Depression in African American and White Women Convicted of a Felony Drug Offense

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Depression in African American and White Women Convicted of a Felony Drug Offense

Sheryl Pimlott Kubiak
Kristine Siefert

ABSTRACT. Most women in the criminal justice system are drug-involved, and although African American women are disproportionately arrested, prosecuted, and convicted for drug-related offenses, little is known about their mental health. Depression is of particular concern, as it is highly comorbid with substance abuse and strongly associated with stressful life events, including discrimination. We studied factors associated with depression in 78 community-dwelling African American and White women previously convicted of a felony drug offense. Exposure to trauma, posttraumatic stress disorder, and alcohol dependency predicted depression in the sample as a whole, but individual predictors varied significantly by race. Notably, social support decreased risk depression for White women, but increased risk for African American women. Implications for practice, policy, and future research are addressed.

KEYWORDS. Criminal justice, African American and White women, mental health, co-occurring disorders, race
Since the escalation of the “war on drugs,” women have been arrested and convicted of drug-related offenses in greater proportion than men. Among drug-involved women, African American women are more likely to be arrested than White women, and more likely to be prosecuted when arrested (Mauer, 1999; Mauer, Potler, & Wolf, 1999). Although research has documented high rates of mental disorders among incarcerated women (Jordan, Schlenger, Fairbank, & Cadell, 1996; Teplin, Abram, & McClelland, 1996), there is a dearth of studies investigating whether there are differences in the determinants of mental health among African American and White women involved in the criminal justice system. This is a serious omission, because of the additive nature of stress (Dohrenwend & Dohrenwend, 1974; Turner & Avison, 2003; Turner & Lloyd, 1995; Turner, Wheaton, & Lloyd, 1995) and the implications of race or ethnic minority status for those enmeshed within a social location that includes poverty, drug involvement, and the stigma of conviction. Social location, or one’s place in society (Dohrenwend & Dohrenwend, 1974), may predict differences in groups appearing otherwise homogenous. In other words, although most women involved in the criminal justice system are economically disadvantaged, racial or ethnic minority status confers exposure to unique stressful life events and conditions, such as racial discrimination (Williams, Neighbors, & Jackson, 2003).

A recent study examined the effects of this complex social location on the cumulative risk of posttraumatic stress disorder (PTSD) resulting from trauma and chronic stress in a group of African American and White women living in the community who were convicted of drug-related offenses (Kubiak, 2005). This study considered a broad array of social location-related stressors not usually measured in research on this population, including detailed measures of chronic conditions, daily hassles, major life events, and discrete traumas. Not only did social location-related stressors better predict meeting diagnostic criteria for PTSD than more typically measured stressors, but race differentiated those stressors most strongly associated with PTSD.

This unanticipated finding among a group of women occupying an otherwise homogeneous social location warrants further investigation. This study extends the research already described by examining predictors of major depression in the same sample. Major depression is of particular concern, as it is common among women involved with the criminal justice system, highly comorbid with substance abuse, and has profoundly adverse effects on social and vocational functioning. A
better understanding of the salience of race for the mental health of this understudied and underserved population has implications for prevention as well as treatment of substance abuse and mental health disorders.

**SOCIAL LOCATION AND DEPRESSION**

The association between stress and major depression in women is well documented, and social location is an important determinant of both chronic strain and systems-level stress, including exposure to trauma (Turner & Avison, 2003; Turner et al., 1995). Being female, poor, and convicted of a felony creates a particularly devalued social location, encompassing higher levels of stress and strain. Poverty, a major determinant of social location, is clearly implicated as an etiological factor in depression in women. Higher rates of depression have consistently been found for both African American and White women of lower socioeconomic status (Blazer, Kessler, McGonagle, & Swartz, 1994; George & Lynch, 2003). Low-income mothers with several children and women who are single mothers are at especially high risk (Hobfoll, Ritter, Lavin, Hulsizer, & Cameron, 1995; Heneghan, Silver, Bauman, Westbrook, & Stein, 1998). Poverty increases the likelihood of exposure to both acute and chronic stressors, such as violence and trauma, unemployment, food insufficiency, housing problems, and poor health, at the same time diminishing access to stress-buffering material and psychological resources, such as money for goods and services, the security of a safe neighborhood, and the presence of a supportive partner (Bassuk, Browne, & Buckner, 1996; Plant & Sachs-Ericsson, 2004; Siefert, Bowman, Heflin, Danziger, & Williams, 2000).

