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Mental Health Research in Correctional Settings: Perceptions of Risk and Vulnerabilities

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Abstract

With over half of individuals incarcerated having serious mental health concerns, correctional settings offer excellent opportunities for epidemiological, prevention, and intervention research. However, due to unique ethical and structural challenges, these settings create risks and vulnerabilities for participants not typically encountered in research populations. We surveyed 1,224 researchers, IRB members, and IRB prisoner representatives to assess their perceptions of risks associated with mental health research conducted in correctional settings. Highest-ranked risks were related to privacy, stigma, and confidentiality; lowest-ranked risks were related to prisoners' loss of privileges or becoming targets of violence due to having participated in research. Cognitive impairment, mental illness, lack of autonomy, and limited access to services emerged as the greatest sources of vulnerability; being male, being female, being over age of 60, being a minority, and being pregnant were the lowest-ranked sources of vulnerability. Researchers with corrections experience perceived lower risks and vulnerabilities than all other groups, raising the question whether these researchers accurately appraise risk and vulnerability based on experience, or if their lower risk and vulnerability perceptions reflect potential bias due to their vested interests. By identifying areas of particular risk and vulnerability, this study provides important information for researchers and research reviewers alike.

Keywords

Risk; Vulnerability; Correctional Settings; Prisoners; Perceptions

Introduction

The conduct of research with participants who have a mental illness presents unique risks and ethical considerations due to the potential vulnerability of these individuals (American

Psychiatric Association's [APA] Task Force on Research Ethics, 2006). In particular, researchers must consider whether participants with mental illnesses have the decisional and cognitive capacities to participate fully in the informed consent process (Faden, 1996). Further, psychiatric patients have described feeling helpless vis-à-vis their mental health situation and may be compelled to participate in research in the hopes of alleviating both their illness as well as helping to advance future treatments (Roberts, 1998). Such feelings of distress and helplessness have led to concerns about a decrease in autonomy and a potential for coercion (Dunn & Jeste, 2001; Roberts, 1998). In addition to issues related to informed consent and voluntariness of participation, stigmatization of individuals with a mental illness leads to a heightened need for safeguarding confidentiality and privacy. Researchers must take steps to ensure confidentiality and the privacy of individual participants through the careful development and utilization of research methodologies, data collection, and storage practices (Roberts, Geppert, & Brody, 2001).

Ethical concerns and risks notwithstanding, mental health research is crucial to advance the understanding of mental illness, develop and refine treatment approaches, and improve outcomes. In the absence of research, individuals with mental illness will continue to be stigmatized and their treatments will remain outdated or based primarily on inferential evidence (APA's Task Force on Research Ethics, 2006). One venue that presents an opportunity for the conduct of mental health research is correctional settings. As a result of both deinstitutionalization and criminalization of individuals with mental illness, jails and prisons have become the largest providers of mental health service in the country, outnumbering local and state psychiatric hospitals (Amory Carr, Amrhein, & Dery, 2011). This is exemplified by the fact that in 1955, when the US population was 165 million, 559,000 individuals were institutionalized in state mental hospitals; however, in 2000, with a population of 250 million, that figure was a mere 55,000 (Lamb, Weinberger, & Bruce, 2004). The absence of psychiatric hospital beds combined with the common belief by law enforcement that deviant behavior can be dealt with more quickly and efficiently in the criminal justice system than the mental health system results in more mentally ill individuals being arrested and incarcerated (Lamb et al., 2004). Indeed, with roughly 2.3 million incarcerated individuals in the United States on any given day (Fazel & Baillargeon, 2011), a study by the U.S. Department of Justice found that more than half of all prison and jail inmates have a mental health problem as compared with 25% of the general adult population (Daniel, 2007). In effect, as Torrey, Kennard, Eslinger, Lamb, and Pavle (2010), so succinctly characterized it, "America's jails and prisons have become our new mental hospitals."

