

SOCIAL FUNCTIONING, VICTIMIZATION, AND MENTAL HEALTH AMONG FEMALE OFFENDERS

NATALIE ANUMBA
DAVID DEMATTEO
KIRK HEILBRUN
Drexel University

Females who have experienced victimization or abuse during childhood tend to have poorer outcomes in adulthood with regard to criminal behavior, mental health, and social relationships. Although scholars have hypothesized that female offenders may benefit from programming that emphasizes empowerment and healthy relationships, empirical examination of this idea remains limited. Using a sample of 300 female offenders, this study empirically explored whether a history of victimization is a risk factor for future mental health problems and criminal behavior, and whether positive social functioning serves as a protective factor for females with histories of victimization. The results indicated that victimization history in this sample may not be associated with recidivism risk but with vulnerability to stress and mental health problems. In addition, the presence of social resources such as education and noncriminal friends appeared to act as a buffer against stress experienced as a result of life events.

Keywords: female offenders; criminogenic needs; gender-responsive treatment; relational theory of crime; victimization

Until the late 20th century, females involved with the criminal justice system received little empirical attention. The reasons underlying female offending are not well understood by theorists, and limited empirical research has focused on female offenders exclusively. Incarcerated females have received far less attention from policy makers, corrections administrators, and the general public, possibly because they compose a relatively small segment of a correctional system dominated by males (Braithwaite, Treadwell, & Arriola, 2005; Dowden & Andrews, 1999; Shearer, 2003).

Recent decades have seen a reversal of this trend, however, as corrections literature published in the 1970s focused more attention on female offenders (Jurik, 1983; Koons-Witt & Schram, 2003; Singer, Bussey, Song, & Lunghofer, 1995). Since the 1970s and 1980s, researchers, clinicians, and policy makers have made efforts to examine the characteristics of female offenders, the crimes they commit, the motivations behind their criminality, and the influences that may increase their risk of recidivism (Greenfeld & Snell, 1999; Lewis, 2006; Warren et al., 2002). As a result, knowledge of this previously neglected group is growing rapidly (Sacks, 2004). This is timely, given the disproportionately growing rates of female to male offenders; since 2000, the female population at state and federal prisons has increased every year by an average of 2.7%, whereas the average annual growth in the male population at state and federal prisons over the same time period is 1.8% (West & Sabol, 2010).

AUTHORS' NOTE: Correspondence concerning this article should be addressed to Natalie Anumba, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655; e-mail: natalie.anumba@gmail.com.

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VICTIMIZATION AMONG PRISONERS

According to Lake (1995), many incarcerated individuals have been both perpetrators and victims of crime. Both male and female inmates commonly experience violent victimization such as physical and sexual assault, but more males report being physically assaulted by strangers. Females have reported higher rates of sexual assault by relatives and strangers, physical assault by intimate partners, and emotional abuse (Lake, 1995; Messina, Grella, Burdon, & Prendergast, 2007). Furthermore, more females received injuries from significant others that required medical treatment and were more likely to experience chronic victimization (Lake, 1995).

Other studies have found similar gender differences in experiences of violence. Messina, Burdon, Prendergast, and Patten (2006) found that more females reported histories of physical or sexual abuse as children and as adults. The Bureau of Justice Statistics documented that females in federal or state custody were more likely to have an abuse history and more likely to have experienced chronic abuse (Harlow, 1999). Mental health professionals and prison administrators who work with incarcerated females must be aware of these statistics, particularly in light of research exploring the influence of victimization on the victim's life after the event (e.g., Ireland & Widom, 1994; Malinosky-Rummell & Hansen, 1993; McClellan, Farabee, & Crouch, 1997; Messina et al., 2007; Mullings, Hartley, & Marquart, 2004). Among females who are incarcerated or abuse substances in particular, victimization and trauma during childhood have been linked to medical and mental health problems during adulthood (Messina et al., 2008; Messina & Grella, 2006).

