Comparison of Criminal Activity between Israeli Veterans with and Without PTSD

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**Key words**

Posttraumatic stress disorder; Veterans; Military; Violence; Criminal record
Abstract

**Background:** The literature, based on US Vietnam veterans, suggests that PTSD is associated with increased criminal activity, especially violence, alcohol and drug abuse, although more recent studies, which tested data from the US as well as the UK, suggest a more moderate effect for this relationship. The current study examines Israeli veterans, who differ socioeconomically and have lower rates of substance abuse than veterans in previous studies.

**Methods:** In this study, the social security numbers of 2,235 male veterans with PTSD and 2,235 matched control male veterans without a PTSD diagnosis were checked for criminal records in the Israeli Police criminal records database. Severity measures were also obtained for 273 veterans who are currently treated for PTSD by the Ministry of Defense.

**Results:** PTSD diagnosed veterans, as compared to controls, were slightly more likely to have criminal records (43%, n=957/2235 vs. 36%, n=803/2235, Chi- square = 22.23, p<0.001, OR=1.33). This was due to a small difference in "Violence" and "Crimes against public order and legal authority". No difference was found in drugs or any other categories. In addition, criminal activity was not related to symptoms severity. More veterans with PTSD had their first criminal record after the traumatic event.

**Conclusions:** Contrary to previous findings, in this large national cohort, only slight association was found between PTSD and criminal activity. The unique sample of Israeli veterans might account for this difference and suggest that PTSD per se might not be linked to increased criminal activity, violence or substance abuse.
Comparison of Criminal Activity between Israeli Veterans with and Without PTSD

Introduction

Post-traumatic stress disorder (PTSD) affects 6-9% of the general population\textsuperscript{1,2} and is characterized by re-experiencing the traumatic event, avoidance of stimuli associated with the trauma, and increased arousal (DSM-IV).\textsuperscript{3} These symptoms are often accompanied by subjective feelings of fear, helplessness or horror, and may severely impede normal functioning.\textsuperscript{1,4} The hyperarousal symptoms of PTSD that include expressions of rage and hostility are particularly dysfunctional as they may lead to violent behavior.\textsuperscript{5-16}

The possible link between PTSD and aggressive and violent outbursts has been investigated in many studies of Vietnam veterans, of whom approximately 30% suffer from PTSD.\textsuperscript{8} These studies reported a positive association between PTSD and aggressive, antisocial and violent behavior.\textsuperscript{6,7,9,10,11,17} Both PTSD-related hyperarousal, alcohol misuse and substance abuse were found to be associated with increased violence among veterans with PTSD.\textsuperscript{6,9,10,18-20}

More recent studies of veterans from Iraq and Afghanistan are in line with prior findings, indicating a correlation between PTSD, mainly its hyperarousal component, and post-deployment anger and hostility\textsuperscript{21} as well as antisocial behavior.\textsuperscript{22,23}

Although these studies have found an association between PTSD and violent behavior, it is not clear yet whether this link reflects a causal relationship. As most of
these studies are retrospective, a clear and distinctive timeline of the persons' behavior relative to the traumatic event is often impossible to determine. Furthermore, factors such as memory loss, the person's current psychological state, and other external factors may bias the results of such studies. Moreover, as the co-morbidity of PTSD and alcohol misuse as well as substance abuse are common (Interestingly, even more common than co-morbidities of PTSD with other psychiatric diseases)\cite{18}, alcohol misuse is found to have a mediating effect on the link between PTSD and violence.\cite{9,18,23} Some authors also pointed out that the definition of “violent behavior” is in itself unclear, and a standard methodology for studying the relationship between violence and psychiatric disorders is lacking.\cite{24} In the current study we overcame this limitation by using criminal records obtained by the Israeli police, and using the Israeli penalty law, obtained by the Israeli justice system.\cite{25}

Most of the knowledge gained on PTSD is from Vietnam veterans. The extent to which these findings replicate to other groups of veterans is being investigated in cohorts deployed to Iraq and Afghanistan, as mentioned earlier.\cite{22,23}

Some of the findings may be affected by the conscription and draft exemptions influencing the selection of soldiers. Recently, a large scale research of UK military personnel deployed to Iraq and Afghanistan conferred an important insight to a more representative sample of military personnel, demonstrating risk factors of serving in a contemporary war-zone.\cite{23} Linkage of data from self-reported questionnaires with lifetime official criminal records, enabled the researchers to describe the socioeconomic and military factors associated with violent offending. However, generalization of the results is still limited by the non-mandatory nature of the army draft in the UK, similar to
Furthermore, this study included only 344 men with clinical PTSD. There is therefore a need to retest findings in large cohort from other populations of veterans.

