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Relationship Between Past Trauma and  
Mental Illness Prevalence, Among Incarcerated Women  
Abbie Teurbe-Tolon (She/Her/Hers)  
Master of Public Health Candidate, 2020  
Epidemiology & Biostatistics  
Washington University in St. Louis  
George Warren Brown School of Social Work & Public Health

# PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

## Abstract

**Introduction:** Today, 31% of women in jails have a serious mental illness. Incarcerated women also have disproportionately higher rates of disability. That said, the aim of this study was to better understand which mental health issues women in jails struggle with most. The project also explored different types of past trauma and their associations with mental illness among women, as well as whether mental illness is influenced by the *number* of adverse experiences a person has. A secondary aim of the project was to understand the possible interaction effect ~~between~~<sup>of</sup> having a disability <sup>and trauma?</sup> ~~and~~ having a mental illness, among incarcerated women.

**Methods:** A cross sectional study utilizing secondary data from The National Survey of Inmate Health was conducted. Four logistic regression models were then ~~run~~<sup>estimated</sup> on the sample of incarcerated women (n=1993) which included: 1) five types of trauma; 2) aggregated number of adverse experiences; 3) disability; and 4) the interaction between trauma and disability.

**Results:** Physical abuse, sexual assault, and parents abusing alcohol/drugs were all significantly associated with mental illness. Moreover, an incarcerated woman had approximately 58% greater odds of reporting a mental illness with each additional reported adverse experience. Those with a disability had about 8 times greater odds of reporting a mental illness. The interaction term, itself, was also statistically significant. Among those with a disability, the probability of reporting a mental illness decreased by approximately 22% with each unit increase in adverse experiences.

**Discussion:** By understanding how different types of trauma influence mental illness prevalence, medical professionals, educators, social workers, and families can better identify when a person is at risk and help that person obtain the necessary resources.

## Introduction

The United States has only 5% of the world's total population, yet 25% of the world's prison population.<sup>1</sup> This statistic is primarily the culmination of a history of slavery and racist policies, such as "The War on Drugs."<sup>2</sup> Although a higher proportion of men are incarcerated than are women, incarceration rates for women have been steadily increasing over the past several decades.<sup>3</sup> Female incarceration rates have increased by 750% between 1980 and 2017 - a growth rate which is double that of males.<sup>3</sup> Among females, incarceration rates for Black women are twice as high as for White women.<sup>3</sup> It is not well understood *why* incarceration rates are increasing for females, but some studies have posited that mental illness, coupled with a lack of access to care and treatment, are at least partially responsible.<sup>4</sup>

States began closing their psychiatric hospitals in the 1950s, due to their deplorable conditions.<sup>5</sup> Although asylums were rightfully closed, there was no organized system for mental health treatment to replace them.<sup>5</sup> This left large numbers of people without care, and prisons soon became de facto "mental institutions."<sup>5</sup> As mental hospital rates declined, incarceration rates soared.<sup>5</sup> Today, 31% of women in jails have a serious mental illness (SMI), compared to 14.5% of men.<sup>5</sup> Primary types of SMI among incarcerated women include substance use disorder (SUD), major depressive disorder, and generalized anxiety disorder.<sup>6</sup> Because incarcerated women are also disproportionately lower income, they often lack access to proper mental health treatment.<sup>7</sup> This results in the local jail often being the first "opportunity" for mental illness screening and/or treatment.<sup>7</sup> Such treatment is vital for the success of individuals, as having a SMI significantly increases one's risk of recidivism.<sup>8</sup> Not only does mental illness increase one's risk of recidivism, but it can also lead to physical illness and premature death.<sup>9</sup> Despite this, incarcerated and formerly incarcerated people are also more likely to receive inadequate care.<sup>9</sup>

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

There are a multitude of factors associated with mental illness. Among them, “adverse childhood experiences” (ACEs) and trauma are especially influential.<sup>10</sup> Examples of ACEs include having an incarcerated parent, being a victim of violence, witnessing violence, experiencing economic hardship, and having divorced parents, among others.<sup>11</sup> Unfortunately, incarcerated women have higher rates of past trauma than non-incarcerated women.<sup>4</sup> Among incarcerated people, women also have higher rates of past physical and/or sexual abuse than do men.<sup>4</sup> In fact, 78% of incarcerated women - compared to only 15% of incarcerated men - report past instances of sexual or physical abuse.<sup>12</sup> It is *less* understood, however, whether certain forms of trauma are more associated with mental illness and incarceration than others.