RELATIONAL THEORY AND CRIMINOLOGICAL THOUGHT

Feminist criminological theories stress the notion that the factors that lead to criminality differ by gender, and, therefore, criminal behavior must be contextualized. Relational theory, for instance, provides that relationships are a necessary source for psychological health and are essential in coping with adversity. As such, isolation and disconnection from others is a major source of psychological distress (Jordan, 2005; Pollack, 2007). Relational theory of crime posits that disconnection or unhealthy relationships lead females to crime (Blanchette & Brown, 2006; Covington, 1998). The most serious instance of disconnection is victimization, particularly physical, emotional, or sexual abuse that occurs during childhood; this is thought to yield great psychological isolation and stunt psychological growth (Jordan, 2005). Females in particular tend to use social networks and caretaking to buffer themselves from the effects of stressors; consequently, social support is essential during these times, and may in fact be more adaptive for situations in which one has little control over one's external environment. Incarceration is one such instance (Jordan, 2005).

The proliferation of research on female offenders, the emergence of theories such as relational theory, and the recognition that there are particular needs and vulnerabilities among female offenders have led to a shift in how the correctional system conceptualizes recidivism risk reduction and outcome improvement. For this reason, social scientists posit that female offenders have treatment needs that differ from males' needs in content, number, complexity, and treatment approaches (Covington & Bloom, 2006; Desrosiers & Senter, 2007; Shearer, 2003). The differences between male and female offenders influence

the process and outcomes of services delivered to offenders; as such, the historical focus on male offenders has led to the neglect of appropriate treatments for females (Sacks, 2004; Van Voorhis, 2005).

Despite efforts to address risk-relevant differences between incarcerated males and females, there is limited empirical research clarifying the differences in criminogenic needs between genders. In essence, despite the logical appeal of relational criminological thought and the timeliness of the interest in gender-specific programming, there is limited available research to evaluate the utility of the relatively new directions correctional programming has taken. Focus group research on a gender-responsive substance abuse treatment program within a women's prison revealed that staff and clients found beneficial the emphasis on the interactive roles of substance use and interpersonal relationships as well as the focus on maintaining emotional safety and comfort within the treatment setting (Calhoun, Messina, Cartier, & Torres, 2010). In addition, recent empirical research comparing substance abuse treatment programs for incarcerated women has found that a trauma-informed gender-responsive treatment curriculum led to longer residential aftercare stays, higher proportions of successful completion of aftercare, greater reduction in substance use following release, and lower reincarceration rates one year following release (Messina, Grella, Cartier, & Torres, 2010). However, much work remains to be done, particularly in the development of empirically supported theories exploring the extent to which the life domain of interpersonal relationships and social functioning is lacking among female offenders. Moreover, the degree to which improvements in social functioning may remediate deficits in this domain or improve outcomes remains unclear.

THE CURRENT STUDY

This study explored the relationship between social functioning and victimization with regard to recidivism and mental health in female offenders by testing three hypotheses. First, it was hypothesized that female offenders who have experienced victimization will have a significantly higher prevalence of mental health problems than female offenders who have not experienced victimization. Second, it was hypothesized that female offenders who have experienced victimization during childhood and display positive social functioning will have significantly fewer mental health problems and significantly less involvement with the criminal justice system compared with victimized female offenders who do not display positive social functioning. The third hypothesis was that the beneficial effect of social functioning will not be as strong for female offenders with no victimization histories.

METHOD

PARTICIPANTS

Archival records from 300 female offenders, collected as part of a larger study (Heilbrun et al., 2008), were used for this study. Permission to use these data was granted by the principal investigator of the larger study, the organization that collected the archival data, and the Institutional Review Board of the university with which the authors are affiliated.

The group consisted of female offenders released from private assessment and rehabilitation centers operated by Community Education Centers (CEC) in New Jersey between 2004 and 2006. All offenders were on minimum-security status when released from New Jersey prisons and placed into CEC facilities. Other criteria for placement at CEC included no history of adult arson or sex offenses and 18 months from parole eligibility. About 20% of New Jersey inmates are released from prison to CEC; the remainder are released from prison on parole or because they completed their maximum sentence. Inmates transferred to CEC are representative of the female Department of Corrections (DOC) population in age, ethnicity/race, criminal history, and substance use history (Heilbrun et al., 2008). Inmates are transferred to CEC after DOC approves the transfer, and they remain in DOC custody while in CEC, where they stay 60 to 90 days. While at the treatment center, offenders undergo individual and group counseling, life skills training, and comprehensive psychosocial risk and needs assessment. Information gathered from the psychosocial assessment leads to an individualized treatment and reentry plan; this plan addresses the offender's criminogenic risk factors, allows the DOC to make an informed decision about the offender's placement, and prepares the offender for reentry into the community. Offenders are subsequently placed in community halfway houses following release from CEC.

