



Physical victimization in prison: The role of mental illness[☆]

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ABSTRACT

This study compares prison physical victimization rates (inmate-on-inmate and staff-on-inmate) for people with mental disorder to those without mental disorder in a state prison system. Inmate subjects were drawn from 14 adult prisons operated by a single mid-Atlantic State. A sample of 7528 subjects aged 18 or older (7221 men and 564 women) completed an audio-computer administered survey instrument. Mental disorder was based on self-reported mental health treatment ever for particular mental disorders. Approximately one-quarter of the sample reported some prior treatment for schizophrenia, bipolar disorder, depression, PTSD, or anxiety disorder. Rates of physical victimization for males with any mental disorder were 1.6 times (inmate-on-inmate) and 1.2 times (staff-on-inmate) higher than that of males with no mental disorder. Female inmates with mental disorder were 1.7 times more likely to report being physically victimized by another inmate than did their counterparts with no mental disorder. Overall, both males and females with mental disorder are disproportionately represented among victims of physical violence inside prison.

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1. Introduction

Violence is an integral part of prison life (Bowker, 1980; Irwin, 1980; Johnson, 1987). It is primarily a by-product of confining a large number of people with antisocial tendencies or behavior in close and frequently overcrowded quarters characterized by material and social deprivation (Bowker, 1980; Toch, 1985; Wolfgang & Ferracuti, 1976). At the extreme, violence culminates in homicide. In 2000, 51 deaths (less than 0.1 per 1000) resulting from inmate assaults were reported among all inmates held in federal or state prisons, down from 82 in 1995. While homicide is a rare event inside prisons, inmate-on-inmate physical assault (i.e., slapping, hitting, kicking, biting, choking, or beating) is more common. According to official statistics, for every 1000 inmates in federal and state prisons in 2000, 28 were reportedly physically assaulted by another inmate (Stephan & Karberg, 2003).

While physical violence is assumed to be prevalent (if not rampant) in prison (Johnson, 1987), research confirming this assumption is very limited. Indeed very little is known about the epidemiology and context of physical violence inside prisons, and even less is known about the link between mental disorder and physical victimization inside prison. There is reason, however, to expect that vulnerability due to mental disorder is likely to elevate the risk of victimization inside prison, as it does in the community. It is a well-established fact that people with serious mental illness are at significant risk for victimization in the community (Teplin, McClelland, Abram, & Weiner, 2005). We also know that people with mental disorders in correctional settings are more likely to report prior victimization in the community than their counterparts without mental disorders (James & Glaze, 2006). Yet whether they are at elevated risk for victimization inside prison has not been shown empirically, although it has been suggested in numerous reports (Human Rights Watch, 2001, 2003, 2004).

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It is worth noting that the number of people with serious mental illness in the correctional system has significantly increased over the past several decades (James & Glaze, 2006; Lamb & Weinberger, 1998; Lamb, Weinberger, & Gross, 2004). In the United States, it is estimated that at least one-half of incarcerated people reportedly have a mental disorder (James & Glaze, 2006). Accordingly, concerns have grown regarding their likely victimization inside prison; environments known for their violence and exploitation of vulnerable groups (Fishman, 1934; Fleisher, 1989; Human Rights Watch, 2001; Toch, 1977). The current study estimated the rate of physical victimization inside a prison setting for incarcerated people with mental disorder compared to those without mental disorder in an effort to shed empirical light on the victimization vulnerability of people with mental disorders in correctional settings.

1.1. *Challenges of assessing physical victimization in prison*

There are good reasons to question the accuracy of the official estimates of physical violence inside prison. First, it is widely recognized that victimization in general and violence in particular is underreported inside prison (Bowker, 1980; McCorkle, 1993), as it is outside prison (Myers, 1982) but for different reasons. The threat of retaliation inside prison for “snitching,” a strong subculture norm within the code of conduct among inmates, suppresses the official reporting of inmate-on-inmate assaults, as well as other types of misconduct between inmates. A similar disincentive exists for reporting violence perpetrated by custody staff-on-inmates (Irwin, 1980; Ross & Richards, 2002; Sykes, 1958).

Beyond the problem of under-reporting, estimating the scope of physical violence in prison is typically hampered by the methods used to collect data. No nationally representative surveys have been undertaken in the United States to improve official estimates of physical victimization inside prisons. What is known is based on surveys drawn from small, localized studies (see Bowker, 1980). For example, based on a survey of 231 individuals (about half of all inmates) at a single prison, Wooldredge (1994) estimated that 14% of inmates were victims of a personal crime over a 3-month period, while 20% were victims of property crimes (Wooldredge, 1994). In a more recent survey utilizing a sample of 581 inmates (sampling rates varying from 20% to 38% of the prison populations) drawn from three Ohio prisons, Wooldredge (1998) found that approximately 1 of every 10 inmates reported being physically assaulted in the previous 6 months, while 1 of every 5 inmates reported being a victim of theft during that same time frame. More inclusively, when all crimes were aggregated together, including physical assault, theft, robbery and property damage, 1 of every 2 inmates surveyed reported being a victim of crime in the previous 6 months. Other evidence of victimization inside prison comes from research focusing on inmate fear and inmates' reactive behaviors to fear. McCorkle (1992) based on a sample of 500 male inmates in Tennessee prisons, found that a quarter of the inmates reported carrying protection (e.g., a “shank”). Others engaged in more “passive” precautionary measures such as consciously avoiding areas where victimization is likely to occur (e.g., the shower, the yard, or blind spots) or isolating themselves in their cells (Lockwood, 1980; McCorkle, 1992, 1993). More recent evidence suggests that there is inter-prison variation in terms of inmates' self-reported perceptions of safety. Camp (1999) found that male inmates, housed in medium, low, and minimum security federal prisons, were less fearful of being “hit, punched, or assaulted by other inmates” than those housed in administrative and high security federal prisons, who were more likely to feel vulnerable to these types of behaviors.