Although they provide an excellent opportunity to conduct crucial mental health research, correctional settings present unique ethical and structural challenges to the conduct of research, challenges that further exacerbate research-related risks faced by individuals with mental illness (Eldridge, Johnson, Brems, & Corey, 2011). Individuals in correctional environments are vulnerable not only due to healthcare disparities but also because of restrictions on autonomy, privacy, and liberty inherent in these settings. Contextual issues unique to corrections (e.g., stress of incarceration, trauma, desperation, lack of privacy) are all factors that can affect the decisional capacity of research participants (Christopher, Candilis, Rich, & Lidz, 2011). In a recent study examining perceived coercion among 84

offenders, 51% of participants agreed with the statements “I felt the judge would like it if I entered the study” and “I felt that entering the study would help my court case” (Dugosh, Festinger, Croft, & Marlowe, 2010). Such findings exemplify the complexities of potentially coercive factors that should be considered conducting research within correctional settings. Further, correctional facilities must strive to balance the paramount need for safety and security of staff and inmates, with the needs for confidentiality and privacy for research participants. To address the many risks faced by this vulnerable population, in 1991 the US Department of Health and Human Services (2009) adopted and has since revised regulations intended to provide additional protections for prisoners who are participating in research. Although valuable and imperative, these regulations have created significant barriers to conducting research with incarcerated individuals (Johnson et al., in press). These and other factors have led to substantial obstacles to the conduct of mental health research in correctional settings, venues which may otherwise be excellent venues for invaluable healthcare research.

Recognizing the missed opportunities for crucial research in correctional settings, the Institute of Medicine (IOM, 2007) issued a clarion call to create changes, with the goal of increasing research activities while ensuring and strengthening the protection of prisoners. Although not all of the IOM’s recommendations have been implemented, the discussion and controversy regarding correctional research has been bolstered, bringing about a new sense of urgency to conduct mental health research with this vulnerable population. The current study seeks to contribute to this ongoing conversation by exploring relevant and experienced professionals’ perceptions of risks involved in mental health research conducted in correctional settings.

Method

Participants

To gather information on perceptions of mental health research in correctional settings, we surveyed a national sample of mental health researchers, institutional review board (IRB) chairs and members, and prisoner representatives. Through several electronic databases, two pools of researchers were developed. The first pool included researchers with publications, and those who had obtained grant-funding related to mental health research in correctional settings since 2000; the second included researchers with publications or grant-funding related to mental health research in non-correctional settings since 2000. To develop a pool of IRB chairs and members with experience overseeing mental health research conducted in correctional settings, we sampled members of the IRBs associated with the pool of researchers with correctional experience. To develop a pool of IRB members with experience overseeing mental health research in settings other than corrections, we randomly selected from a list obtained from the Office of Human Research Protection (OHRP). Prisoner representatives were identified from the IRBs that had overseen correctional research as well as through random selection from the OHRP list. Survey participants provided contact information for an additional 349 potential individuals whom they deemed eligible to participate.

Based on our sampling strategies and after removing 436 individuals who were retired, deceased, or had undeliverable addresses, we identified a final sample of 2,871 potential participants. Of these individuals, 1,288 completed our survey for a response rate of 44.9%. The final sample included 278 researchers with correctional experience, 279 researchers without correctional experience, 314 IRB chairs or members with correctional experience, 284 IRB chairs or members without correctional experience, and 133 prisoner representatives. Of these 1,288 participants, 1,224 completed all items of interest in the current study. Table 1 provides demographic information for all 1,224 participants.

Instrumentation

Data on perceptions of correctional research were drawn from a larger survey developed through funding from the National Institute on Mental Health. The overall purpose of this study was to explore barriers and challenges to the conduct of mental health research in correctional settings. Of interest to the current study were two sets of items from the larger survey that addressed perceptions and opinions about correctional mental health or psychiatric research. The first set consisted of seven statements and asked respondents to indicate the extent to which they agreed or disagreed with whether conducting mental health or psychiatric research in correctional settings can lead participants to experience a variety of risks. The second set consisted of 22 statements relating to vulnerability to coercion and undue influence due to a variety of variables related to the correctional setting itself, demographic factors, or impairment status. All items were rated on a scale from 1 (strongly disagree) to 4 (strongly agree), with higher scores indicating greater risk or vulnerability. Tables 2 and 3 provide specific items for the two question sets.