MATERIALS

All individuals entering CEC's programs received a battery of tests and were interviewed by master's-level assessment counselors as part of the intake. Information available for review as part of this assessment was quite detailed and included all DOC records.

Level of Service Inventory-Revised (LSI-R). Women entering between August 2003 and March 2006 were administered the LSI-R (Andrews & Bonta, 2001), a standard risk-needs measure that provides both an estimate of recidivism risk and criminogenic needs. The LSI-R consists of 54 items addressing offender history and characteristics. Item responses are coded either as yes-no or according to a 4-point scale in which 0 is *very unsatisfactory* and 3 is *very satisfactory*. The LSI-R was administered by trained master's-level assessment counselors as part of the participants' intake. A computerized protocol was used to generate a comprehensive report with a total score indicating the offender's level of recidivism risk (ranging from very low to very high). Offender attributes considered most relevant to recidivism risk and treatment planning are categorized into 10 subcomponents: criminal history, education/employment, financial, family/marital, accommodation, leisure-recreation, companions, alcohol-drug problems, emotional-personal, and attitudes-orientation (Spies, Plake, Geisinger, & Carlson, 2008). In validation studies, internal consistency of the LSI-R ranged from .64 to .90, interrater reliability ranged from .87 to .94, and test-retest reliability ranged from .95 to .99 (Andrews & Bonta, 2001).

Personality Assessment Inventory (PAI). Participants also completed the PAI (Morey, 1991), which is a broad measure of personality and psychopathology. Among a census-matched sample, internal consistency coefficients for the 22 full scales ranged from .45 to .90, with a median alpha of .81. In a combined sample of community participants and college students, test-retest reliability correlations ranged from .31 to .92, and the convergent validity of the PAI is well documented (Morey, 1996, n.d.; Parker, Daleiden, & Simpson, 1999; Patry, Magaletta, Diamond, & Weinman, 2011; Rogers, Ustad, & Salekin, 1998).

DESIGN AND PROCEDURE

An SPSS database was created by advanced doctoral students as part of a larger study (see Heilbrun et al., 2008) based on information contained in a typical CEC assessment file. In addition to testing materials, each file included an assessment interview and report. Many of the variables in the interview are obtained from the participant's DOC offender file; others are obtained through self-report. A total of 241 variables were included in the database. The database includes scores on all routinely administered measures. The variables included from the assessment interview included self-report and file data on the participant's family, education, employment, religion, substance abuse, criminal history, medical history, and psychiatric history.

A coding manual was created containing the operational definition for each variable, and research assistants were trained in its use. Data were entered by trained graduate students into the SPSS database created for the purpose of the larger study, consistent with the operational definitions described in the manual. When the same participant was admitted to the assessment and rehabilitation center more than once, only data from the first admission were included. Participants who returned to prison directly from the assessment and rehabilitation center, and therefore did not enter a community placement, were excluded from the database. A random sample of files were reentered by a separate researcher, and agreement between researchers was excellent, with only two rater errors.

PREDICTOR VARIABLES

Victimization. All participants were grouped according to history of victimization. To best capture the potential impact of any childhood trauma on participants, victimization was dichotomized (yes–no) based on any reported history of sexual abuse, domestic violence, or violence in one's family of origin.

Social functioning. The "social functioning" construct encompassed three variables related to the presence of a social network: religious participation, PAI Nonsupport score, and education. Religious participation was dichotomized (yes–no) based on their participation at CEC. Religious participation may be a protective factor by connecting one with a network of fellow worshippers. This network may be particularly helpful to a female offender by providing emotional and social support and information about health services, employment, substance use treatment, and child care as she completes her sentence and reenters the community.