The current study examined veterans from Israel where almost all physically able persons are drafted to the army with very limited exemptions. In addition, rates of alcohol misuse, which can be an important mediator to the link between PTSD and criminal offenses, are relatively low in Israel. In the Israeli military, combat- or non combat-related traumatic events occurring during the mandatory 3-year military service, or later in life during reserve service are registered in the Ministry of Defense (MOD) database when veterans seek treatment and/or material support from the MOD, according to the time they occurred. This enables semi-prospective studies of rather large sample sizes and to some extent allows a determination of a timeline between pre- and posttraumatic behavior. The above potentially enables relatively unmasked studies regarding the link between PTSD-related symptoms and the resulting behavioral and personality changes.

This study tested the association of PTSD and criminal behavior in a semi-prospective design of a large sample of Israeli male military veterans. We compared the prevalence and nature of police criminal records of veterans with PTSD to those of matched-pair non-PTSD diagnosed control veterans. In addition, as hyperarousal has been suggested to be linked to impulsive and violent behavior, we also tested the association between the hyperarousal component of PTSD (criterion D of the DSM-IV) and criminal records.

Methods
The study was designed as a semi-prospective investigation of Israeli Defense Force (IDF) male veterans who approached the Israeli MOD due to physical or mental disabilities, and were consequently diagnosed with PTSD. The database used in this study was originally compiled by Zohar et al. (2009),[28] who performed a comprehensive survey regarding PTSD in Israeli IDF veterans between January 2000 and March 2001. Most veterans who participated in the survey (88%) were no longer in reserves, whereas a minority still served as reservists (10%) or remained on active duty (2%). The survey evaluated all records available from the MOD rehabilitation departments and IDF centers (n = 5,871 records in total), which represent 91% of the existing records of the entire population of veterans with any type of psychiatric disorder. All traumatic incidents occurred during active military service (either mandatory service, namely between the ages 18 to 21 years, or reserve service, namely between the ages 21 and 45 years) and included combat-related traumas (81.2%), accidents during routine work or training (5.2%), road traffic accidents (6.6%), terrorist attacks (4.0%) and other traumatic events (3.0%).

The survey is described in detail in Zohar et al. (2009).[28] Briefly, PTSD diagnosis was made by surveyors on the basis of the veterans’ charts using DSM-IV criteria (American Psychiatric Association, 1994)[3] – i.e., the person had been exposed to a traumatic event and evidenced at least one symptom of re-experiencing, three avoidance/numbing symptoms, and two symptoms of hyper-arousal. The information in the charts was recorded a short period of time after the traumatic event occurred and the participant referred to the MOD or IDF clinics. The diagnosis that was used in the current
study was obtained for the sake of the survey conducted between January 2000 and March 2001, was based on the information from the charts and was related to the traumatic event reported by the participant. The surveyors were 32 psychology students in the final year of undergraduate studies, who were given specific training in the diagnosis of PTSD. The surveyors were overseen by senior, well-informed supervisors, who randomly reevaluated 50% of the files during the first two months for each surveyor and 25% at subsequent stages. Inter-rater reliability between the surveyors' and the supervisors' diagnoses was found to be within the acceptable range (kappa=0.77). The data was first coded into data sheets and then entered into a computerized database. The identification numbers of the participants were encrypted to provide an individual yet unidentifiable number for each participant.

*Matched non-PTSD sample*

Following extraction of the PTSD cohort from the IDF database (n=2362), each individual in the PTSD cohort was matched with a control from that database. Controls were the draftee with the next sequential draft identification number without a diagnosis of PTSD. Since soldiers who are the same sex and age, and who live in the same locale are drafted together, this procedure helped ensure not only an identical time of drafting but also matching of age, sex, and to some extent other background variables such as education and socioeconomic characteristics (table 1).