Procedures

After receiving IRB approval, we began our study, using survey administration procedures recommended by Dillman (2007). We started the process by sending a letter to all potential participants letting them know to expect an email concerning the survey. Two weeks later, we sent the actual recruitment email, consisting of a cover letter and survey link. This link directed the recipient to an informed consent form followed by the survey, payment form, and non-participant form. Up to four email reminders were sent at two-week intervals to individuals who had neither completed the survey nor returned a non-participation form. Prior to the final email reminder, we mailed a letter to each nonparticipant concerning the survey. Finally, out of concern that emails may have been marked as spam or otherwise not delivered, we sent a paper version to all participants from whom we had no prior response. Participants were compensated \$60 for completing the survey.

Statistical Analysis

Principal components analysis (PCA) with varimax rotation was used to identify underlying dimensions in each of the two question sets. For the first set, a single factor with an eigenvalue greater than one emerged, accounting for 61.6% of the variance. For the second set, three factors emerged and accounted for 67.2% of the variance. These three factors were interpreted as variables related to vulnerability to coercion due to: a) setting; b) demographic and vulnerability characteristics (e.g., age, gender, sexual orientation); and c) impairment

(e.g., cognitive impairment, mental illness, alcohol or drug use). Alpha coefficient reliability for scales based on these three factors were .91, .95, and .89, respectively.

Separate multivariate analyses of variance (MANOVAs) were conducted for each of the factors identified through PCA, using the individual items in each factor as dependent variables. Independent variables were gender and group (i.e., researchers with corrections experience, researchers without corrections experience, IRB chairs or members with corrections experience, IRB chairs or members without corrections experience, and prisoner representatives). Significant multivariate findings were followed-up with univariate analyses and Duncan's post hoc tests.

Results

Risks to Prisoners

This question set contained seven items related to perceived risks associated with mental health research. Results of a 2 (Gender) X 5 (Group) MANOVA revealed overall effects for Gender, $F(7,1208) = 3.54, p < .05$, and Group, $F(28,4826) = 6.03, p < .005$. Table 2 provides means for these seven items by Group and Gender. For the Group effect, univariate ANOVAs revealed significant differences on all seven items. On all seven risk-related items, researchers with correctional experience perceived significantly less risk for prisoners than did the other groups, followed by researchers without corrections experience, followed by all IRB-related groups (IRB members with and without corrections experience and prisoner representatives). For the Gender effect, univariate analyses revealed significant differences on five of the seven variables. Women perceived greater degrees of risk for being ostracized or stigmatized by others, losing privileges and access to benefits, having privacy violated, risk due to limited access to debriefing and support after researchers leave, and risk due to limited access to researchers or IRBs. The Gender X Group interaction was not significant, $F(28,4826) = 1.04, p > .05$. Across all participants, having privacy and confidentiality violated and being at risk for stigmatization were perceived as the greatest risks, whereas losing privileges and becoming targeted for violence were the lowest risks.

Vulnerabilities to Coercion

Setting—The first factor of vulnerability variables included items related to whether prisoners participating in mental health research are vulnerable to coercion due to: 1) social deprivation, 2) relative value of compensation, 3) limited access to services, 4) lack of autonomy, 5) economic deprivation, 6) physical environment, 7) social environment, and 8) correctional policies and procedures. Results of a 2 (Gender) X 5 (Group) MANOVA revealed an overall significant effect for Group, $F(32,4840) = 2.30, p < .001$. Table 3 provides means for these eight items by Group and Gender. For the Group effect, one-way ANOVAs revealed significant differences on six of the eight variables. Duncan's post-hoc tests revealed that researchers, and particularly researchers with corrections experience, reported lower levels of agreement that participants in mental health/psychiatric research were vulnerable to coercion due to social deprivation, relative value of compensation, lack of autonomy, physical environment, social environment, and correctional policies and procedures. Both the Gender and the Gender X Group interaction were not significant,

$F(8,1207)=1.69, p>.05$; $F(32,4840)=0.82, p>.05$, respectively. Across all participants, lack of autonomy, social environment, and limited access to services were perceived as the greatest sources of vulnerability; with physical environment and policies and procedures as the lowest.