The social functioning construct also incorporated the score on the PAI Nonsupport (NON) Clinical Scale, which measures the presence or absence of social support and quality of existing relationships. PAI scales are measured as *t* scores that allow comparison between the examinee and normative community population. On the NON clinical scale, average or low scores indicate a perception of available and high-quality social support among family or friends, whereas high scores indicate a perception of few or dissatisfying close relationships. Individuals with high NON scores are considered to be lacking in social support (Morey, 2003).

Education is also a protective factor. Aside from the cognitive and occupational opportunities provided, staying in school can impart access to other social protective factors. Because of its potential role in enhancing one's ability to amass social resources, education was included as a protective factor (measured by number of years of school completed).

OUTCOME VARIABLES

Mental health functioning. The victimized and nonvictimized groups were compared with regard to current mental health functioning, which was measured several ways. One measure was the score on the PAI Stress (STR) scale, which measures unpredictable changes and the recent experience of life stressors. Average or low scores suggest a stable life course with few insurmountable difficulties. Higher scores indicate significant and uncontrollable difficulties in at least one major area of life, which generate worry and imply vulnerability toward adjustment disorders (Morey, 2003). The PAI Anxiety (ANX) clinical scale measures the examinee's tension and negative affect and includes items that assess cognitive, affective, and physiological experiences of anxiety. Average or low scores indicate a lack of these experiences, whereas an individual who receives a high score most likely experiences a great deal of worry and stress (Morey, 2003). A dichotomous variable that was also used to measure mental health functioning is current use (yes–no) of psychiatric medication during rehabilitative treatment.

Criminal reoffending. The other outcome variable, criminal reoffending, was measured by the number of times participants were arrested in the 1 year following release from CEC, including arrests for parole or probation violations. These data were obtained through the New Jersey DOC.

RESULTS

The sample ranged in age from 18 to 66 years, with a mean of 35.75 years ($SD = 8.16$). The sample was predominantly African American ($n = 166, 55.3\%$), followed by Caucasian ($n = 96, 32.0\%$), Hispanic ($n = 35, 11.7\%$), Native American ($n = 2, 0.7\%$), and "other" ($n = 1, 0.3\%$). African American women appear to have been overrepresented in the sample, as African American women compose approximately 27% of the state and federal female prison population nationwide (West & Sabol, 2010). Likewise, the proportion of Caucasian females in this sample is lower than that of Caucasian females (49%) incarcerated in state and federal facilities throughout the United States (West & Sabol, 2010). The length of formal education ranged from 5 to 15 years, with a mean of 11.46 years ($SD = 2.04$). The offenders were incarcerated for a range of offenses (see Table 1). Nearly two thirds of the sample (64.7%) reported victimization histories (see Table 2). This report is largely consistent with Harlow's (1999) finding that approximately 57% of incarcerated females reported experiencing physical or sexual abuse at some point during their lives. The sample had a mean of 0.14 one-year postrelease arrests ($SD = 0.502$).

Between-group analyses were first conducted to examine group equivalence. A two-tailed independent-measures t test revealed no significant differences between the victimized and nonvictimized groups with regard to age, $t(295) = 0.801, p = .424$. Chi-square tests found no significant differences between the victimized and nonvictimized groups in self-identified ethnicity, $\chi^2(4, n = 297) = 3.397, p = .487$, convictions for violent offenses, $\chi^2(3, n = 297) = 3.321, p = .342$, convictions for property offenses, $\chi^2(5, n = 297) = 3.576, p = .639$, or convictions for drug offenses, $\chi^2(6, n = 297) = 9.896, p = .129$.

TABLE 1: Offenses for Which Offenders Were Imprisoned (N = 300)

<i>Offense</i>	<i>Frequency</i>	<i>Percentage</i>
Technical violations	108	36.0
Other offense	81	27.0
Drug related	71	23.7
Violent offenses		
Assault ^a	22	7.3
Robbery ^b	14	4.7
Murder	7	2.3
Other violent	1	0.3
Forcible rape	0	0.0
Property offenses		
Larceny-theft ^c	41	13.7
Other property	15	5.0
Burglary ^d	8	2.7
Automobile theft ^b	1	0.3
Arson	1	0.3

Note. The sum of the percentages is more than 100% because offenders were imprisoned for more than one offense.

a. Information about convictions for this offense was not available for 4 offenders.

b. Information about convictions for this offense was not available for 1 offender.

c. Information about convictions for this offense was not available for 13 offenders.

d. Information about convictions for this offense was not available for 3 offenders.