These self-report estimates suggest very high levels of victimization inside prisons, but they are drawn from nonrandom samples of inmates in different prisons and different states. To our knowledge, there have been no systematic attempts to generate reliable and valid estimates of the magnitude and context (e.g. inmate-on-inmate or staff-on-inmate) of physical violence in prison based on a random sample of prison inmates. The current study is therefore the first to explore the rate of physical victimization within a state prison system (and that of inmates with mental health disorder in particular), inclusive of both male and female facilities. It is also the first to use (a) a full population sampling design, inclusive of approximately 21,000 inmates at 14 prisons; (b) multiple general and specific questions to measure physical victimization; and (c) an audio-computer assisted survey instrument (CASI) to administer the survey. In addition, to ensure full participation and reliable reporting, the survey questionnaire included a broader set of questions about life inside prison (e.g., quality of food and medical treatment, the effectiveness of the grievance process, treatment by correctional staff, access to and quality of rehabilitation programs).

2. **Methods**

2.1. *Sampling*

Participants were sampled in two ways. First, all inmates housed in the general population of one of the 14 statewide prison facilities were invited to participate in the study excluding those individuals who were off grounds, in the infirmary or otherwise too sick to participate on the day that their housing unit was consented to participate in the survey ($n = 19,615$; 89% of the entire population). Enough time was requested inside a facility to collect a 40% random sample of inmates (requiring 2 to 5 days inside facilities). Response rates by facility ranged from 26% to 53%, with an average rate of 39% ($SD = .065$). At six facilities, non-respondents were asked to identify their reasons for declining to participate in the survey. Three common reasons were reported by the 848 inmates: “I believe nothing will ever change here”; “I am leaving here soon”; and “This is prison. Our quality of life doesn't matter.” Second, 10% of inmates held in administrative segregation were sampled. Four facilities have specialized administrative segregation units, which held a total of 832 inmates at the time of the survey. These individuals had limited movement privileges and could only be interviewed face-to-face in a secure but confidential setting. Overall, 10% of the 832

inmates in these units participated in the survey through a face-to-face interview. Data were collected from June 1, 2005 through August 31, 2005.

2.2. Instrument

The questions regarding physical violence were modified from the National Violence Against Women and Men surveys (Tjaden & Thoennes, 2000). Physical violence was measured in the survey through the use of two general questions for two categories of perpetrator: inmates or staff members. Specifically, the questions were “Have you been physically assaulted by an inmate (or staff member) within the past 6 months?” and “Have you ever been physically assaulted by an inmate (or staff member) on this bid?” Behavior specific questions about physical victimization were asked as well [e.g., “During the past 6 months, has another inmate (or staff member) slapped, hit, kicked, or bit you?”]. The five specific questions relating to physical victimization were collapsed into two categories differentiated by whether a weapon was involved (i.e., with or without weapon). The questions categorized under physical victimization with a weapon asked whether “in the past 6 months another inmate (or staff member) hit you with some object with the intent to harm or threatened or harmed you with a knife or shank.” The specific questions collapsed into the physical victimization without a weapon category asked whether “during the past 6 months another inmate (or staff member) slapped, hit, kicked or bit you, choked or attempted to drown you, or beat you up.”

Respondents were also asked if they had ever been treated for any of the following problems: depression, schizophrenia, post traumatic stress disorder, bipolar disorder, or an anxiety disorder. Positive responses were used to classify subjects as having a mental disorder. It was not feasible to administer diagnostic tests on subjects nor was current treatment status and/or diagnosis likely to reliably represent mental disorder since the under-identification and treatment of mental illness inside correctional settings is well established (Beck & Maruschak, 2001). While the reliability of self-report diagnosis is suspect, in previous studies with correctional populations, researchers have found that subjects' self-reported clinical diagnoses were fully consistent with information in their clinical records maintained by the prison system (Wolff, 2004; Wolff, 2005).

2.3. Procedure

The consent procedures were approved by the appropriate Institutional Review Boards and committees. Subjects were not compensated for participating. They were offered a follow-up mental health visit if distressed by the survey questions.