The stigma associated with being a convicted drug offender brings with it another set of stressors, especially among those women who remain in the community. Under such conditions, the court mandates the probationer (or under some conditions, parolee) to meet requirements in areas such as employment, restitution, and treatment. The stress associated with meeting these probation mandates intensifies the barriers to self-sufficiency (e.g., educational attainment, transportation, and child care) typically faced by other drug-involved low-income women with children. And, although the probationer may be involved in substance abuse treatment, typically there is little attention to co-occurring psychiatric
disorders, such as PTSD or depression. However, inattention to these comorbidities, commonly present in women who use drugs, often results in relapse or an exacerbation of psychiatric symptoms (Drake et al., 2001; Najavits, 2002; Najavits, Weiss, & Shaw, 1999). This exacerbation of symptoms can lead to self-medication that is considered a violation of probation, resulting in incarceration.

Racial or ethnic minority status is also salient to social location, as it exposes African American women to experiences of racial discrimination, which have been shown to adversely affect mental health (Williams, Yu, Jackson, & Anderson, 1997). Although African Americans have comparable or lower rates of mental illness than Whites (Kessler, McGonagle, & Zhao, 1994; Robins & Regier, 1991), they report more experiences of discrimination, which are positively associated with psychological distress, depressive symptoms, and major depression (Kessler, Mickelson, & Williams, 1999; Williams, 2003; Williams et al., 1997).

Studies of the role of stressful life events and conditions in the etiology of mental disorders often neglect the importance of social location. Most such studies measure only one type of stress, life event stress, which is usually characterized by major life changes and operationalized using a measure such as the Social Readjustment Rating Scale (Holmes & Rahe, 1967). This limited focus can neglect the more continuous and enduring forms of stress that are the most likely to deplete coping resources (Pearlin, 1989). Few studies have comprehensively examined stressors that are linked to the status of women in society, including the mental health consequences of exposure to childhood abuse and victimization over the life span (Siefert et al., 2000; Williams, 2003).

Understanding the relationship among social location, stress, and depression in drug-convicted women—and how that relationship may differ by race—can inform preventive interventions and public policy. Studies of women involved in the criminal justice system usually focus on those confined to prisons or jails, with scant attention to those who remain in the community on probation status, even though they constitute the majority of those with drug-related convictions (Kubiak, Siefert, & Boyd, 2004). This study seeks to better understand these issues by posing the following research question: What are the factors associated with depression among community-dwelling women convicted of a drug offense? Are there differences between African American and White women in the predictors of major depression?
METHODS

Recruitment

A database of 241 women charged with a felony drug conviction between 1996 and 2001 was created from the records of a Midwestern urban county (see Kubiak, 2005). However, sample eligibility for this study was limited to those who were currently parenting a minor child and living within the community on probation or parole. Before beginning recruitment the investigators were granted a Federal Certificate of Confidentiality as well as full institutional review board approval.

Trained staff at the University of Michigan Survey Research Center (SRC) were responsible for recruiting the identified court sample, interviewing the women, and coding the data. Multiple sources were used to locate the women, beginning with the county’s court database. Using the address listed in the database, each eligible woman was sent a letter informing her of the study and asking her to contact the SRC by calling a toll-free number. Because only 50 of the women in the database responded to the letter, community outreach strategies were used to try to locate the rest. In addition to visiting the addresses listed on court documents, project staff visited local probation offices, drug treatment programs, and the county jail. Potential participants were told that the investigators were interviewing mothers involved in the criminal justice system to learn how they manage the multiple demands of parenting, work, and court requirements. Once a potential participant called the toll-free number, a prescreening interview was administered to ascertain eligibility. If the woman met the study criteria, she was asked to participate. If she agreed, a time and place for the interview was established.