TABLE 2: Characteristics of Participants (N = 300)

	<i>M</i>	<i>SD</i>
PAI Nonsupport score	50.37	11.32
PAI Stress score	57.85	11.07
PAI Anxiety score	52.50	10.92
LSI-R Companions score	2.68	1.12
	<i>Frequency</i>	<i>Percentage</i>
History of victimization ^a		
Yes	193	64.7
No	102	34.4
Religious affiliation		
None identified	105	35.0
Affiliation reported	195	65.0
Attends services	81	41.5
Does not attend	114	58.5

Note. LSI-R = Level of Service Inventory–Revised; PAI = Personality Assessment Inventory.

a. Three participants did not give this information

The groups were also compared with regard to reported substance use. A single-factor, independent-measures analysis of variance (ANOVA) found no significant differences between the mean scores of the victimized ($M = 2.49$, $SD = 1.252$) and nonvictimized ($M = 2.26$, $SD = 1.297$) groups in terms of the Alcohol-Drug Problems scale of the LSI-R, $F(1, 294) = 2.106$, $p = .148$, $\eta^2 = .007$ (small effect size). A single-factor ANOVA found no significant difference between the victimized ($M = 54.30$, $SD = 15.199$) and nonvictimized ($M = 51.41$, $SD = 12.640$) groups with regard to score on the Alcohol Problems (ALC) scale of the PAI, $F(1, 290) = 2.661$, $p = .104$, $\eta^2 = .009$ (small effect size). However, there was

significant heterogeneity of variance (Levene's statistic = 5.191, $p = .023$) among ALC scale scores. A single-factor, independent-measures ANOVA found that the mean Drug Problems (DRG) scale score of the PAI was significantly higher in the victimized group ($M = 75.96$, $SD = 19.267$) than in the nonvictimized group ($M = 70.95$, $SD = 18.133$), $F(1, 290) = 4.623$, $p = .032$, $\eta^2 = .016$, although the effect size was small.

HYPOTHESIS 1

Two single-factor, independent-measures ANOVAs were used to test Hypothesis 1. Because multiple analyses were performed, the alpha level for each analysis was adjusted, using a Bonferroni correction to keep the Type I error rate at .05 across all analyses. The first ANOVA examined differences between victimized and nonvictimized groups of female offenders with regard to scores on the PAI STR scale. The mean STR score of the victimized group ($M = 59.02$, $SD = 11.88$) was significantly higher than that of the nonvictimized group ($M = 55.66$, $SD = 9.01$), $F(1, 290) = 6.14$, $p = .014$, $\eta^2 = .02$, although the effect size was small.

The second ANOVA compared the two groups on PAI ANX clinical scale scores. No significant differences in ANX scores were found between victimized ($M = 53.10$, $SD = 11.68$) and nonvictimized females ($M = 51.14$, $SD = 9.07$), $F(1, 290) = 2.14$, $p = .145$, $\eta^2 = .01$ (small effect size).

A chi-square (χ^2) test for independence examined the relationship between victimization history and current use of psychiatric medication during rehabilitative treatment. Data revealed that 31.2% of females with a history of victimization reported taking psychiatric medication, compared to 20.2% of females without victimization histories. This difference was not statistically significant, $\chi^2(1) = 3.47$, $p = .063$, $\Phi = .117$ (medium effect size).

HYPOTHESES 2 AND 3

Several multiple regression equations were used to examine whether two dummy-coded categorical predictor variables (experience of victimization vs. no experience of victimization; current religious participation vs. no current religious participation) and three continuous predictor variables (NON Clinical scale score, years of education, and LSI-R Companions subscale score) could predict the values of three continuous criterion variables (STR scale scores, ANX scale scores, and number of 1-year postrelease arrests). Four participants (1.3%) did not have PAI scores on record, and another four (1.3%) participants' PAI scores were invalid. These eight participants were excluded from subsequent analyses.