The survey was administered using audio-computer-administrated survey instrument (CASI) available in English and Spanish. Respondents interacted with a computer-administered questionnaire by using a mouse and following audio instructions delivered via headphones. This method of survey administration is considered most reliable when probing sensitive or potentially stigmatizing information (Gaes & Goldberg, 2004). At each facility, 30 computer stations were set up and five members of the research team were available to answer questions and assist with the technology. Completing the English version of the computer-assisted survey took approximately 60 min, while the Spanish version took approximately 90 min. The surveys were programmed into QDS, the software for the audio-CASI system. Audio-CASI is considered the most reliable way to administer questionnaires that probe sensitive or potentially stigmatizing information. Face-to-face interviews were conducted in cases where participants had restricted movement or when they were apprehensive about the computer. In total, 112 men (1.6%) and 18 (3.2%) women were interviewed face to face. Roughly two-thirds ($n=85$) of these respondents were housed in administrative segregation. The remaining third ($n=45$) of the face-to-face interviews were conducted because participants were either intimidated by the computer, in the infirmary, or a specialized mental health unit. The face-to-face interviews were conducted by five interviewers, with two of the interviewers conducting the majority ($n=79$) of the interviews. Interviewers received 6 h of training and followed a scripted interview protocol. On average, face-to-face interviews, only conducted in English, were completed in 45 min.

2.4. Participants

A total of 7221 men (M age=34.2) and 564 women (M age=35.5) aged 18 or older participated in the study, representing about 40% of all male inmates and 50% of all female inmates in the state prison system. More than two-thirds (68.4%) of the female inmates were nonwhite, while 81.4% of the males were nonwhite. These statistics are equivalent to the general prison population (67.3% of women are non-White with a mean age of 35.4% and 78.9% of the males are nonwhite with a mean age of 34.6). The survey sample had a greater representation of Hispanic individuals (14.5% women; 19.5% men) than in the population as a whole (10.1% women; 14.9% men).

2.5. Weights

Weights were constructed to adjust the characteristics of the sampled population to the full population at each facility. A two-step weighting strategy was used (Lee, Forthofer, & Lorimer, 1989). The first step (base weight) adjusted for the sampling design (i.e., the exclusion of some units within a facility; the variation in the probability of selection; and proportional representation by facility). The second step (post-stratification weight) adjusted the data on the basis of time at facility, race/ethnicity, and age. The final weight for each weighting class is the rescaled base weight multiplied by the post-stratification weight.

3. Results

3.1. Characteristics of respondents with and without mental disorder

Table 1 compares characteristics of inmates by gender with mental disorders (i.e., individuals who report having ever been treated for schizophrenia, bipolar, depression, PTSD, or anxiety disorder) to those of inmates without mental disorders. Male inmates with mental disorders ($n=1069$) were more likely than male inmates without mental disorders ($n=5507$) to be white (40.4% compared to 14.6%) and have a co-occurring substance abuse problem (41% compared to 22.4%), a head trauma (16.3% compared to 4.9%), or chronic physical condition (50% compared to 25.7%). Inmate males with mental disorders were also slightly younger than their counterparts with no mental disorders ($M=35.7$ years compared to $M=33.9$ years). There were no statistically significant differences between the groups of male inmates in terms of age, ethnicity, incarceration characteristics (such as time in prison and time left on current sentence), and prior experience with physical victimization.

Compared to their counterparts without mental disorders ($n=234$), female inmates with mental disorders ($n=325$) were more likely to be white (40.2% compared to 23.3%) and have a co-occurring substance abuse problem (49.1% compared to 35.4%), a head trauma (9.1% compared to 3.2%), or chronic physical condition (68.9% compared to 43.6%). There were no statistically significant differences between the groups of female inmates in terms of age, ethnicity, incarceration characteristics (such as time in prison and time left on current sentence), and prior experience with physical victimization.

Table 1 also allows for a comparison between the characteristics of female inmates with mental disorders to their male counterparts. Readers are reminded that when the 95% confidence intervals of an estimated characteristic (e.g., age) for both groups overlap, there is no evidence of a statistically significant difference between the two groups on that estimate (age, in this case), and vice versa (no overlap indicates a statistically significant difference). Using this criterion, we find that female inmates with mental disorders ($n=325$) were more likely than male inmates with mental disorders ($n=1609$) to be black (49.4% compared to 40.8%), and have a co-occurring chronic physical condition (68.9% compared to 50%) but less likely to be Hispanic (8% compared to 15.8%) and have a co-occurring head trauma (9.1% compared to 16.3%). Male inmates with mental disorders were also more likely than their female counterparts to serve a life sentence (9.3% compared to 2.5%) and spent more time in prison since age 18 ($M=8.4$ years compared to $M=4.1$ years). There were no other statistically significant differences between the two groups on the characteristics measured.