Concurrently, both cognitive and physical disabilities are associated with mental illness.<sup>13,14</sup> These comorbidities translate to a disproportionately higher rate of people with disabilities inside prisons and jails, than in the general population.<sup>15</sup> Specifically, people in jail are four times more likely to report having a disability than their non-incarcerated counterparts.<sup>15</sup> Among incarcerated people with disabilities, there are also notable gender disparities.<sup>15</sup> Approximately 50% of incarcerated women, compared to 40% of incarcerated men, report having either a cognitive or physical disability.<sup>15</sup> Unfortunately, incarcerated people with a disability are also more likely to be mistreated and to be placed in solitary confinement.<sup>15</sup> Solitary confinement, especially, is associated with increased depression and suicidal ideation.<sup>5</sup> It is, thus, vital to provide proper and specialized care to incarcerated women with disabilities and/or mental illness.

Current research supports that there are disproportionately higher rates of both mental illness and physical or cognitive disabilities among incarcerated people, when compared to the general population.<sup>5,15</sup> Trends also show that female incarceration rates are far outpacing males,

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

and that these disparities are more pronounced in jails than in prisons.<sup>15</sup> As such, this project aims to better understand which mental health issues women in jails struggle with most. The project will also explore different types of past trauma (adverse experiences) and their associations with mental illness prevalence among women, as well as whether mental illness is influenced by the *number* of adverse experiences a person has. A secondary aim of the project is to understand the possible interaction effect that having a disability might have on the relationship between adverse experiences and having a mental illness, among incarcerated women. This will hopefully expose the unique needs of incarcerated women and inform better approaches to treatment and care, both in and outside of jail.

### **Methods**

The following project was a secondary analysis of publicly available data. The data were obtained from The National Archive of Criminal Justice Data (NACJD) through the University of Michigan, stored as SAS files. The United States Department of Justice, Bureau of Justice Statistics collected the data and serve as the Principal Investigators. The data are part of the “Survey of Inmates in Local Jails Series.” The data were collected in 2002 and were released to the public in 2012. The investigators conducted nationally representative personal interviews of 7,000 people incarcerated in local jails.<sup>16</sup> Information on demographics, conviction types, income, correctional programs, mental health and substance use issues, and related treatment were collected.<sup>17</sup> This study was approved by the Washington University in St. Louis Institutional Review Board (IRB ID# 202002026) for further analysis.

After downloading the SAS file, the data were converted to both R and Excel files. The original files contained 2487 variables and 6982 total observations. Only participants identifying as “female” were included in further analysis. Next, unnecessary variables were removed from

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

the Excel file, keeping only the variables of interest. This left 30 possible variables of interest and a total of 1993 observations. The Excel file was then converted to an R file (version 3.6.1) to be used in R Studio (version 1.1.463) for further data cleaning and analysis.<sup>18,19</sup> The following R packages were then used for analysis: Tidyverse, labelled, magrittr, readxl, writexl, sas7bdat, dplyr, car, VGAM, odds.n.ends, lmttest, and ResourceSelection.<sup>20,21,30,31,22–29</sup>

The primary outcome of interest was “mental illness” (yes/no). This variable was created by aggregating all mental illness types in the dataset, which were: “Have you ever been told by a mental health professional, such as a psychiatrist or psychologist that you had...a depressive disorder; bi-polar disorder; psychotic disorder; post-traumatic stress disorder; other anxiety disorder; personality disorder; or other mental condition?” If the participant marked “yes” for *any* of these conditions, “mental illness” was coded as 1=yes. If the participant marked “no” for *all* of these conditions, “mental illness” was coded as 0=no. The prevalence of each mental illness type was also determined, as part of the exploratory analysis.

