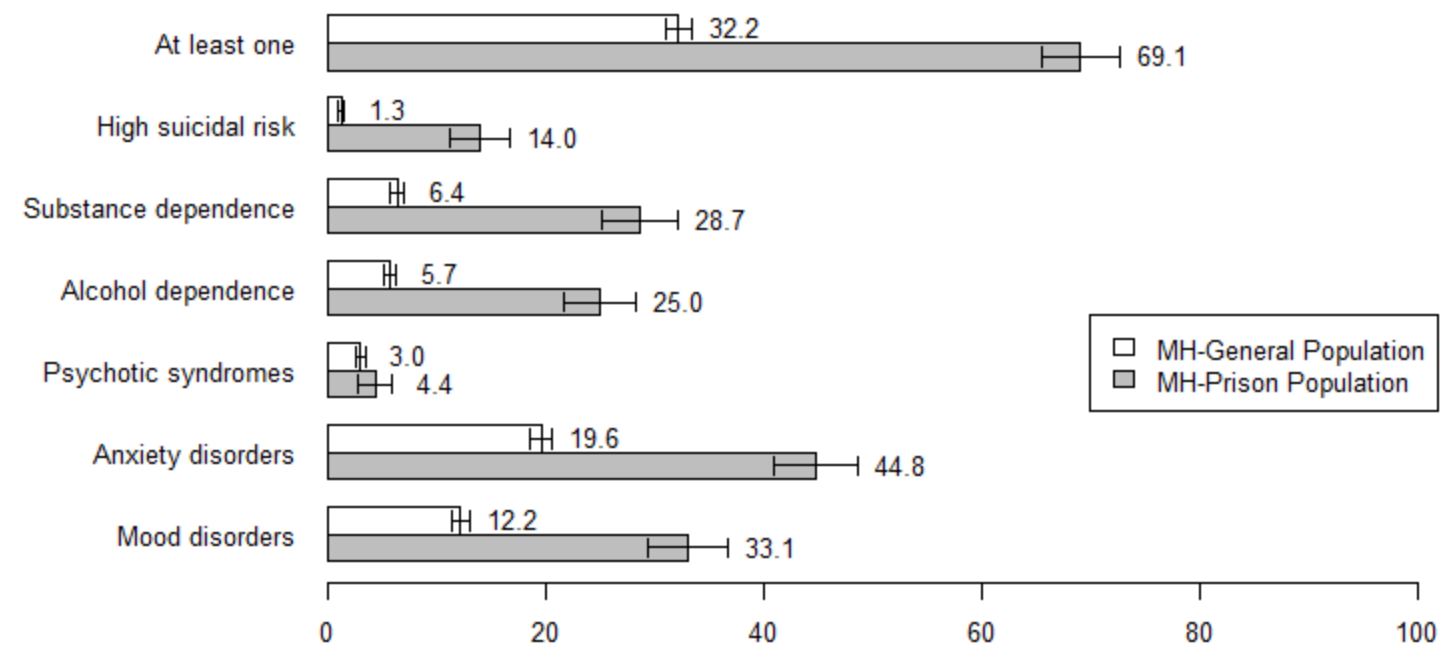
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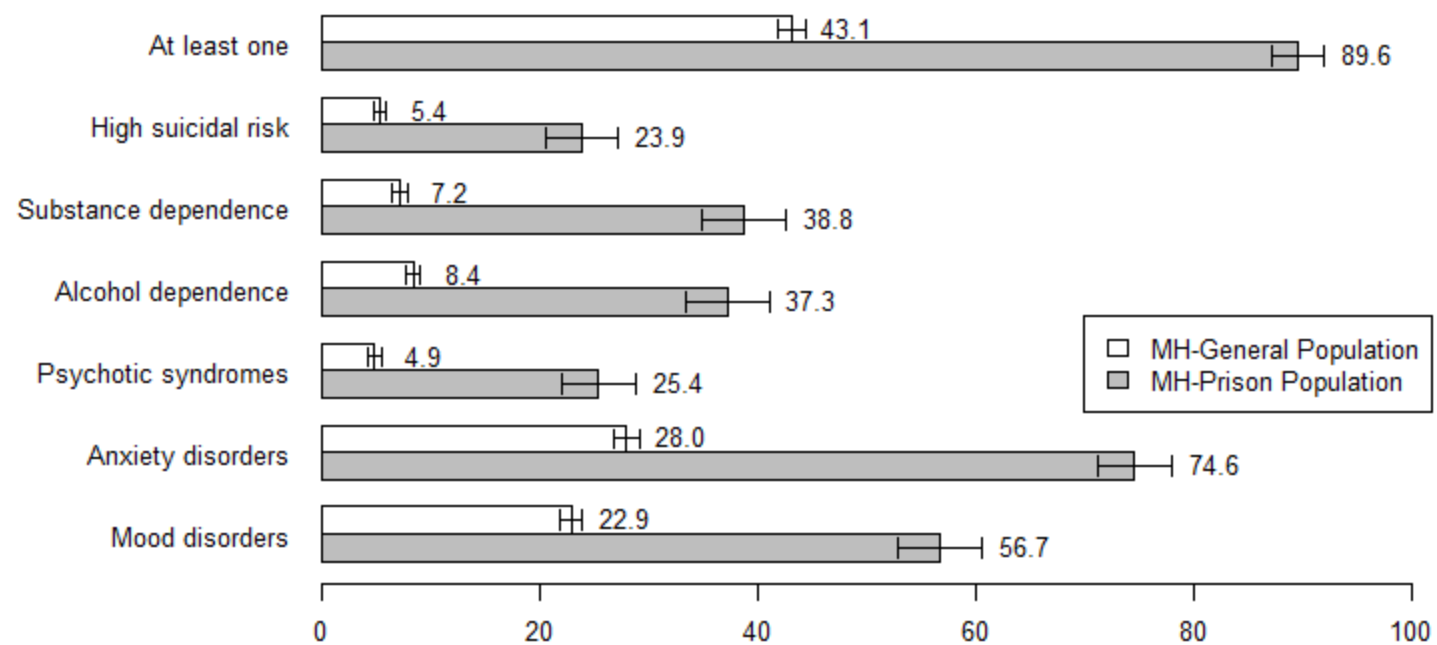
No trauma exposure