3.2. Physical victimization of inmates

Estimates of physical victimization rates for male and female inmates with and without mental disorders are reported, respectively, in Tables 2 and 3. The 6-month physical victimization rates in prison were calculated in three different ways. The most

Table 1

Characteristics of survey respondents, inmates in statewide correctional system, by gender, 2005; mean or percent and 95% confidence intervals^a

	Female ($n=564$)		Male ($n=7221$)	
	MH problems ^b ($n=325$)	No MH problems ($n=234$)	MH problems ^b ($n=1609$)	No MH problems ($n=5507$)
Age, years				
Mean	34.9 (33.8–35.9)	36.4 (35.1–37.7)	35.7 (35.1–36.3) ^c	33.9 (33.6–34.1)
Race, %				
White	40.2 (34.5–45.8) ^c	23.2 (17.4–29.0)	40.4 (37.7–43.2) ^c	14.6 (13.6–15.7)
Black	49.4 (43.7–55.2) ^c	65.1 (58.8–71.4)	40.8 (38.1–43.6) ^c	68.9 (67.6–70.1)
Other	10.4 (7.7–13.1)	11.7 (8.4–15.1)	18.7 (16.8–20.7)	16.5 (15.6–17.5)
Ethnicity, %				
Hispanic	8.0 (5.5–10.5)	10.8 (7.4–14.3)	15.8 (13.9–17.7)	15.6 (14.6–16.6)
Incarceration characteristics				
Time at current facility, mean	2.4 (1.7–3.0)	2.2 (1.7–2.8)	2.6 (2.3–2.8)	2.5 (2.4–2.7)
Life sentence, %	2.5 (1.0–4.1)	6.2 (3.1–9.3)	9.3 (7.4–11.2)	7.0 (6.3–7.8)
Time left on current sentence ^d , mean	3.2 (2.2–4.3)	2.3 (1.7–2.8)	4.5 (4.1–4.9)	3.9 (3.7–4.1)
Time incarcerated from age 18, mean	4.1 (3.6–4.6)	4.4 (3.6–5.2)	8.4 (7.9–8.9)	8.0 (7.7–8.2)
Clinical characteristics, %				
Substance abuse	49.1 (43.3–54.8) ^c	35.4 (28.8–42.0)	41.0 (38.3–43.7) ^c	22.4 (21.2–23.6)
Head trauma	9.1 (5.9–12.3) ^c	3.2 (0.7–5.7)	16.3 (14.0–18.6) ^c	4.9 (4.3–5.5)
Chronic physical condition	68.9 (63.6–74.2) ^c	43.6 (36.8–50.3)	50.0 (47.2–52.8) ^c	25.7 (24.5–27.0)
Prior physical victimization	77.1 (72.2–82.1)	59.9 (53.2–66.6)	75.8 (73.5–78.1)	61.1 (59.7–62.6)
Prior physical victimization before 18	63.2 (57.6–68.8)	40.2 (33.5–46.9)	69.7 (67.2–72.2)	53.5 (52.1–55.0)

Abbreviation: CI, confidence interval; MH, mental health.

^a All estimates are weighted.

^b MH problems has 5 missing values for female; MH problems has 101 missing values for male.

^c The 2-tailed probability that the confidence intervals overlap between comparison groups is $<.05$.

^d Time left on current sentence excludes those with a life sentence.

Table 2

6-month prevalence of physical victimization in statewide correctional system for male inmates with and without mental disorder, and 95% confidence intervals

	Male (n=7221)				
	Rate per 1000 inmates ^a (95% CI)				
	Any mental disorder ^b (n=1609)	Schizophrenia or bipolar (n=476)	Other mental disorder (n=1133)	No mental disorder (n=5507)	All (n=7221)
<i>Inmate-on-inmate</i>					
General question	123 (102–144) ^c	111 (81–141) ^c	128 (101–156) ^c	60 (53–67)	75 (69–81)
Specific question	278 (252–303) ^c	291 (246–335) ^c	272 (241–304) ^c	167 (156–177)	192 (184–201)
Combined, any incident	292 (266–318) ^c	310 (264–355) ^c	285 (253–317) ^c	180 (168–191)	205 (197–214)
Any reported incidents with weapon	190 (168–211) ^c	183 (146–221) ^c	192 (166–219) ^c	127 (117–137)	141 (134–149)
Any reported incidents without weapon	183 (159–206) ^c	207 (168–246) ^c	172 (143–201) ^c	97 (89–106)	117 (110–124)
<i>Staff-on-inmate</i>					
General question	198 (175–220) ^c	174 (137–210)	208 (179–236) ^c	143 (133–153)	156 (148–163)
Specific question	227 (203–251)	202 (160–244)	238 (209–267)	199 (188–211)	206 (198–215)
Combined, any incident	283 (257–308) ^c	266 (221–312)	289 (259–320) ^c	235 (223–247)	246 (237–255)
Any reported incidents with weapon	154 (135–174)	152 (113–191)	155 (133–178)	147 (137–157)	149 (142–156)
Any reported incidents without weapon	168 (146–189) ^c	155 (117–194)	173 (146–199) ^c	130 (121–140)	139 (132–147)
<i>Combined victimization</i>					
General question	263 (237–289) ^c	240 (198–281) ^c	273 (241–305) ^c	172 (161–183)	194 (183–204)
Specific question	390 (362–418) ^c	394 (344–444) ^c	388 (355–422) ^c	293 (280–306)	316 (304–328)
Combined, any incident	428 (400–456) ^c	428 (377–478) ^c	428 (394–461) ^c	324 (311–338)	348 (336–360)
Any reported incidents with weapon	278 (253–303) ^c	273 (227–319)	281 (251–310) ^c	230 (218–242)	242 (231–253)
Any reported incidents without weapon	285 (259–311) ^c	301 (254–348) ^c	278 (247–310) ^c	186 (175–198)	210 (199–220)

Abbreviation: CI, confidence interval.