Dichotomous independent variables of interest included the following: “parents/guardians abused alcohol/drugs,” “parents/step-parents served time,” “ever been shot at,” “physically abused prior to current admission,” and “ever been sexually assaulted/molested.” These variables were selected, because they are examples of criteria for adverse childhood experiences (ACEs) and past trauma. The different types of trauma were then aggregated into one continuous variable to be used in a separate regression analysis. The total number of traumatic events were then calculated for each participant, giving a possible minimum number of 0 (participant indicated having none of the adverse experiences) and a maximum number of 5 (participant indicated “yes” to all five experiences). This variable was created to determine whether the prevalence odds of having a mental illness increase as the number of adverse experiences increases.

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

Possible confounding variables included: Race, “education level prior to admission,” and “amount of income in month prior to admission.” The dichotomous variable, “Do you consider yourself to have a disability” was also examined as a potential effect modifier.

After cleaning the data, I computed descriptive statistics for each demographic variable (age, race, education, and income). The majority of participants (54%) were between the ages of 18 and 34. The median and mean age were both 33, with the youngest participant being 14 and the oldest being 72. Nearly 40% of participants identified as being Black and about 55% identified as White. Approximately 5% of participants said they were "American Indian/Alaska Native," and about 4% identified as "other." Less than 1% of the sample was Asian or "Native Hawaiian/Pacific Islander." The education variable measured years completed, rather than degree obtained. With this in mind, about half of the participants had completed 11th grade, and about 30% completed the 12th grade. Approximately 17% completed their junior year of college, and about 3% completed their senior year of college or more. Income was assessed by asking participants the value of their monthly income, prior to the month of their jail admission. About 9% of participants had no income the month prior to their arrest. Over a quarter of the sample (30%) earned between \$1 and \$499 in the month prior to admission. Over 25% earned between \$500 and \$999, about 22% earned between \$1,000 and \$1,999, about 10% earned between \$2,000 and \$4,999, and slightly more than 3% earned \$5,000 or more in the month prior to admission.

After computing descriptive statistics, assumptions for logistic regression were checked and met. Adjusted and unadjusted logistic regression models were estimated and compared, using complete cases (n=1434) to assess the following potential influences on mental illness:

1. Five different types of trauma

2. Total number of traumatic events experienced (aggregated trauma variable)
3. Disability status



Next, two adjusted logistic regression models were estimated with both aggregated trauma *and* disability status. One model included the interaction between trauma and disability, while the other excluded the term. The two models were then compared, using a log likelihood test to assess if the larger model had a significantly better model fit. The Hosmer Lemeshow test was also computed for every model to assess proper fit. Sensitivity and specificity were then calculated to assess the models' ability to correctly predict cases of mental illness.

### **Results**

Among the final sample of women (table 1), 45% reported having a mental illness of some kind. Specifically, most participants (35%) had depression. About 20% had bipolar, 18% had anxiety, 11% had PTSD, 9% had a personality disorder, 6% had a psychotic disorder, and about 3% listed "other" mental illness. Regarding trauma, about 40% reported that their parents/guardians had abused alcohol or drugs, nearly a quarter (23%) reported that their parents/guardians had served time in jail or prison, about 20% had been shot at with a gun, approximately 44% had been physically abused prior to their admission, and 35% reported sexual abuse prior to their admission. About a quarter of participants reported zero (24%), one (26%), or two (22%) total adverse experiences, while 10% and 2% reported four and five adverse events, respectively. Approximately 23% of participants reported having a disability.



# PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

Table 1. Demographic, mental health, trauma, and disability characteristics among 1,993 women incarcerated in U.S jails in 2002				
		percent	n	
Mental Illness (Aggregated)	<div><div></div></div>	Yes	44.91	895
		No	55.09	1098
Mental Illness				
	Depression	35.02	698	
	Bi-polar	20.07	400	
	Anxiety	18.06	360	
	PTSD	11.14	222	
	Personality Disorder	8.58	171	
	Psychotic Disorder	5.67	113	
	Other	2.86	57	
Adverse Experiences/Past Trauma				
	Parents/guardians abused alcohol/drugs	39.68	791	
	Parents/step-parents served time	23.38	466	
	Ever been shot at	19.82	395	
	Physically abused prior to current admission	43.95	876	
	Ever been sexually assaulted/molested	35.07	699	
Total Number of Adverse Experiences/Past Traumatic Events				
	None	24	348	
	1	26	370	
	2	22	311	
	3	16	230	
	4	10	143	
	5	2	32	
Disability				
	Yes	22.73	453	
	No	77.27	1540	
Education				
	11th grade	50.13	988	
	12th grade	30.14	594	
	Junior year of college	16.59	327	
	Senior year of college or more	3.15	62	
Race				
	White	55.34	1103	
	Black or African American	39.49	787	
	American Indian/Alaska Native	5.52	110	
	Asian	0.55	11	
	Native Hawaiian/Pacific Islander	0.6	12	
	Other	3.86	77	
Income in month prior to incarceration				
	No income	8.55	127	
	\$1 - \$499	30.48	453	
	\$500 - \$999	26.58	395	
	\$1000 - \$1999	21.67	322	
	\$2000 - \$4999	9.69	144	
	\$5000 or more	3.03	45	
Age				
	Median	Min	Max	
	33	14	72	

### Five individual types of trauma

Three of the trauma types in the model were statistically significant. Specifically, those who reported that their parents/guardians abused alcohol or drugs had 52% greater odds of reporting mental illness, compared to those who did *not* report this adverse experience [OR=1.52, 95% CI 1.19, 1.93]. Those who reported past physical abuse [OR=2.12, 95% CI 1.67, 2.70] and those who reported past sexual assault [OR=2.05, 95% CI 1.60, 2.63] had approximately two times greater odds of having a mental illness, compared to those who did not report these exposures (table 2). Being Black was also statistically significant and showed a protective effect [OR=0.64, 95% CI 0.50, 0.80]. The overall model was ~~also~~ statistically significant [ $\chi^2(14) = 189.25, p < 0.05$ ]. Results from the Hosmer Lemeshow test indicated that this model was a proper fit for the data. ~~As for model usability,~~ this model correctly predicted those with mental illness 56% of the time, and correctly predicted those without mental illness 74% of the time.

**Table 2. Prevalence odds of mental illness among incarcerated women, based on different types of past trauma**

	OR (95% CI)
Parents/Step-parents abused alcohol/drugs	1.52 (1.19, 1.93)
Parents served time	0.93 (0.70, 1.21)
Ever shot	1.14 (0.86, 1.52)
Physically abused	2.12 (1.67, 2.70)
Sexually abused	2.05 (1.60, 2.63)
$\chi^2$	189.25***
df	14
-2LL	-893.87

. = 0.05, \* = 0.01, \*\* = 0.001, \*\*\* < 0.001; Adjusted for Race, Income, and Education

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

### Total number of traumatic events experienced

Number of adverse experiences was a statistically significant predictor of mental illness [OR=1.56, 95% CI 1.43, 1.70], indicating that with each additional reported adverse experience, an incarcerated woman has approximately 56% greater odds of also reporting a mental illness (table 3). Being Black was also statistically significant and showed a protective effect [OR=0.59, 95% CI 0.47, 0.75]. The overall model was statistically significant [ $\chi^2(10) = 156.78, p < 0.05$ ], and correctly predicted cases of mental illness 54% of the time, while correctly predicting those without mental illness 72% of the time. However, the Hosmer Lemeshow test was run to assess whether the model was an appropriate fit for representing the relationship between trauma and mental illness. When computed, the test was statistically significant ( $p < 0.05$ ). This means there is not enough evidence to support that this particular model represents how trauma influences mental illness.