Demographic and Vulnerability Characteristics—The second factor of vulnerability variables included items related to whether prisoners are vulnerable to coercion due to the following personal characteristics: 1) being female, 2) being male, 3) being transgender, 4) being under the age of 18, 5) being over the age of 60, 6) being of a minority ethnicity, race, or cultural heritage, 7) being gay, lesbian, or bisexual, 8) being pregnant or having potential for pregnancy, 9) having HIV infection, and 10) having a stigmatizing illness. Results of a 2 (Gender) X 5 (Group) MANOVA revealed an overall significant effect for Group, $F(40,4832) = 2.41, p < .001$. Table 3 provides means for these 10 items by Group and Gender. For the Group effect, univariate ANOVAs revealed significant differences on all 10 items. Duncan's post-hoc tests revealed that researchers, and particularly researchers with corrections experience, reported lower levels of agreement that participants in mental health/psychiatric research were vulnerable due to personal characteristics. Both the Gender and the Gender X Group interaction were not significant, $F(10,1205)=1.53, p>.05$; $F(40,4832)=0.63, p>.05$, respectively. Across all participants, having a stigmatizing illness, being under the age of 18, and being gay, lesbian, or bisexual were perceived as the greatest sources of vulnerability; being male, female, or over age of 60 were lowest.

Impairment—The third factor of vulnerability items addressed increased vulnerability due to impairment as a result of: 1) alcohol, 2) drugs, 3) cognitive impairment, and 4) mental illness. Results of a 2 (Gender) X 5 (Group) MANOVA revealed overall effects for Gender, $F(4,1211) = 2.38, p < .01$, and Group, $F(16,4838) = 2.92, p < .01$. Table 3 provides means for these four items by Group and Gender. For the Group effect, univariate ANOVAs revealed significant differences on three of the four items, namely, alcohol, drugs, and mental illness. On all three items, researchers both with and without correctional experience perceived significantly less risk for prisoners than all IRB-related groups (IRB chairs and members with and without corrections experience and prisoner representatives). For the Gender effect, univariate analyses revealed significant differences on two of the three variables. Women perceived greater degrees of risk for prisoners impaired by cognitive impairment and mental illness than did men. The Gender X Group interaction was not significant, $F(16,4838)=1.31, p>.05$. Across all participants, having a cognitive impairment or mental illness was perceived as the greatest source of vulnerability; with alcohol or drug impairment as the lowest.

Discussion

Perceptions of Risk

Across all participants, the highest-ranked risks associated with mental health research in correctional settings were related to privacy, stigma, and confidentiality; the lowest-ranked risks were related to prisoners' loss of privileges or becoming targets of violence due to having participated in research. Loss of privileges is a phenomenon inherent in prison

settings, as is the danger of being victimized (i.e., experience violence). Given the stigmatization of mental illness, the finding that mental health research participants are not perceived as being at even greater risk was unexpected. That is, prior research has indicated that individuals with mental illness are at greater risk in correctional settings for being victims of sexual and physical violence (Blitz, Wolff, & Shi, 2008; Wolff, Blitz, & Shi, 2007). In future research, it will be important to tease out whether respondents did not perceive an increased risk because they believed that due to confidentiality measures, prisoners would not be identified as experiencing a mental illness by virtue of participating in the research; that they assume that participants have already been identified as having a mental illness and their research participation does not increase the likelihood of being so identified; they do not perceive stigmatization of mental illness as a concern in correctional settings; or whether research participation truly not does increase participants' risks. The same question can be raised about possible harm resulting from limited access to both a debriefing and to the primary researchers. Both items were not ranked as highly as one might expect given the restrictions in movement and contact with the 'outside world' that are placed on incarcerated individuals. Do these ratings reflect bias (i.e., that respondents are not as worried about the rights of prisoners to seek debriefing and opportunity to express concern) or actuality (i.e., that prisoners do have adequate access to such opportunities)? Answers to these questions will have to come from incarcerated individuals themselves and thus point to a clear and important direction for future research.