Series 1: Victimization, social functioning, and mental health. The first series of multiple regression equations examined the relationship among victimization history, social functioning (indicated by the NON Clinical scale score, years of education, and LSI-R Companions subscale score), and mental health (indicated by STR and ANX Clinical scale scores). All of these scores and the years of education variable were centered around their respective means to reduce the risk of multicollinearity in the predictor variables. Multicollinearity was assessed in each regression equation by checking the tolerance, and the adjusted R^2 was used as a measure of the regression equation's effect size.

Results revealed that when evaluated together, NON score, but not victimization history, was a significant predictor of STR scale scores. Victimization history and years of education

TABLE 3: Multiple Regression Analysis for Variables Predicting STR Scale Scores (N = 292)

Variable	B	SE B	β	Tolerance (Adjusted R ²)
NON scale score	0.486**	0.050	.498	.980 (.258)
History of victimization	1.720	1.188	.074	
Years of education	-0.844**	0.317	-.153	1.000 (.038)
History of victimization	3.300*	1.340	.142	
LSI-R Companions score	1.289*	0.576	.129	.999 (.031)
History of victimization	3.425*	1.345	.147	

Note. LSI-R = Level of Service Inventory–Revised; NON = Personality Assessment Inventory Nonsupport; STR = Personality Assessment Inventory Stress.

* $p < .05$. ** $p < .01$.

TABLE 4: Multiple Regression Analysis for Variables Predicting ANX Scale Scores (N = 292)

Variable	B	SE B	β	Tolerance (Adjusted R ²)
NON scale score	0.413**	0.051	.430	.980 (.183)
History of victimization	0.570	1.225	.025	
Years of education	-1.299**	0.308	-.240	1.000 (.059)
History of victimization	1.873	1.302	.082	
LSI-R Companions score	0.510	0.574	.052	.999
History of victimization	1.986	1.340	.087	

Note. ANX = Personality Assessment Inventory Anxiety; LSI-R = Level of Service Inventory–Revised; NON = Personality Assessment Inventory Nonsupport.

* $p < .05$. ** $p < .01$.

together significantly predicted STR scale scores. Victimization history and LSI-R Companions score together significantly predicted STR scale scores (see Table 3). Additional multiple regressions found that NON score and education together were significant predictors of ANX scale scores. Neither victimization history nor LSI-R Companions score significantly predicted ANX scale scores when paired, however (see Table 4).

Series 2: Victimization, social functioning, and reoffending. The second series of multiple regression equations examined the relationship among victimization history, social functioning (indicated by the NON Clinical scale score, years of education, and LSI-R Companions subscale score), and reoffending (indicated by number of 1-year postrelease arrests). The number of 1-year postrelease arrests was centered around its mean.

This series of multiple regressions found that when evaluated together victimization history and NON score were not significant predictors of postrelease arrests in the year following release. Neither victimization history nor years of education taken together significantly predicted rearrests. The pairing of victimization history or LSI-R Companions score did not significantly predict rearrests. A multiple regression found that victimization history and current religious participation together were not significant predictors of number of postrelease arrests in 1 year (see Table 5). The binary logistic regression found that victimization, religious participation, and their interaction were not significant predictors of the probability of current psychiatric medication use.

TABLE 5: Multiple Regression Analysis for Variables Predicting 1-Year Postrelease Arrests (N = 292)

<i>Variable</i>	<i>B</i>	<i>SE B</i>	β	<i>Tolerance (Adjusted R²)</i>
NON scale score	0.002	0.003	.036	.981
History of victimization	0.046	0.063	.043	
Years of education	0.014	0.014	.057	1.000
History of victimization	0.042	0.062	.040	
LSI-R Companions score	0.008	0.026	.018	.998
History of victimization	0.044	0.062	.041	
Religious participation	-0.081	0.061	-.096	.999
History of victimization	-0.034	0.062	-.040	

Note. LSI-R = Level of Service Inventory-Revised; NON = Personality Assessment Inventory Nonsupport.
* $p < .05$. ** $p < .01$.

DISCUSSION

This study considered the roles of victimization and social functioning in the mental health and recidivism of female offenders. Specifically, this study examined whether a previous history of victimization was associated with increased mental health problems. In addition, the study explored the potentially ameliorative effect of social functioning with regard to mental health and recidivism.