**Table 3. Prevalence odds of mental illness among incarcerated women, based on the number of past traumatic events experienced**

	OR (95% CI)
Adverse experience	1.56 (1.43, 1.70)
$\chi^2$	156.78***
df	10
-2LL	-910.89

. = 0.05, \* = 0.01, \*\* = 0.001, \*\*\* < 0.001; Adjusted for Race, Income, and Education

### Mental illness and disability

Disability significantly influenced mental illness after adjusting for race, income, and education [ $\chi^2(10) = 209.93, p < 0.05$ ]. Those who reported having a disability had about six times greater odds of also reporting a mental illness, compared to those who did not have a disability [OR=6.00, 95% CI 4.50, 8.09]. Being Black was also statistically significant and showed a

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

protective effect [OR=0.44, 95% CI 0.35, 0.56]. Results from the Hosmer Lemeshow test also indicated that this model was a proper fit for the data. The model, however, was less sensitive than previous models. It correctly predicted cases of mental illness 42% of the time, and correctly predicted those without mental illness approximately 88% of the time. (table 4).

**Table 4. Prevalence odds of mental illness among incarcerated women, based on disability status**

	OR (95% CI)
Have disability	6.01 (4.50, 8.09)
X2	209.93***
df	10
-2LL	-884.31

. = 0.05, \* = 0.01, \*\* = 0.001, \*\*\* < 0.001; Adjusted for Race, Income, and Education

### Interaction between disability and total trauma experienced

Finally, a logistic regression model was <sup>estimated</sup>run to test for the possible interaction effect between having a disability and the total number of traumatic events experienced, on mental illness. The overall model was statistically significant [ $X^2(12) = 301.12, p < 0.05$ ]. Both independent variables, as well as the interaction term were also statistically significant (table 5). For this model, an incarcerated woman had approximately 58% greater odds of reporting a mental illness with each additional reported adverse experience [OR=1.58, 95% CI 1.43, 1.75]. Those with a disability had about 8 times greater odds of reporting a mental illness, compared to those without a disability [OR=8.57, 95% CI 5.25, 14.17]. Being Black was also statistically significant and showed a protective effect [OR=0.51, 95% CI 0.40, 0.65]. Results from the Hosmer Lemeshow test indicated that this model was a proper fit for the data.

The model correctly predicted cases of mental illness 61% of the time, and correctly predicted those without mental illness approximately 77% of the time. Output from the log

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

likelihood test indicated that the model fit the data statistically significantly better with the interaction term than without it [ $\chi^2(1) = 5.17, p < 0.05$ ]. The interaction term, itself, was also statistically significant [OR=0.78, 95% CI 0.63, 0.97]. The interaction between disability and total trauma surprisingly displays a protective relationship with mental illness. Among those with a disability, the probability of reporting a mental illness decreased by approximately 22% with each unit increase in adverse experiences.

**Table 5. Prevalence odds of mental illness among incarcerated women with a disability, based on the number of past traumatic events experienced**

	OR (95% CI)
Adverse experience	1.58 (1.43, 1.75)
Have disability	8.57 (5.25, 14.17)
Adverse experience* Have disability	0.78 (0.63, 0.97)
X2	301.12***
df	12
-2LL	-838.72

. = 0.05, \* = 0.01, \*\* = 0.001, \*\*\* < 0.001; Adjusted for Race, Income, and Education

### Discussion

The aim of this study was to determine how various types of trauma (adverse experiences) influence mental illness prevalence, among women incarcerated in jails. This study also sought to understand whether the number of adverse experiences per person affected the prevalence odds of mental illness. Secondly, the research explored the relationship between having a disability and mental illness prevalence, as well as its possible interaction effect with adverse experiences.