^a The estimates of 'Rate per 1000 inmates' are based on weighted valid numbers.^b MH problems has 101 missing values for male.^c The 2-tailed probability that the confidence intervals overlap between comparison groups is <.05.

conservative estimate was based on inmates' responses to the general question about physical victimization (i.e., "Have you been physically assaulted by an inmate/staff member within the past 6 months?"). A more precise estimate was calculated by combining answers to the five specific questions about physical victimization in the previous 6 months (see Methods section). A comparison of these two prevalence measures revealed that estimates based on the general question were lower than those based on answers to the questions focusing on specific types of victimization for both women and men. There were, however, unduplicated positive responses to the general and specific questions of physical victimization, which were combined for the third estimate of the physical victimization rate. This rate was estimated by combining unduplicated positive responses to both questions, yielding slightly higher estimates of rates for inmate-on-inmate and staff-on-inmate physical victimization for both women and men, which better approximates the reporting of physical victimization by inmates over the 6-month period. All three estimates are included in [Tables 2 and 3](#). In addition, the combined estimates of physical victimization rates in these tables are broken down by type of incident (incident with a weapon or without a weapon). [Table 4](#) displays physical victimization rates by gender and race, but only estimates based on the combined measure of physical victimization are presented. Perpetrators of physical victimization in [Tables 2–4](#) include inmates, staff, or either. Finally, mental disorders in these tables are classified by any mental disorder (i.e., schizophrenia, bipolar, depression, PTSD, anxiety) and chronic mental disorder (i.e., schizophrenia or bipolar) and are compared to those inmates who did not report any mental disorder.

3.2.1. Male physical victimization by perpetrator

In all, over a 6-month period, 34.8% of all male inmates experienced one or multiple forms of physical victimization in prison. Rates of physical victimization among male inmates participating in this study ($n = 7221$), were 205 per 1000 inmates for inmate-on-inmate physical victimization, 246 per 1000 inmates for staff-on-inmate physical victimization, and 348 per 1000 inmates for both forms of physical victimization (these estimates are based on the combined measure of victimization discussed above).

As [Table 2](#) suggests, however, rates of physical victimization were significantly higher for male inmates with mental disorders compared to male inmates without mental disorders, independent of how mental disorder was classified and the measure of physical victimization used. Using the combined measure of physical victimization, the rate of inmate-on-inmate physical victimization for males with any mental disorder was 1.6 times higher than that of males with no mental disorder and was the highest among males who reported prior treatment for schizophrenia or bipolar disorder (310 per 1000 inmates). Males with mental disorder were also 1.5 times more likely than their counterparts with no mental disorder to report physical victimization incidents involving a weapon.

Self-reported rates of staff-on-inmate physical victimization were 1.2 times higher among males with any mental disorder than those reported by male inmates with no mental disorder. When both types of physical victimization are considered (inmate-on-inmate and staff-on-inmate), males with any mental disorder in prison were 1.3 times more likely to report being physically victimized than males without mental disorder. Comparing both groups' rates of physical victimization to that rate within the

Table 3

6-month prevalence of physical victimization in statewide correctional system for female inmates with and without mental disorder, and 95% confidence intervals

	Female (n=564)				
	Rate per 1000 inmates ^a (95% CI)				
	Any mental disorder ^b (n=325)	Schizophrenia or bipolar (n=120)	Other mental disorder (n=205)	No mental disorder (n=234)	All (n=564)
<i>Inmate-on-inmate</i>					
General question	116 (80–151)	130 (70–190)	107 (63–151)	63 (31–95)	92 (76–109)
Specific question	225 (179–272) ^c	230 (151–309)	222 (164–280)	133 (89–177)	186 (164–208)
Combined, any incident	249 (200–297) ^c	256 (175–337)	245 (184–306)	149 (103–196)	206 (183–229)
Any reported incidents with weapon	120 (83–156)	146 (78–213)	105 (62–147)	57 (27–87)	94 (76–110)
Any reported incidents without weapon	177 (135–219)	151 (86–216)	193 (138–248)	115 (73–156)	149 (128–169)
<i>Staff-on-inmate</i>					
General question	57 (33–82)	71 (25–117)	49 (21–77)	46 (17–75)	52 (39–65)
Specific question	74 (45–102)	92 (40–144)	63 (29–98)	39 (14–63)	58 (45–71)
Combined, any incident	95 (63–127)	113 (56–170)	84 (46–123)	69 (35–103)	83 (67–99)
Any reported incidents with weapon	36 (15–57)	48 (9–87)	29 (4–55)	^d	23 (14–32)
Any reported incidents without weapon	53 (29–77)	77 (30–125)	39 (14–64)	36 (11–60)	44 (33–57)
<i>Combined victimization</i>					
General question	152 (112–191)	173 (105–242)	139 (91–188)	85 (48–122)	122 (95–150)
Specific question	260 (211–309) ^c	278 (195–361) ^c	250 (189–311) ^c	141 (96–186)	209 (175–244)
Combined, any incident	289 (238–340) ^c	303 (218–389)	281 (217–345)	173 (124–222)	240 (204–276)
Any reported incidents with weapon	145 (105–185) ^c	175 (103–247) ^c	127 (80–175)	57 (27–87)	108 (82–135)
Any reported incidents without weapon	204 (159–248)	195 (123–267)	209 (152–266)	127 (84–171)	170 (138–201)