Interestingly, the relative ranking of risk items did not differ across participant groups. That is, regardless of groupings (researchers versus IRB members and women versus men) participants ranked various risk situations in a very similar manner. However, the degree of perceived risk associated with each item (regardless of rank) did differ across participant groups. Very consistently, researchers, especially those with corrections experience, perceived lower risk than IRB members; women perceived greater risk than men. For researchers with correctional experience, two items (target for violence, losing privileges) did not reach an average rating of 2.0, the threshold at which ratings move from perception of no risk to perception of risk. Three additional items barely reached this threshold (confidentiality, stigma, and harm due to lack of access to senior researchers). IRB chairs and members, prisoner representatives, and researchers without correctional experience, regardless of gender, provided average ratings that were solidly above this risk threshold, indicating greater caution in assessing risk.

It is evident that researchers with correctional experience perceive less risk for potential research participants than other groups, a finding that begs the question of why. It may be that correctional researchers considered these items through the lens of either having worked with this population and not having perceived risk, or of wanting to work with incarcerated individuals and not perceiving higher risk due to the implications this might have for their own research plans. For other respondents, this latter possibility would not be relevant – they can identify greater risk without the subsequent worry of what it means for their own work. The burden of protecting participants in the end falls on the primary researcher. A non-correctional colleague or an IRB reviewer can point out risk and can critique a research protocol without having to consider what this means in terms of the cost and feasibility of a research project. A primary investigator may find it more difficult to make such a judgment

completely free of bias due to their prior experience or their research plans. It is particularly interesting to note that the largest discrepancy in risk perception tended to occur between researchers and prisoner representatives. Of the latter group, 77% reported having conducted research in prisons. Thus, one might expect that correctional researchers and prisoner representatives would have had very similar risk perceptions. However, it may be that prisoner representatives see greater risk and vulnerability due to their role and reason for serving on the IRB in a similar fashion that researchers may see less risk and vulnerability due to their personal interest. Certainly, the fact that the two groups diverged from each other more than most other groups, even though having both served as researchers in correctional settings, suggests that the lens through which risk is viewed strongly affects risk perception. That is, when responding as a researcher who works in corrections, risk is assessed lower than when responding as a member of an IRB reviewing research protocols.

Perceptions of Vulnerability

In terms of vulnerability, across all participants, vulnerabilities due to the setting were rated highest, followed by those due to impairment, and finally those due to personal characteristics. Cognitive impairment, mental illness, lack of autonomy, and limited access to services emerged as the greatest sources of individual vulnerability; being male, being female, being over age of 60, being a minority, and being pregnant engendered the least concern as sources of vulnerability. Setting vulnerabilities were most concerning to all participant groups and reflect, presumably accurately, the unique challenges presented by research in correctional environment. Lack of autonomy, social realities, and economic deprivations all emerge as vulnerabilities for potential research participants in correctional settings. Researchers and reviewers must be mindful that individuals who live in an environment that constrains freedom and access to most resources (whether social, physical, or economic) may not make decisions in the same manner as individuals who do not experience such deprivations. The value related to social contact with a researcher, of gaining access to a service that may not otherwise be available, of being compensated for participation, and so on may become coercive at a much lower threshold in a correctional setting than outside of it. Careful appraisal of the impact of such variables on informed consent is clearly important and must be considered carefully by those planning and reviewing correctional research.

Impairment vulnerabilities were ranked slightly lower than setting vulnerabilities, but all items passed the threshold of identified vulnerability. Cognitive impairment and mental illness were perceived as the greatest additional vulnerabilities for incarcerated individuals participating in mental health research. No doubt this has to do with concerns over decisional capacity that may be affected by these disorders (APA's Task Force on Research Ethics, 2006). Similarly, but to a slightly lesser degree, impairment due to drugs or alcohol also raised worries of added vulnerability. With 49.2% of individuals in state prisons, 39.8% in federal prisons, and 60.5% in local jails meeting criteria for major depression, mania, or psychotic disorders (James & Glaze, 2006) and 53% of state and 45% of federal prisoners meeting criteria for drug dependence or abuse (Mumola & Karberg, 2006), it is obvious that correctional researchers must take these issues into consideration. That is, given concerns over decisional capacity of individuals with cognitive impairment, mental illness, and/or

substance dependence, any study being planned or reviewed for implementation in a correctional setting will need to pay careful attention to informed consent procedures to ensure that participants truly understand their options and volunteer freely. Similarly, research procedures and assessment materials need to be developed with these factors in mind to ensure that participants in correctional research studies fully understand the materials and contents to which they are exposed.