Each model adjusted for income, education, and race (dichotomized into whether a person identified as “Black” or not). Notably, race was significant in every model. Specifically, being Black was “protective” against mental illness. Despite Blacks reporting higher levels of

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

trauma, this finding is concurrent with the extant literature. It is theorized that this phenomenon is partially due to differences in uses of coping mechanisms between Black and White individuals.<sup>32</sup> Research has shown that individuals who are exposed to more chronic stress (which disproportionately affects Black populations), engage in more poor health behaviors (PHB).<sup>32</sup> These PHBs, in turn, influence “pleasure and reward systems,” which can ironically lower mental illness prevalence.<sup>32</sup> This relationship, however, is still unclear. The interaction between race and mental illness, especially among incarcerated women, should be explored further.

The primary trauma types of interest were “parents/guardians abused alcohol/drugs,” “parents/step-parents served time,” “ever been shot at,” “physically abused prior to current admission,” and “ever been sexually assaulted/molested.” Having a formerly incarcerated parent was not significant in any model. This is surprising, given that this is a criterion for adverse childhood experiences.<sup>33</sup> Research has also shown that having an incarcerated parent can decrease one’s “health-related quality of life.”<sup>33</sup> Notably, however, Black adults with incarcerated parents see stronger negative influences on physical health, while White adults see stronger influences on mental health.<sup>33</sup> Given the disproportionate number of Black families affected by incarceration, this relationship must be explored further. Likewise, it is unclear as to why “ever been shot at” was not significant in any model, as being a victim of a shooting is a strong predictor of PTSD.<sup>34</sup> These two variables (“ever been shot at” and “parents/step-parents served time”) were also the trauma types that affected the smallest proportion of participants in the sample (20% and 23%, respectively), which could have influenced significance.

Having a parent/guardian who abused drugs in the past, being physically abused, and being sexually assaulted all significantly influenced the probability of reporting a mental illness.

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

This is consistent with past literature as well. Incarcerated women who are either physically or sexually abused in childhood are more likely to report mental health issues.<sup>4</sup> Women who experience *both* forms of trauma are at an increased risk for mental illness and report higher levels of suicide attempts.<sup>4</sup> Given the disproportionate number of incarcerated women who experience such trauma, special attention should be placed on this population to ensure proper care. The literature also supports the significant finding of the relationship between parental drug abuse and eventual mental illness in their children.<sup>35</sup> People who have parents who struggle(d) with addiction are at higher risks of developing anxiety and other mental health issues, compared to those who do not.<sup>35</sup>

The total number of adverse experiences was also statistically significant. Given that three out of the five trauma types had a significant influence on mental illness, this is unsurprising. Aggregating these adverse experiences, however, allowed for a better understanding of the negative cumulative effects that trauma can have on a person. There is a growing body of literature supporting that repeated exposures to trauma are associated with depression, anxiety, and substance use disorders.<sup>36</sup> These associations appear to be even stronger among people exposed to trauma in childhood.<sup>36</sup> Furthermore, incarcerated people experience trauma at far higher rates than the general public.<sup>36</sup> This suggests that repeated trauma not only influences mental illness, but also a person's risk of initial incarceration.<sup>36</sup>

Disability was statistically significant when analyzed separate from trauma, with trauma, and as part of the interaction term. Past studies have shown a positive relationship between having a disability and mental illness.<sup>13</sup> This is likely partially a result of ableism and the stigma that a person with disabilities often must face.<sup>15</sup> Furthermore, incarcerated populations have a disproportionate number of people with disabilities.<sup>37</sup> This is partially due to the overlap between

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

having a disability and the criminalization of homelessness and poverty. For instance, approximately one quarter of people who are homeless have a disability, compared to about 14% of the general population.<sup>38,39</sup> Likewise, people who are homeless are 11 times more likely to be incarcerated than people who are not homeless.<sup>40</sup> There is clear overlap between the two populations. The large odds ratios for disability are concurrent with the present literature. People incarcerated in jails are more likely to report a disability than people incarcerated in prisons, and people incarcerated in jails are four times more likely to report a disability than the general public.<sup>37</sup> Among incarcerated people, a higher proportion of women report having a disability than do men.<sup>37</sup>

The interaction between disability and trauma revealed a protective effect. In other words, among incarcerated women with a disability, the odds of mental illness *decreased* with each increase in adverse experiences. This was contrary to what was initially hypothesized, as it was presumed that disability and trauma would have a synergistic effect on mental illness. This finding is also contrary to other research. One study, for instance, found that people in jails who had a disability were over 2.5 times more likely to experience “serious psychological distress” in the past 30 days, when compared to incarcerated people without a disability.<sup>37</sup> Certainly, the relationship between disability and mental illness among incarcerated persons is complex and must be explored further.