Results indicate that a history of experiencing victimization was not associated with recidivism but was associated with vulnerability to stress and mental health problems in female offenders. The results did not fully confirm the hypotheses but did reveal that victimization was associated with higher scores on the PAI STR scale, which suggests that female offenders who reported previous victimization also reported higher levels of significant, unpredictable, and recent life stressors. In addition, the level of stress reported was associated with victimization history, level of education, and measured criminogenic risk of one's social relationships. These results suggest that possessing the social resources of education and noncriminal friends may act as a buffer against the stress experienced as the result of life events.

This study adds to the growing empirical evidence on victimization and later outcomes. Overall, the results suggest that the experience of victimization is associated with some increased distress, but not increased prevalence of mental illness. Such findings may be the result of the multiple potential etiologies of mental illness. However, it appears that victimization history may be linked with general perception of life stress on the part of an individual and consequent vulnerability toward mental illnesses. In addition, victimization history does not appear to be associated with criminal justice system involvement in terms of recidivism 1 year after release from correctional custody.

Hypothesis 1 stated that female offenders who have experienced victimization would have a significantly higher prevalence of mental health problems than female offenders who have not experienced victimization. Although the lack of statistically significant differences in PAI ANX scale scores and current use of psychiatric medication indicated that this hypothesis was not supported, there was a statistically significant difference in STR scale scores between offenders with and without victimization histories. Female offenders with victimization histories reported experiencing more stress than female offenders without victimization histories. It is possible that female offenders who have been victimized

demonstrate poorer coping skills in the form of higher amounts of worry and stress than those who have not been victimized, which suggests vulnerability for adjustment disorders. If so, mental health professionals who work with female offenders should assess for potential victimization history and quality of current coping skills and design treatment accordingly.

Hypothesis 2 stated that female offenders who have experienced victimization during their childhoods and display positive social functioning would have significantly fewer mental health problems and significantly fewer postrelease arrests compared to victimized female offenders who do not display positive social functioning. Hypothesis 3 stated that the beneficial effect of social functioning would not be as strong for female offenders with no victimization histories. Analyses showed mixed support for these hypotheses. Overall, the amount of reported anxiety was most strongly related to amount of perceived social support. This finding is not surprising given that the measures for these constructs are two scales from the same test. The amount of reported anxiety was also linked to years of education, in that more education was associated with reports of lower amounts of anxiety. Notably, education emerged as a significant correlate, whereas victimization history did not appear to make a difference.

The other indicator of distress, STR scale scores, was significantly associated with victimization history and education, victimization history and criminogenic social relationships, but not victimization history and a perceived lack of social support. More specifically, a victimization history and fewer years of education were associated with higher amounts of stress. A victimization history and a lack of prosocial friends (indicated by higher scores on the LSI-R Companions subscale) were also associated with higher amounts of reported stress. Victimization history when paired with a perceived lack of social support was not associated with reported stress levels. The significant association between a perceived lack of social support and higher amounts of reported stress was most likely the result of the fact that the measures for these constructs were taken from the same test.

The third indicator of mental health, current use of psychiatric medication, was not related to victimization history or social functioning. In addition, neither victimization history nor any indicator of social functioning was associated with reoffending, although the low base rate of rearrests precluded meaningful analysis of what factors predict reoffending.

These results are consistent with previous research (McClellan et al., 1997) that found high rates of victimization (greater than 50%) among female offenders, but they diverge from previous studies that found a link between victimization and negative mental health outcomes (Bolger & Patterson, 2003; Malinosky-Rummell & Hansen, 1993; Salisbury & Van Voorhis, 2009). The results are also inconsistent with research that associates victimization with various measures of criminal justice system involvement in more general populations (Ireland & Widom, 1994; Maxfield & Widom, 1996).

If future research yields results consistent with those of this study, the current notion and use of trauma-based programming for female corrections populations must be critically reexamined. At this point, it appears that identifying whether an offender has experienced trauma may be useful in determining a potential need for mental health services. Social disconnection appears to be an element of female offenders' lives that should be assessed by mental health professionals and those exploring females' pathways into criminal behavior. The results here are consistent with other research indicating gender-responsive treatment that emphasizes healthy and positive relationships may be helpful in this regard. However, if the experience of trauma does not significantly predict later criminal behavior,

corrections programming targeting trauma as a criminogenic need may be unwarranted and may divert needed funding from other, more beneficial types of targeted programming.