Personal characteristics also led to high assessments of potential vulnerability, with stigmatizing illnesses, including HIV, and being of a young age rated as particularly concerning. Pregnancy, sexual preferences, and gender identity also emerged as potential vulnerabilities. For all personal characteristics, the primary concern for researchers and reviewers of research in correctional settings is to gauge the degree to which individuals who participate in such studies become vulnerable simply for being identified as having these characteristics. Privacy and confidentiality concerns are heightened for such participants to ensure that they are protected and safe.

Relative ranking of all vulnerability items can be gleaned from Tables 2 and 3, where items are shown in their rank order of perceived risk or vulnerability as averaged across all participant groups. The same finding that was identified for risk once again revealed itself for vulnerability in terms of participant group differences. Specifically, relative ranking of vulnerability items did not differ across participant groups – researchers, IRB chairs and members, men, and women all ranked items similarly relative to each other. However, the degree of perceived vulnerability associated with each item was again perceived as being lowest by correctional researchers, regardless of category (i.e., setting, impairment, or personal characteristics). The same issues of both potential bias and of the lens through which risk and vulnerability are evaluated is raised again in the context of accurately assessing potential participants' vulnerability.

Limitations

Several potential limitations merit mention. First, although an acceptable figure, the response rate of approximately 45% raises the possibility of response bias. Second, the focus of this study was on mental health or psychiatric research as a general category. Findings may have differed had the focus been placed on clinical research with various degrees of intrusiveness or potential risk or had the study specifically identified research with severe and persistent psychiatric diagnoses. Third, the study did not include individuals who participated in research while incarcerated. The future inclusion of these individuals will yield deeper and richer knowledge and may help clarify some of the questions raised by the current study.

Conclusions and Future Directions

Correct assessment of risk and vulnerability is crucial to moving forward with ethical and helpful research in correctional settings. The current study has elucidated areas of particular risk and vulnerability and provides important information for researchers and research reviewers alike. However, the study also raises the question whether correctional researchers, who had the lowest perception of risk and vulnerability, simply know

correctional settings better than other participants groups and therefore more accurately appraise risk and vulnerability based on their experience, or if their lower perceptions of risk and vulnerability reflect an inherent bias due to possible vested interest. Similarly, findings raise the question whether IRB chairs and members, including prisoner representatives, perceive more risk and vulnerability because they are primed to do so by virtue of their reviewing role or because they can view the proposed research protocol with more objectivity. Prisoner representatives, the majority of whom report having conducted research in correctional settings, perceived higher risk and vulnerability than correctional researchers. With both correctional researchers and prisoner representatives groups having a firm understanding of the setting, their differential appraisals of risk and vulnerability suggests that perceptions may be biased depending on their current role. Future research with individuals who participated in research studies while incarcerated will shed further light on this matter. This is particularly important as recent research (Roberts, 2014) has revealed that researchers and research participants are often not in agreement on many ethically-relevant aspects of the research process.

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Table 1

Demographic Characteristics of Survey Participants (n=1,224)

Demographic Variable	Number	Percent
<i>Professional Group</i>		
IRB Prisoner Representative	133	10.9%
Correctional IRB Chairs and Members	309	25.2%
Correctional Researchers	270	22.1%
Non-Correctional IRB Chairs and Members	265	21.7%
Non-Correctional Researchers	247	20.2%
<i>Gender</i>		
Male	571	46.7%
Female	653	53.3%
<i>Race/Ethnicity</i>		
African American	34	2.8%
Alaska Native/American Indian	1	0.1%
Asian/Asian American	45	3.7%
Caucasian/White	1,060	86.5%
Hispanic	39	3.2%
Multiracial	24	2.0%
Other	9	0.7%
Missing	12	1.0%
<i>Highest Level of Education</i>		
Less than Master's Degree	61	5.0%
Master's Degree	125	10.2%
Doctoral or professional degree (including JD, PhD, MD)	623	50.9%
Missing	415	33.9%
<i>Age</i>	<i>Mean</i>	<i>SD</i>
Years	48.2	11.3