Abbreviation: CI, confidence interval.

^a The estimates of 'Rate per 1000 inmates' are based on weighted valid numbers.^b Mental disorder has 5 missing values for female.^c The 2-tailed probability that the confidence intervals overlap between comparison groups is <.05.^d Estimates have not been calculated on fewer than five victims.

general male prison population, it appears that males with mental disorder are represented disproportionately among victims of physical violence in prison.

3.2.2. Female physical victimization by perpetrator

In all, 24% of all female inmates experienced one or multiple forms of physical victimization in prison over a 6-month period. Rates of physical victimization among female inmates participating in this study ($n=564$) were 206 per 1000 inmates for only inmate-on-inmate physical victimization, 83 per 1000 inmates for staff-on-inmate physical victimization, and 240 per 1000 inmates for both forms of physical victimization (these estimates are based on the combined measure of victimization discussed above). Overall, then, rates of inmate-on-inmate physical victimization in prison are slightly higher for females than males but rates of staff-on-inmate physical victimization are significantly lower among women.

As Table 3 suggests, rates of inmate-on-inmate physical victimization were significantly higher for female inmates with any mental disorder compared to females without mental disorders. Specifically, using the combined estimate of inmate-on-inmate physical victimization, female inmates with mental disorders were 1.7 times more likely to report being physically victimized by another inmate. However, unlike the pattern of findings observed for their male counterparts, women who reported prior treatment for schizophrenia or bipolar disorder were not at the greatest risk for this type of victimization. In fact, their rate of victimization was no different than that of other women in prison. In addition, women with a mental disorder were no more or less likely to report being physically victimized by a staff member than did women without a mental disorder, which stands in contrast to the finding concerning males' physical victimization by staff. Considering both types of physical victimization (inmate-on-inmate and staff-on-inmate), however, female inmates with mental disorders were 1.6 times more likely to report any incident of physical victimization and 2.5 times more likely to report an incident involving the use of a weapon than female inmates with no mental disorder. Here too, it appears that women with a mental disorder are above average in their representation among victims of physical violence in prison.

3.3. Physical victimization by gender and race/ethnicity

The findings summarized in Table 4 demonstrate that rates of physical victimization by all types of perpetrators were significantly higher (1.4 times) among Hispanic and black male inmates with mental disorders compared to their counterparts without mental disorders. White males with mental disorders had a physical victimization rate that was not statistically different than that of their counterparts without mental disorders. Rates of physical victimization among race/ethnicity groups also varied. Hispanic males with any mental disorder had a rate of physical victimization that was 1.36 times the rate of white males and 1.1 times that of blacks.

Rates of physical victimization for women with mental disorders followed similar patterns as rates for male inmates but did not reach significance given the small sample sizes within and between groups. Compared to their male counterparts, female inmates

Table 4

6-month prevalence of physical victimization in statewide correctional system for inmates with and without mental disorder, combined inmate and staff perpetrators by gender, race, and ethnicity, and 95% confidence intervals