Of course, the data have several limitations. For one, these data were originally collected in 2002, and the jail populations have changed drastically over the past few decades.<sup>3</sup> Given that both mental illness prevalence as well as the incarceration rate for women has been growing steadily, an analysis of older data does not properly represent the present extent of these issues.<sup>3</sup> Further, because this was a cross sectional study utilizing secondary data, conclusions of



## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

temporality are severely limited. It is uncertain whether the exposures (adverse experiences and disability) preceded the onset of mental illness. Related, the data do not display *when* participants were first exposed to various past traumas. This is important to note, as the age at which a person experiences trauma can influence the ultimate impact the trauma has on physical and mental health.<sup>36</sup> Women were also not asked the severity at which they experienced the trauma. This is also an important factor, considering that being physically abused once can influence a person's mental health differently than if they are repeatedly physically abused over the course of years.<sup>41</sup>

An additional limitation is that all data were self-reported. Women were simply asked whether they “consider” themselves to have a disability, whether they have experienced certain types of trauma, and which mental illnesses they had, if any. This can introduce recall bias (not remembering past events fully or accurately), as well as social desirability bias, if participants report what they believe is more socially acceptable. Given the stigma of mental illness, it is possible that the true number of cases in the sample is actually larger than what was reported. Furthermore, it is possible that some women unknowingly had a mental illness (if never diagnosed by a physician), causing them to answer “no” to each mental illness question.

Despite these limitations, the present study also possessed a number of strengths. First, instances of trauma were assessed both individually and cumulatively. This allowed for a better understanding of whether certain forms of trauma had stronger influences on the probability of someone having a mental illness than did other forms of trauma. Related, this study was able to further examine how having a disability can influence mental illness, an area which is understudied (especially among incarcerated people). Moreover, because prisoners are considered a “vulnerable population” among Institutional Review Boards, this population, as a whole, is understudied. Among incarcerated persons, those in jails (as opposed to prisons) are

## PAST TRAUMA AND MENTAL ILLNESS AMONG INCARCERATED WOMEN

studied even less. Because the vast majority of people in prisons are first held in jails, it is critical to better understand the unique challenges people in jails face, even before they get to prisons.<sup>42</sup>

An additional strength of this study is that the data are from a large (n=1993) nationally representative sample, which allows inferences to be made for the broader incarcerated female population in the United States.

Future studies should further explore the associations between having a disability and mental illness. Such studies should also better operationalize “disability,” indicating differences between physical and intellectual disabilities, as this distinction could have varying influences on mental health. It should be noted that these data are from The National Survey on Inmate Health, which is conducted every ten years. Future surveys should ask participants *when* certain types of trauma occurred as well as the age at which the person was diagnosed with a mental illness. This insight will provide a more robust context for analysis.

Finally, it is vital to better recognize and understand the intersectionality of race, sexuality, and ability when researching mental illness among incarcerated women. While all incarcerated women face significant and unique challenges, those barriers are heightened among women of color, and further still, among trans women of color.<sup>43</sup> Racism, sexism, ableism, and transphobia, are all factors that affect a person’s mental health.<sup>43</sup> By better understanding these relationships, incarcerated women can receive services and support that are more properly suited to their specific experiences, which should increase long-term success outside of jail or prison. Moreover, by understanding how different types of trauma influence mental illness prevalence, medical professionals, educators, social workers, and families can better identify when a person is at risk and help that person obtain the necessary resources.

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