Table 2
Risks Scores by Gender and Group in Order of Highest to Lowest Across All Groups

		Gender			Group					
		Women n = 653	Men n = 571	F	Corrections Researcher n = 270	Non- Corrections Researcher n = 247	Corrections IRB n = 309	Non- Corrections IRB N=265	Prisoner Reps n = 133	F
Have their privacy violated	M	2.50	2.41	4.43 *	2.17	2.30	2.61	2.59	2.63	20.93 **
	SD	0.74	0.77		0.77	0.77	0.71	0.66	0.71	
Be ostracized or stigmatized by other people in the correctional setting	M	2.43	2.34	3.95 *	2.05	2.32	2.49	2.56	2.49	29.40 **
	SD	0.75	0.75		0.65	0.71	0.74	0.61	0.74	
Have confidentiality of their data breached	M	2.39	2.32	2.71	2.03	2.20	2.45	2.53	2.58	23.44 **
	SD	0.74	0.77		0.77	0.73	0.73	0.67	0.77	
Be harmed due to their limited access to debriefing or support after the researchers leave the correctional setting	M	2.41	2.23	17.83 **	2.09	2.26	2.37	2.47	2.42	10.94 **
	SD	0.75	0.72		0.77	0.71	0.76	0.63	0.78	
Be harmed due to their limited access to senior researchers or IRBs in case of a complaint or a concern	M	2.37	2.19	18.37 **	2.04	2.27	2.32	2.39	2.37	9.93 **
	SD	0.75	0.72		0.73	0.66	0.76	0.66	0.71	
Become targets for violence from other people in the correctional setting	M	2.25	2.21	1.16	1.89	2.19	2.36	2.45	2.26	24.58 **
	SD	0.72	0.74		0.77	0.70	0.72	0.61	0.78	
Lose privileges or access to benefits available to other incarcerated people	M	2.00	1.92	4.70 *	1.70	1.95	2.05	2.15	1.97	17.97 **
	SD	0.65	0.68		0.65	0.63	.64	.62	.74	

* = $p < .05$,** = $p < .001$

Table 3

Vulnerabilities Scores by Gender and Group

	Gender			Group					F	
	Women n = 653	Men n = 571	F	Corrections Researcher n = 270	Non- Corrections Researcher n = 247	Corrections IRB n = 309	Non- Corrections IRB N=265	Prisoner Reps n = 133		
VULNERABILITY DUE TO SETTING in Order of Highest to Lowest Across All Groups										
The lack of autonomy of people in a correctional setting	M	2.88	2.80	3.88*	2.67	2.74	2.96	2.94	2.89	8.42***
	SD	0.72	0.71		0.80	0.73	0.68	0.60	0.70	
The limited access to services in the correctional setting	M	2.89	2.74	11.57***	2.82	2.75	2.87	2.83	2.85	1.30
	SD	0.66	0.70		0.74	0.70	0.67	0.61	0.71	
The social environment of the correctional setting	M	2.88	2.78	6.17**	2.71	2.75	2.93	2.89	2.87	5.14***
	SD	0.66	0.72		0.77	0.69	0.67	0.62	0.66	
The economic deprivation of people in a correctional setting	M	2.83	2.72	5.59**	2.71	2.75	2.84	2.82	2.76	1.66
	SD	0.70	0.72		0.77	0.73	0.69	0.66	0.73	
The relative value of compensation in a correctional setting	M	2.82	2.72	6.17**	2.63	2.83	2.81	2.84	2.76	3.65**
	SD	0.72	0.77		0.83	0.72	0.73	0.67	0.76	
The social deprivation of people in a correctional setting	M	2.82	2.72	6.26**	2.68	2.744	2.83	2.82	2.79	2.63*
	SD	0.69	0.66		0.77	0.67	0.67	0.57	0.72	
The physical environment of the correctional setting	M	2.72	2.65	2.71	2.57	2.59	2.83	2.72	2.73	6.96***
	SD	0.67	0.72		0.73	0.72	0.68	0.61	0.72	
The policies and procedures in the correctional setting	M	2.73	2.66	2.93	2.58	2.64	2.77	2.72	2.77	4.05**
	SD	0.67	0.70		0.72	0.72	0.67	0.60	0.74	
VULNERABILITY DUE TO PERSONAL CHARACTERISTICS in Order of Highest to Lowest Across All Groups										
Having a stigmatizing illness	M	2.69	2.57	5.59*	2.45	2.59	2.70	2.72	2.78	6.55***
	SD	0.80	0.80		0.86	0.77	0.79	0.74	0.85	
Being under the age of 18	M	2.65	2.57	2.40	2.49	2.52	2.72	2.61	2.80	5.48***
	SD	0.84	0.81		0.84	0.90	0.79	0.76	0.78	
Being transgender	M	2.61	2.51	2.84	2.33	2.52	2.63	2.63	2.84	9.29***