*Criminal records*
Lifetime criminal data records of the PTSD cohort and matched controls were extracted from the Israeli Police criminal records database on 2004, based on the identification numbers of the participants, which were encoded for confidentiality. This included all open and closed criminal records (either due to lack of evidence or lack of public interest), and/or convictions for each of the participants that were recorded until 2004. For those who did not have any criminal records, a result with "no records" was obtained. As the number of female veterans in the PTSD group was very low (n=6) and their trauma history not combat related, and some background data were systematically missing for females, we confined the study to male veterans.

For 127 of the 2,362 persons with a diagnosis of PTSD there was no complete match between the MOD database and the Israeli Police database (an error result was obtained); they and their matched controls were excluded, leaving 2,235 males with a diagnosis of PTSD and an equal number of controls, thus a total of 4,470 persons.

Severity measures

A total of 273 veterans with PTSD diagnosis (of whom 160 hold criminal records) are currently treated by the MOD and had complete and reliable documentation of their PTSD status that was recorded by their therapists during treatment, including accurate data regarding the time of the traumatic event and the severity of their symptoms. For the current study we collected severity data obtained using four severity scales: (1) Clinical Administered PTSD Scale (CAPS), which assesses the severity of PTSD symptoms on a scale of 0 (no symptoms) to 136 (severe symptoms)\([29,30]\); (2) Montgomery-Asberg Depression Rating Scale (MADRS), which assesses the core
symptoms of depressive illness on a scale of 0 (no symptoms) to 60 (severe symptoms); (3) A Clinical Global Impression Scale (CGI), which assesses the severity (CGI-S) on a scale of 1 (normal) to 7 (extremely ill) and improvement (CGI-I), on a scale of 1 (very much improved) to 7 (very much worse) of a mental illness; (4) The Hamilton Anxiety Scale (HAM-A), which assess the severity of anxiety-related symptoms on a scale of 0 (no symptoms) to 56 (severe symptoms).

The study was approved by the Institutional Review Board (IRB) of Chaim Sheba Medical Center, Israel. Since the study was based on existing IDF records and data collected from previous study, no written consent from the participants was required by the IRB (see also Zohar et al. 2009). The list of criminal categories used in the study was obtained from the Israeli penalty law (1977); Categorization of the criminal records was based on the textbook Penalty laws (Dalumi and Cohen 2008).

Data Analysis

A Chi-square test was used to compare the prevalence of criminal records in the PTSD diagnoses versus the non-PTSD diagnoses control group (n=2,235 in each group) and a multivariate analysis of variance (MANOVA) was used to compare the number of criminal records between these groups according to the different criminal categories. For those persons in the PTSD diagnoses group for whom the severity of the disorder was accurately documented (n=273), MANOVA was used to examine the difference in severity scale scores between PTSD veterans with and without criminal records. In addition, for persons with a diagnosis of PTSD, who had both accurate documentation of the disorder and at least one criminal record (n=160 participants), Pearson’s correlation
coefficient was examined to determine a possible association between the number of criminal record counts and the total score on the CAPS, MADRS, CGI and HAM-A scales. For the establishment of a timeline between PTSD and criminal activity, the first criminal record and the time of the event triggered PTSD symptoms were compared for 110 participants with such data, using a Chi-square test.
Results

Total criminal records

More of the persons with a diagnosis of PTSD had criminal records as compared to non-PTSD diagnosed controls (43%, n=957/2235 vs. 36%, n=803/2235, Chi-square = 22.23, p<0.001, OR=1.33). However, the mean number of criminal records per person did not differ between PTSD (mean = 2.06, sd= 5.73) and non-PTSD diagnosed groups (mean = 2.14, sd= 7.79, t(4,468)=.366, p=.71).

Symptom severity measures recorded for 273 PTSD diagnosed veterans showed no significant differences (p=.613) between those with and without criminal records on any of these measures (table 2). Pearson correlation between severity measures and the number of criminal records showed a significant correlation only with HAM-A (table 2).