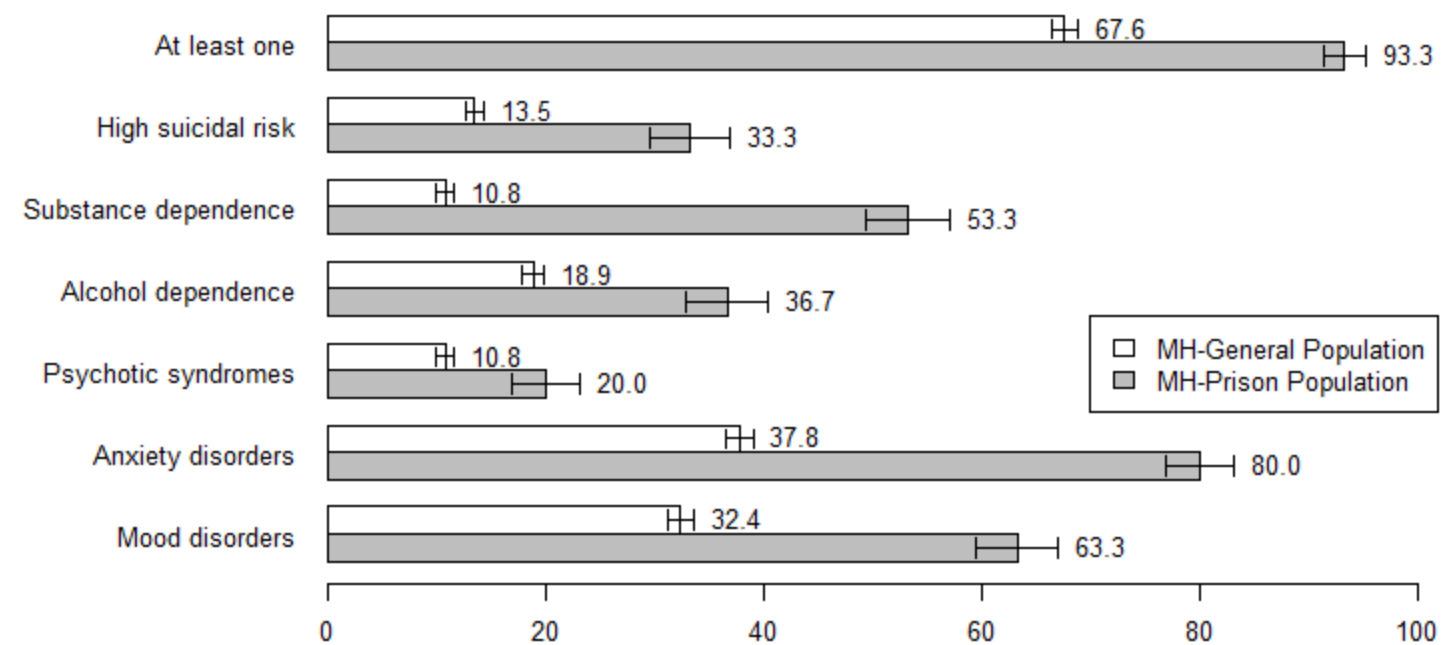
Trauma exposure without symptoms of PTSD