	Gender			Group						F
		Women n = 653	Men n = 571		Corrections Researcher	Non- Corrections Researcher	Corrections IRB	Non- Corrections IRB	Prisoner Reps n = 133	
					n = 270	n = 247	n = 309	N=265	n = 133	
	SD	0.86	0.88		0.88	0.86	0.89	0.78	0.90	
Being gay, lesbian, or bisexual	M	2.61	2.52	2.60	2.31	2.52	2.64	2.65	2.81	10.53***
	SD	0.85	0.85		0.84	0.85	0.86	0.77	0.88	
Having HIV infection	M	2.58	2.43	10.21***	2.36	2.48	2.55	2.59	2.62	4.32**
	SD	0.80	0.79		0.80	0.74	0.77	0.78	0.90	
Being pregnant or having the potential for pregnancy	M	2.42	2.33	2.64	2.22	2.31	2.46	2.46	2.49	6.05***
	SD	0.79	0.78		0.79	0.76	0.81	0.72	0.80	
Being of a minority ethnicity, race, or cultural heritage	M	2.39	2.27	6.04**	2.12	2.33	2.44	2.38	2.44	8.01***
	SD	0.76	0.77		0.77	0.79	0.78	0.70	0.76	
Being over the age of 60	M	2.30	2.19	5.29	2.13	2.20	2.29	2.27	2.43	4.81***
	SD	0.73	0.70		0.73	0.74	0.71	0.65	0.77	
Being female	M	2.25	2.16	1.42	2.08	2.19	2.20	2.22	2.34	3.50**
	SD	0.73	0.74		0.75	0.76	0.70	0.66	0.83	
Being male	M	2.06	2.03	0.74	1.92	2.03	2.09	2.11	2.09	4.03**
	SD	0.60	0.64		0.63	0.62	0.61	0.58	0.68	
VULNERABILITY DUE TO IMPAIRMENT in Order of Highest to Lowest Across All Groups										
Having a cognitive impairment	M	2.97	2.89	3.62*	2.89	2.86	2.98	2.95	3.03	2.14
	SD	0.74	0.76		0.78	0.77	0.72	0.73	0.75	
Having a mental or psychiatric illness	M	2.96	2.84	8.14**	2.80	2.83	2.99	2.91	3.05	5.03***
	SD	0.75	0.77		0.80	0.81	0.71	0.72	0.75	
Being impaired due to recent use of drugs	M	2.50	2.42	2.26	2.39	2.31	2.59	2.50	2.51	5.35***
	SD	0.81	0.80		0.85	0.84	0.76	0.73	0.84	
Being impaired due to recent use of alcohol	M	2.45	2.40	1.77	2.38	2.26	2.54	2.48	2.46	4.99***
	SD	0.81	0.80		0.85	0.84	0.77	0.72	0.86	

* = p < .05,

** = p < .01,

100>d=

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