Criminal records by category

The number of participants with criminal records related to crime categories of "Violence" (e.g. threatening, assault, spouse assault, actually bodily harm, assault of policeman on duty, and less prevalent offenses, such as physical child abuse and manslaughter) and "Crimes against public order and legal authority" (e.g. public insult, misconduct in public office, unauthorized possession of weapon and contempt of court) was higher among veterans diagnosed with PTSD as compared with the non-PTSD diagnosed control group (Table 1). There was no significant difference between the two groups in other categories of offenses, such as "Drug offenses" (e.g. possession and use of dangerous drugs and import, production, trade, supply of dangerous drugs), "Property
crimes" (e.g. theft) "Sex crimes" (e.g. indecent assault in public), "Fraud and forgery" (e.g. debit card fraud), and others (see Table 3).

Traumatic event – criminal record timeline

The MOD database provided accurate chronological data of the traumatic event for 110 PTSD veterans only. For these veterans, the year of the traumatic event ranged from 1956 to 2001, (Mean = 1981, sd= 8.22 years). A total of 35% (N=39) of PTSD veterans had their first criminal record before their traumatic event occurred, while 65% (N=71) had their first criminal record after the traumatic event ($\chi^2_{(1)}=9.31$, p<.01).
Discussion

In this semi-prospective design of a large sample of Israeli veterans (n=4470) we found a small but statistically significant, association between PTSD and having a criminal record mostly related to violence and "crimes against public order and legal authority". The number of offenses was not significantly different between the groups. In addition among PTSD diagnosed veterans there was no significant difference in symptom severity between those with and without a criminal record.

PTSD diagnosis was not associated with substance related crimes, contrary to previous findings in the literature.\textsuperscript{[17,18-20]} Studies reporting an excess of criminal activity, especially violence and drugs-related, usually report relatively large effect sizes (e.g. McFall et al. 1999 reported OR=7.4 for general acts of violence, and OR of 3.2 to 6.5 for specific types of violence).\textsuperscript{[6]} However, in the current study effect sizes for difference between the groups in numbers of veterans with criminal records, as well as in violence and crimes against public order and legal authority related crimes, were small (OR of 1.2 to 1.4).

Antisocial behavior, as reflected by failing to accept social norms, with respect to lawful behavior, was partially expressed in our present study as "Crimes against public order and legal authority". This category was more prevalent in the PTSD group than in the control group (p<0.05). However, taking into consideration the full-range of antisocial behavior, our findings suggest that it was not a dominant component of the offenses committed by persons with PTSD compared to the control group; The number of non-violent offenses attributed to a possible antisocial behavior, such as "Drug offenses",
"Sex crimes", "Property crimes", "Fraud and forgery" and "Gambling", did not differ between the groups. These finding are in contrast to previous studies linking PTSD and antisocial behavior.\cite{17,22,23,37} Interestingly, in the present study, impulsivity rather than antisocial behavior characterized PTSD.

The difference between this study and findings in the literature, which point towards excess of criminal activity among persons with PTSD in general, and in violence, alcohol and drug abuse in particular,\cite{6,7,9-11,18,23} call for a deeper look at the relevant populations which were studied. In Israel, army service is mandatory, and although there are groups who consistently do not get drafted, it is more representative of the general population than other cohorts described in most of the previous publications where conscription is either voluntary or exemptions are widely granted (e.g. U.S. and U.K.).\cite{26} Moreover, in Israel military service is highly regarded socially. As a result, contrary to other countries, a high percentage of combat soldiers are from high socioeconomic backgrounds who choose to be drafted to combat and elite units. These differences, and the low overall substance abuse rates in Israel,\cite{27,38} allow for testing PTSD in a cohort of veterans less likely to have comorbid substance abuse that obscures PTSD-related behavioral phenomena.\cite{18,39,40} It is therefore not surprising that we did not find an association of substance related crimes and PTSD.

Another difference between the current and other studies is that we used chart records for criminal behavior while others used self-report measures.\cite{5,6,7,10,12,13,17,21,22} Using chart records has the advantage of objective reporting and not being subjected to recall bias. However, it also has the disadvantage of misrepresentation, as offending which comes to the attention of the police might be a small proportion of the total
offending performed by the participants. However, for the sake of the comparison between PTSD and non-PTSD groups, this disadvantage is limited since it affects both groups.