Subthreshold PTSD



Full PTSD



Estimates

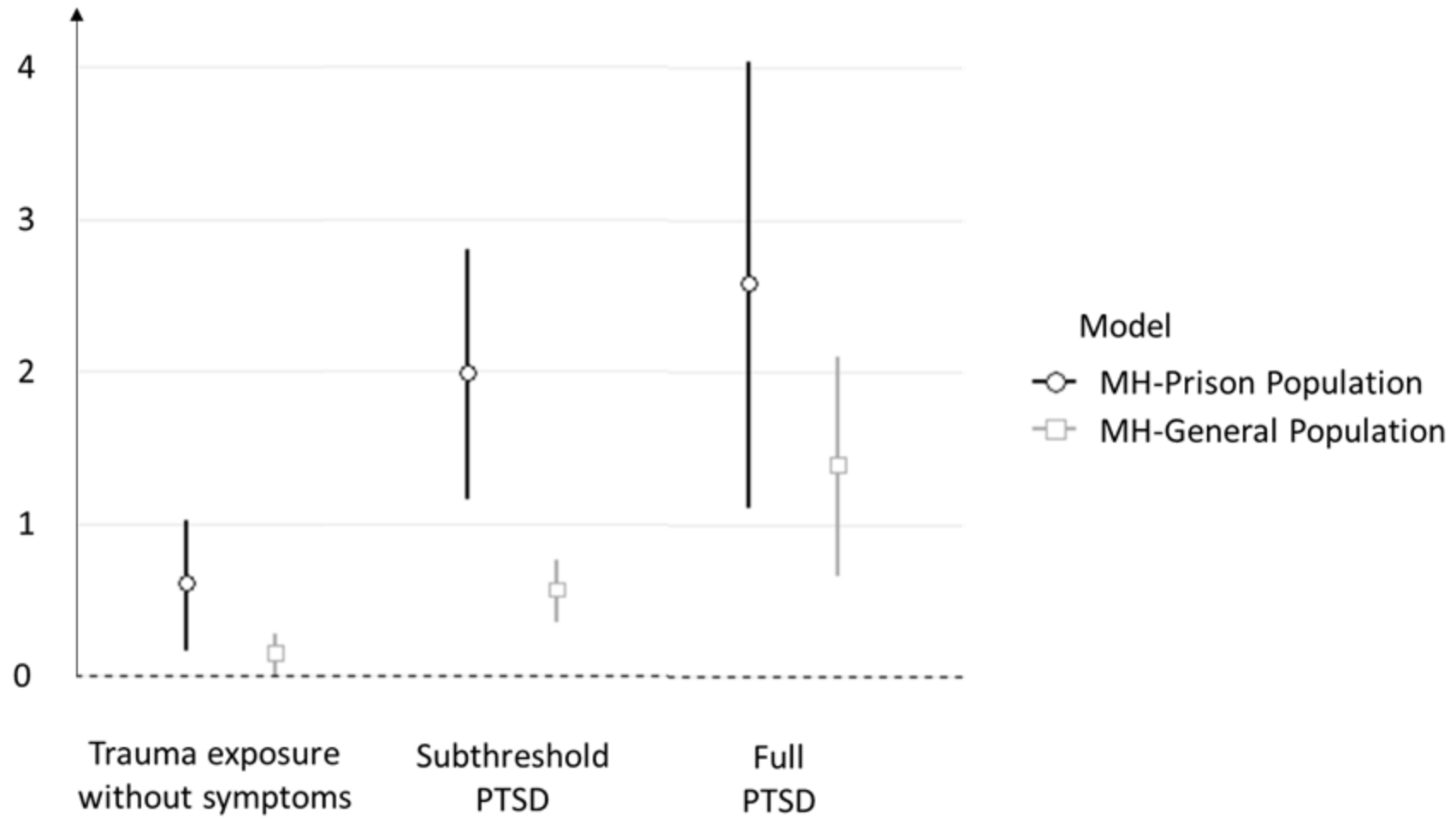


Table 1. Sociodemographic characteristics of the MH-General Population and the MH-Prison Population samples