	Male Inmates (95% CI)				
	Rate per 1000 Inmates* (95% CI)				
	Any mental disorder †	Schizophrenia or bipolar	Other mental disorder	No mental disorder	All
<i>Male, African American (n=4132)</i>					
Combined victimization	453 (409–497) ‡	439 (349–529) ‡	458 (408–509) ‡	322 (306–339)	342 (327–358)
Any reported incidents with weapon	314 (273–356) ‡	286 (197–375)	324 (277–371) ‡	232 (216–247)	245 (230–259)
Any reported incidents without weapon	288 (246–330) ‡	327 (237–417) ‡	275 (228–321) ‡	174 (160–188)	192 (179–205)
<i>Male, Non-Hispanic White (n=1290)</i>					
Combined victimization	369 (324–415)	387 (312–462)	361 (303–419)	309 (272–345)	336 (307–365)
Any reported incidents with weapon	214 (176–253)	248 (182–314)	197 (149–245)	211 (178–243)	212 (187–237)
Any reported incidents without weapon	267 (223–311)	263 (195–330)	269 (212–327)	203 (171–236)	232 (206–259)
<i>Male, Hispanic (n=1404)</i>					
Combined victimization	504 (441–566) ‡	556 (443–668) ‡	481 (405–557) ‡	357 (326–389)	391 (363–419)
Any reported incidents with weapon	348 (290–407) ‡	344 (241–447)	350 (278–422)	255 (227–284)	277 (252–303)
Any reported incidents without weapon	308 (252–363) ‡	348 (244–453)	290 (225–355)	223 (196–251)	243 (219–267)
	Female Inmates (95% CI)				
	Rate per 1000 inmates (95% CI)				
	Any mental disorder	Schizophrenia or bipolar	Other mental disorder	No mental disorder	All
<i>Female, African American (n=273)</i>					
Combined victimization	333 (252–413) ‡	402 (242–563) ‡	304 (210–397)	162 (98–226)	247 (196–299)
Any reported incidents with weapon	194 (126–263) ‡	348 (190–506) ‡	133 (63–203)	52 (13–91)	125 (85–165)
Any reported incidents without weapon	233 (162–304)	283 (137–429)	213 (130–295)	112 (57–167)	170 (125–215)
<i>Female, Non-Hispanic White (n=169)</i>					
Combined victimization	230 (154–307)	236 (128–344)	225 (113–336)	154 (49–260)	209 (146–271)
Any reported incidents with weapon	81 (31–130)	§	99 (20–177)	§	72 (33–111)
Any reported incidents without weapon	167 (102–232)	154 (65–242)	179 (82–277)	154 (49–260)	163 (108–218)
<i>Female, Hispanic (n=81)</i>					
Combined victimization	314 (165–463)	§	292 (125–460)	179 (56–302)	247 (151–342)
Any reported incidents with weapon	185 (60–309)	§	191 (43–339)	§	127 (54–201)
Any reported incidents without weapon	177 (57–297)	§	205 (57–353)	127 (24–229)	152 (74–229)

Abbreviation: CI, confidence interval.

*The estimates of 'Rate per 1000 inmates' are based on weighted valid numbers.

†MH problems has 101 missing values for male.

‡The 2-tailed probability that the confidence intervals overlap between comparison groups is <.05.

§Estimates have not been calculated on fewer than five victims.

with mental disorders had significantly lower rates of any physical victimization in all race/ethnicity groups, ranging from 1.36 times lower (for blacks) to 1.6 times lower (for Hispanics and non-Hispanic whites).

4. Discussion

Prisons have been described as violent places (Fishman, 1934; Fleisher, 1989; Human Rights Watch, 2001; Toch, 1977) but little is empirically known about the victims of violence and what type of violence is occurring to these individuals and by whom. The findings reported here suggest that prison is a particularly violent place for people with mental disorders. Rates of physical victimization for males with any mental disorder were 1.6 times (inmate-on-inmate) and 1.2 times (staff-on-inmate) higher than that of males with no mental disorder. Female inmates with mental disorder were 1.7 times more likely to report being physically victimized by another inmate than did their counterparts with no mental disorder. When there were statically significant racial/ethnic differences, prevalence was almost always higher among African American and Hispanic persons than among other racial/ethnic groups. Overall, then, inmates with mental disorders are disproportionately represented among victims of physical violence inside prison. However, their rate of physical victimization in prison compares favorably with their estimated rate of victimization in the community. In their study, Teplin et al. (2005) estimated that more than one-quarter of persons with SMI had been victims of a violent crime in the past year, a rate more than 11 times higher than the general population rates even after controlling for demographic differences. This suggests that the risk of physical victimization for individuals with mental disorder in the community is significantly greater than their risk of being physically victimized in prison.

Before moving on to discuss the implications of our findings, it is important to note several potentially important limitations of the current investigation. First, the estimates presented here focused on physical violence, which is only one form of victimization. These rates of victimization do not include property theft, emotional or psychological victimization, intimidation, or sexual

victimization. To accurately and fully characterize the victimization environment inside prison, surveys need to probe these dimensions of victimization as well.

Second, the estimates reported herein should be interpreted cautiously. It is important to note the potential for sample bias. Our random samples ranged from 26% to 53% of the general population among 14 facilities. In absolute terms, a significant proportion of the inmate population is represented but this sample may not generalize to the full population. Non-representativeness was tested in terms of age, race/ethnicity, and length of incarceration and adjusted for in the weighting strategy. Yet these characteristics may not fully predict variation in physical victimization. Our prevalence estimates pertain to a single state correctional system and do not in their levels necessarily generalize to the correctional system of other states or countries. Prevalence rates of physical victimization within and across communities, states, and countries reflect environmental conditions that are shaped by localized factors, such as standard of living, poverty, civil unrest and disorder, demographics, laws, judicial norms, and so forth (Wortley & Mazerolle, 2008). However, our key substantive finding of relative differences in physical victimization rates between those inmates with and without mental disorder is consistent with findings reported by Human Rights Watch (2003) and Wolff et al. (2007) regarding sexual victimization inside prison and Teplin et al. (2005) and Frueh et al. (2005) regarding relative victimization in community and psychiatric settings. We are more confident, given the general pattern of greater victimization experienced by people with mental disorders in the community and prison, that the relative differences in victimization prevalence by mental disorder reported herein would generalize to other state correctional systems located in the U.S. Further empirical investigation is warranted to validate this expectation.