The findings of the current study shed light into the relationship between crime, substance abuse, and PTSD. It is commonly believed that PTSD leads to substance abuse which leads to crime.\textsuperscript{[18-20]} Along this line, a large study of the UK military personnel deployed to Iraq and Afghanistan was recently published, based on an objective documentation of offenses in the national criminal records database. They found that PTSD was a mediator, among other important mediators (e.g. alcohol misuse) of the link between a traumatic event and violence. However, the current study suggests that the association between PTSD and violence (the above mentioned sequence) might be different, as no difference was found between those veterans with and without a diagnosis of PTSD on substance related criminal records. This suggests that while substance abuse may have been a mediator of the association between PTSD and violence, even in its absence, there still appears to be an association\textsuperscript{[41]} albeit modest.

Worth noting is the finding that unlike "Drug offenses", "Alcohol offenses" (e.g. disorderly conduct under the influence of alcohol and holding weapon, whether knife or gun, while being intoxicated)\textsuperscript{[25]} are absent in our cohort. Therefore it is more difficult to delineate an association between alcohol misuse, as opposed to substance abuse and PTSD.

Another notion that this study challenges is the link between the impulsive nature of the offenses performed by persons diagnosed with PTSD and PTSD symptomatology, especially hyperarousal. In the current study we found no significant correlation between
the severity of the hyperarousal criterion (as measured by the CAPS score) and the magnitude of criminal activity. This finding is in contrast with previous findings\cite{8, 15, 21, 42} which suggest a correlation between criminal behavior and the severity of PTSD, and its hyperarousal component in particular. Macmanus et al. (2013) also found a dose-response relation between the risk for violent offending and increased burden of symptoms of PTSD, mostly for hyperarousal symptoms cluster.\cite{23} However, this finding should be taken with caution as in the current study we examined such possible correlation in only 10% of the PTSD patients, namely those who are currently under the supervision of the MOD and therefore had accurate and objective measurements of PTSD severity as recorded in the MOD database. It might be that this sub-population may have suffered a selection bias and might not accurately represent the entire population, as persons who stayed under MOD supervision were those whose symptoms were more resistant to treatment. Hence, the severity of the disorder in these persons might have been relatively high and a “ceiling effect” could have masked criterion D of PTSD as a risk factor for criminal behavior.

One important aspect of a semi-prospective study is its ability to determine a timeline between the time of the traumatic event and the time of the criminal offense. This was not possible in previous retrospective studies. In the present study we performed a timeline analysis on a sub-group of 110 veterans with a diagnosis of PTSD. For the majority of the participants in this sub-group (65%), the time of the event preceded the first criminal record. This finding might suggest that the traumatic event (and PTSD that followed) possibly increased the risk to commit criminal offenses, although this finding should be regarded with caution as it was tested only on a small sub-group of participants.
and could have resulted also due to a “floor effect” (namely, since the traumatic event occurred during military service, i.e., at the early age of 18-21). Similar results were also found recently by Macmanus et al. (2013) [23], who reported larger rate of post-deployment offending compared to the in-service pre-deployment and pre-military periods.

To conclude, our results suggest that PTSD relates only slightly to the chance of increased criminal activity, is not associated with drug abuse or with the interaction between the two. The uniqueness of the Israeli sample, which includes relatively more veterans with high socioeconomic backgrounds, as well as relatively low levels of alcohol and substance abuse in the general Israeli population, might account for the difference between the current study's results and those reported in the literature. This uniqueness provides the opportunity to measure the net effect of PTSD on behavior.
Acknowledgement

The study was done in collaboration with the Israeli Consortium for PTSD. The Israel Consortium on PTSD includes: Bleich A, Kaplan Z, Katz I, Klein E, Kotler M, Shalev AY, Ohri A and Weissman Z.
References