	MH-General Population N = 5,793	MH-Prison Population N = 630	P
Age (years), n (%)			<0.001
< 25	1,026 (17.7)	186 (29.5)	
25-34	1,238 (21.4)	222 (35.2)	
35-44	1,038 (17.9)	138 (21.9)	
> 45	2,491 (43.0)	84 (13.3)	
Education level, n (%)			<0.001
No education/primary level	3,393 (58.6)	293 (46.7)	
Secondary level	1,146 (19.8)	315 (50.0)	
University level	1,243 (21.5)	21 (3.3)	
NA	11 (0.2)	1 (0.2)	
Marital status, n (%)			<0.001
Single	1,797 (31.0)	275 (43.7)	
Married or cohabiting with a partner	3,228 (55.7)	277 (44.0)	
Separated/divorced/widowed	736 (12.7)	78 (12.4)	
NA	32 (0.6)	0 (0.0)	
Employed, n (%)			<0.001
Yes	3,361 (58.0)	220 (34.9)	
No	2,432 (42.0)	410 (65.1)	
NA	0 (0.0)	1 (0.2)	
Monthly income level (€/household), n (%)			<0.001
< 534	286 (4.9)	409 (64.9)	
534-840	452 (7.8)	125 (19.8)	
840-1300	1,203 (20.8)	62 (9.8)	
1300-2520	2,512 (43.4)	29 (4.6)	
> 2520	1,203 (20.7)	5 (0.8)	
NA	137 (2.4)	0 (0.0)	
History of migration, n (%)			<0.001
Yes	1,529 (26.4)	248 (39.4)	
No	4,264 (73.6)	382 (60.6)	

Table 2. Prevalence rates of trauma exposure, subthreshold PTSD, and full PTSD in the MH-General Population and the MH-Prison Population samples

	Crude prevalence rates in MH-General Population (N = 5,793)		Crude prevalence rates in MH-Prison Population (N = 630)		p	Age-standardized prevalence rates in MH-Prison Population [95% CI]
	N	% [95% CI]	N	% [95% CI]		
No trauma exposure	3,930	67.8 [66.6-69.0]	397	63.0 [59.1-66.8]	0.016	59.3 [55.3-63.1]
Trauma exposure	1,862	32.1 [30.9-33.4]	233	37.0 [33.2-40.9]	0.016	38.9 [35.1-42.8]
Trauma exposure without PTSD symptoms	1,340	23.1 [22.0-24.2]	136	21.6 [18.5-25.1]	0.409	22.6 [19.5-26.1]
Trauma exposure with PTSD symptoms	522	9.0 [8.3-9.8]	97	15.4 [12.7-18.5]	<0.001	15.5 [12.8-18.6]
Subthreshold PTSD	485	8.4 [7.7-9.1]	67	10.6 [8.4-13.4]	0.064	11.6 [9.3-14.4]
Full PTSD	37	0.6 [0.4-0.9]	30	4.8 [3.3-6.8]	<0.001	3.5 [2.3-5.4]

Table 3. Results of the multinomial regression models assessing associations between admission to jail and PTSD status

	Trauma exposure without symptoms [†] N=1,476			Subthreshold PTSD [†] N=552			Full PTSD [†] N=67		
	OR	[95% CI]	p	OR	[95% CI]	p	OR	[95% CI]	p
All respondents									
Model 1: unadjusted									
Admission to jail (MH-Prison Population vs MH-General Population)	1.00	[0.82-1.23]	0.964	1.37	[1.04-1.80]	0.022	8.03	[4.90-13.1]	<0.001
Model 2: adjusted for all covariates [‡]									
Admission to jail (MH-Prison Population vs MH-General Population)	1.12	[0.85-1.46]	0.419	1.17	[0.81-1.68]	0.413	3.49	[1.55-7.85]	0.002
Excluding reincarcerated people in the MH-Prison Population sample									
Model 3: unadjusted									
Admission to jail (MH-Prison Population vs MH-General Population)	0.83	[0.60-1.14]	0.245	1.12	[0.72-1.73]	0.619	7.95	[4.15-15.22]	<0.001
Model 4: adjusted for all covariates [‡]									
Admission to jail (MH-Prison Population vs MH-General Population)	0.89	[0.61-1.28]	0.528	1.04	[0.63-1.73]	0.863	4.87	[1.82-12.99]	0.001

[†] Compared with individuals with no trauma exposure (N=4,327)

[‡] Age, education level, marital status, employment status, monthly income, and history of migration