Third, other uncontrolled attributes may predict likelihood of victimization. To the extent that inmates who have characteristics that make them victims of physical assault were systematically over- or underrepresented in our samples, the rates reported herein would either, respectively, over or under estimate physical victimization. We account for such uncertainty by estimating confidence intervals, which provide a reasonable (95%) approximation of the range of variation in rates of physical victimization by facility.

Another reason for caution concerns the potential of biased reporting. Audio-CASI is the most reliable method for collecting information about activities or events that are shaming or stigmatizing. It does not, however, correct for bias motivated by the intent to make the facility and its staff members look bad. Inmates and custody staff have complex relations; relations often fraught with tension and hostility. Rarely are inmates given an opportunity to report anonymously on conditions inside prison, including how they are treated by custody staff. This opportunity could be manipulated by false reporting. To guard against this, the consent process stressed the importance of accurate reporting and its impact on the legitimacy of the data and survey. Many of those who chose not to participate in the survey were antagonistic to the “system” or demoralized to the point of disinterest. Participants, by and large, deliberated over questions. They frequently asked the research staff for guidance on how to answer questions about the custody staff because while most were reasonable and fair, some were abusive and cruel. Questions during the survey and the distributions of responses were not suggestive of false reporting. Also, given that the survey instruments were read and completed in real time, involved hundreds of questions, and were completed by hundreds of inmates per day by unit and rapidly over a 2- to 5-day period, systematic strategies for manipulating the survey through false reporting were minimized. In general, systematic false reporting of events or behaviors by custody staff would have resulted in much higher and clustered rates than those reported here.

Finally, our measure of mental disorder was based on self-report to a question about ever receiving treatment for a mental health problem. Approximately one-quarter of the sample reported some prior treatment for schizophrenia, bipolar disorder, depression, PTSD, or anxiety disorder, with rates of treatment for mental disorders ever being as high as 57.6% for female respondents and 22.8% for male respondents. These rates are lower than national rates of mental disorder in prison populations, which were estimated at 73% for females and 55% for males (James & Glaze, 2006). It is unclear whether and to what extent our sample under-represents mental disorder given the likelihood of undetected and untreated disorder within the prison population. Future research needs to explore this issue with measures of mental disorder that are based on clinical interviews or chart review.

A related limitation concerns the expected correlation between physical victimization inside prison and treatment for trauma, depression, or anxiety as a consequence of the trauma. Our data do not allow us to identify the time pattern, hence causality, between treatment and victimization. In an effort to partially control for the causal sequence, we focused on 6-month prevalence estimates and divided the sample into diagnostic groups with prior treatment for any mental disorder and those with prior treatment for a serious mental illness (i.e., schizophrenia or bipolar disorder — disorders not caused by physical victimization) in an effort to control for the effect of physical victimization in prison on treatment. Future research needs to explore the causality issue in more robust ways.

With those limitations in mind, our evidence suggests that mental disorder is a significant marker for victimization inside prison. Yet as noted by Sparks (1982), cross sectional analyses like those conducted herein can identify factors associated with risk but not the causes of these elevated risks. That is, we cannot determine whether those with histories of physical victimization in prison and mental disorder have been transformed by these experiences in ways that fundamentally altered their presentation of self (i.e., making them appear more vulnerable to others) or whether these factors are correlated with an unmeasured trait or behavior of the individual. More longitudinal and qualitative research is needed to better understand the causal and contextual processes surrounding physical victimization inside prison.

Solid epidemiological research on the prevalence of mental disorder within prison populations is critically needed because the violent environment inside prison is likely to increase the need for mental health treatment, because inmates with mental disorder need treatment while incarcerated, because people with mental disorder need to be protected from predators while inside prison, and because people with mental disorder inside prison will eventually return to the community. Returning people with mental

illness to the community with more aggravated complicated, and co-morbid mental disorder will challenge the community-based mental health delivery system in ways that must be anticipated.

To reduce victimization of inmates with mental disorders and its consequences, it would be beneficial to develop and implement victim prevention programs for these individuals. Such programs should educate individuals with mental disorders in prison about modifiable risk factors for victimization and help them develop skills that enhance personal safety, improve conflict management, and decrease their vulnerability. It is equally important that inmates be screened for mental disorders and monitored to reduce victimization. Improving detection of mental disorders is the first step to prevent these individuals from becoming victims. Finally, it seems prudent to screen inmates with mental disorders who have been victims of physical violence in prison for posttraumatic stress disorder, a common result of victimization. Posttraumatic stress disorder can aggravate existing mental disorder symptoms and impair treatment outcomes. More attention to and treatment of posttraumatic stress disorder following physical victimization in prison is essential to decreasing the risk of revictimization for inmates with mental disorders.

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