### Table 1: Demographic characteristics of PTSD and non-PTSD veterans

<table>
<thead>
<tr>
<th></th>
<th>PTSD</th>
<th>Non-PTSD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year of birth</strong></td>
<td>Mean=</td>
<td>1955</td>
<td>1956</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td>SD=</td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td><strong>Draft year</strong></td>
<td>Mean=</td>
<td>1975</td>
<td>1975</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>SD=</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td><strong>No. of years of education</strong></td>
<td>Mean=</td>
<td>10</td>
<td>10</td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td>SD=</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2(3)$ 14.1, .003</td>
</tr>
<tr>
<td>Single</td>
<td>11%</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>81%</td>
<td>77%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>7%</td>
<td>8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widower</td>
<td>1%</td>
<td>1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rank during incident</strong></td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2(1)$ = 4.1, .04</td>
</tr>
<tr>
<td>Private</td>
<td>72%</td>
<td>69%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sergeant**</td>
<td>28%</td>
<td>31%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Role during incident</strong></td>
<td></td>
<td></td>
<td></td>
<td>$\chi^2(1)$ = 30.0, &lt;.001</td>
</tr>
<tr>
<td>Combat</td>
<td>47%</td>
<td>38%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>53%</td>
<td>62%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Mean ± standard deviation for PTSD severity and associated scales in patients with and without criminal records (n=273).

<table>
<thead>
<tr>
<th></th>
<th>With criminal record (n=160)</th>
<th>Without criminal record (n=113)</th>
<th>F</th>
<th>r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPS score</td>
<td>75.48±25.18</td>
<td>72.42±20.31</td>
<td>1.143</td>
<td>-0.08</td>
</tr>
<tr>
<td>Intrusion</td>
<td>22.13±8.82</td>
<td>21.17±7.51</td>
<td>.880</td>
<td>0.30</td>
</tr>
<tr>
<td>Avoidance</td>
<td>29.01±10.96</td>
<td>27.72±9.27</td>
<td>1.039</td>
<td>-0.09</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>24.34±8.46</td>
<td>23.53±7.25</td>
<td>.687</td>
<td>0.27</td>
</tr>
<tr>
<td>Functioning</td>
<td>8.22±2.46</td>
<td>7.71±1.85</td>
<td>3.487</td>
<td>-0.10</td>
</tr>
<tr>
<td>HAM-A score</td>
<td>29.77±10.40</td>
<td>27.60±7.89</td>
<td>3.487</td>
<td>0.22*</td>
</tr>
<tr>
<td>MADRS score</td>
<td>29.57±9.51</td>
<td>27.75±8.65</td>
<td>2.601</td>
<td>-0.03</td>
</tr>
<tr>
<td>CGI-S score</td>
<td>4.27±1.06</td>
<td>4.08±0.93</td>
<td>2.426</td>
<td>0.73</td>
</tr>
<tr>
<td>CGI-I score</td>
<td>3.37±0.90</td>
<td>3.18±1.11</td>
<td>2.348</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

* p<0.05
1 result of MANOVA used to compare the two groups
2 correlation between number of criminal records (not shown) and the different severity scales
Table 3: Number of PTSD and non-PTSD veterans with criminal records, divided into categories.

<table>
<thead>
<tr>
<th>Category</th>
<th>PTSD</th>
<th>non-PTSD</th>
<th>$\chi^2$</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violence</td>
<td>562 (25%)</td>
<td>425 (19%)</td>
<td>19.016**</td>
<td>1.43 (1.24 to 1.65)</td>
</tr>
<tr>
<td>Gambling</td>
<td>23 (1%)</td>
<td>30 (1%)</td>
<td>0.925</td>
<td></td>
</tr>
<tr>
<td>Crimes of moral/ Ethics violations</td>
<td>76 (3%)</td>
<td>76 (3%)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Sex crimes</td>
<td>55 (2%)</td>
<td>49 (2%)</td>
<td>0.346</td>
<td></td>
</tr>
<tr>
<td>Crimes against public order and Legal authority</td>
<td>344 (15%)</td>
<td>293 (13%)</td>
<td>4.08*</td>
<td>1.21 (1.02 to 1.43)</td>
</tr>
<tr>
<td>Drug offenses</td>
<td>96 (4%)</td>
<td>104 (5%)</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Other minor crimes</td>
<td>142 (6%)</td>
<td>173 (8%)</td>
<td>3.051</td>
<td></td>
</tr>
<tr>
<td>Property crimes</td>
<td>383 (17%)</td>
<td>343 (15%)</td>
<td>2.204</td>
<td></td>
</tr>
<tr>
<td>Negligence crimes</td>
<td>20 (1%)</td>
<td>16 (1%)</td>
<td>0.444</td>
<td></td>
</tr>
<tr>
<td>Fraud and forgery</td>
<td>221 (10%)</td>
<td>198 (9%)</td>
<td>1.263</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05; ** p<0.001