LIMITATIONS

The present study had some limitations. Although this study found links between victimization and mental health problems among female offenders, it was not a controlled, experimental study. Although it is admittedly difficult to conduct experimental research in criminal justice settings, the lack of experimental design nevertheless limits the extent to which the nature of the relationship may be determined. Moreover, the sample used in the current study differed from the nationwide population of incarcerated females in racial composition, thus limiting the generalizability of these results to other incarcerated females.

A number of the independent and dependent variables used in the analyses, namely, a lack of social support, reported stress, and reported anxiety, were drawn from several scales within a single measure (the PAI). Although these variables were believed to be adequate representations of the psychological phenomena of interest, using one scale as a predictor variable and another scale as the criterion variable to assess the third and fourth hypotheses introduced autocorrelation. This autocorrelation most likely made detecting any actual impact of social functioning on mental health more difficult.

Another limitation was the low numbers of rearrests in the sample. Although 1 year is an acceptable follow-up period in criminal justice research, it is possible that extending the postrelease time period to 2 years would have yielded more arrest data; Salisbury and Van Voorhis (2009) found that female offenders on probation were not incarcerated until after 1 year of being on probation. Furthermore, it is likely that the amount of reoffending was underestimated in this study; arrest data and other types of official reports do not capture subarrest behavior, or behavior that is illegal but does not result in arrest.

Also potentially influencing the number of rearrests is the facility from which the sample was drawn. The female offenders studied, although still under the custody of the DOC, were participants in a residential assessment and treatment program. This program is designed to provide participants with individualized treatment and reentry plans that minimize negative outcomes such as recidivism. It is possible that exposure to such treatment influenced postrelease behavior in ways that confounded the results.

In addition, the various types of victimization the females reported (exposure to violence in the family of origin, domestic violence, and sexual abuse) were collapsed into a single dichotomous variable. Other pertinent information, such as how many victimizing events the participants reported, how old participants were at the first events, and the extent to which individuals felt threatened or in fear, was not addressed by the current study. This operational definition obscured the differential effects of each type of victimization, which could have contributed valuable information about precisely how victimization histories may contribute to recidivism or mental health functioning. Although such a dichotomization may be appropriate for this type of exploratory research, future researchers may wish to use a more sensitive measure and to explore the mechanisms by which victimization is associated with negative outcomes.

Substance use was not included in this study as an outcome variable. Previous research has identified substance use as a substantial aspect of the mental health and criminal behavior

of female offenders (McClellan et al., 1997; Salisbury & Van Voorhis, 2009), and group comparisons in the current study yielded some link between a history of victimization and behaviors associated with substance use, abuse, and dependence. Exploring the relationship of victimization, social functioning, and substance use would likely have yielded information to further illuminate the reasons and ways in which females offend.

FUTURE RESEARCH DIRECTIONS

Results from this study suggest that a history of experiencing victimization may predict mental health problems in female offenders but may not necessarily predict reoffending. In the future, researchers should use variables from a variety of measures. In addition, extending the follow-up period may provide a higher rate of rearrests, which would add to the predictive strength of the conclusions. Examining subarrest behavior may yield meaningful findings, as well. Attention should be paid to differences between types of victimization with regard to potential influence on mental health problems and reoffending as well as to the relationship of victimization and social functioning with substance use. However, further research is needed to evaluate the potential role of victimization and trauma in the criminal behavior of females, particularly via more indirect pathways such as mental health problems or substance abuse.

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Natalie Anumba is a postdoctoral resident in forensic psychology at the University of Massachusetts Medical School. Her research interests include incarcerated offenders, female offenders, civil forensic psychology, and public perceptions of crime and justice.

David DeMatteo is an assistant professor of psychology and co-director of the JD/PhD program in law and psychology at Drexel University. His research interests include drug-involved offenders, psychopathy, forensic mental health assessment, and diversion from standard prosecution.

Kirk Heilbrun is currently professor and head, Department of Psychology, Drexel University. His research interests include risk assessment and risk reduction in various populations.