A total of 151 of the 241 women in the court database were located. Among these, 131 agreed to complete the prescreening interview. Of those who were screened, 84 were eligible and participated in the study. Six of the 84 were excluded from the analysis because either they did not identify as either African American or non-Hispanic White or their race or ethnicity was not identified. We report findings that involve 78 women.

Procedures

Variables Assessed and Definitions

The dependent variable for our analysis was major depressive disorder. The measurement of this disorder was based on the definitions and criteria
specified in the revised third edition of the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* (DSM–III–R; APA, 1987) and operationalized in screening versions of the World Health Organization’s (WHO) Composite International Diagnostic Interview, Version 1.0 (CIDI; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998; WHO, 1990). The CIDI is a structured clinical interview schedule, designed to be used by trained interviewers who are nonclinicians to assess the prevalence of specific psychiatric disorders (Robins, Wing, Wittchen, & Helzer, 1988). WHO field trials (Wittchen, 1994) and other methodological studies (Blazer et al., 1994; Wittchen, 1994) have documented acceptable test–retest reliability and clinical validity of CIDI diagnoses.

The independent variables we examined included sociodemographic and other personal characteristics known to be associated with an increased risk of depression, including stressors and co-occurring health conditions. In addition, we examined factors thought to protect against depression. Sociodemographic variables included age, educational attainment at the time of the survey (less than high school, high school graduate, and some college), partner status (yes if married or involved with a cohabitating or noncohabitating long-term partner), and personal income (this was calculated using self-report data on “personal annual income from paid work”).

Stressors and chronic strain variables included trauma, difficult life circumstances, neighborhood conditions, and household food insufficiency. Traumatic events were assessed using the Life Events subscale contained in the National Comorbidity Survey (NCS; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). In the NCS, a modified version of the CIDI was utilized. The original measure contained 11 closed-ended questions pertaining to specific categories of traumatic events, asking respondents whether they have ever experienced an event within that category, for example, “Were you ever involved in a life-threatening accident?” and “Were you ever forced to have sex or raped by a stranger or someone you knew?” In addition, an open-ended question queries other traumatic experiences not included in the closed-ended questions. We added three additional questions to ascertain childhood events of neglect, physical abuse, and witnessing family violence. Reference to the number of traumas and the trauma sum variable represent the total of different categories of events experienced, not the number of discrete traumas.

To assess the ongoing or habitual stressors that are often a feature of living in poor communities, we used the Difficult Life Circumstances
measure developed by Booth, Mitchell, Barnard, and Spieker (1989) to “assess chronic, current family stressors, rather than stress resulting from significant life changes” (p. 409), as modified by Quint, Bos, and Polit (1997), who reduced the number of items from 28 to 8. To reduce multicollinearity, two items similar to those assessed in the trauma instrument (i.e., “Has someone close to you died or been killed?”) were removed and other relevant stressors substituted (i.e., “In the past 12 months have you been involved in an abusive relationship?”).

To assess possible chronic strain, we assessed the community in which the woman resided. This was achieved by using the respondent’s current zip code to determine if over 40% of the population was below poverty level in this particular census tract as determined by the U.S. Census (2000). We found that 29 women (37%) lived in an area of extreme poverty. We also assessed household food insufficiency, which was defined as a response of “sometimes” or “often” to a question from the third National Health and Nutrition Examination Survey (NHANES III): “Which of the following best describes the amount of food your household has to eat—enough to eat, sometimes not enough to eat, or often not enough to eat?” (U.S. Department of Agriculture, 1997).

Co-occurring conditions included assessment of PTSD, substance use disorders (SUD), and chronic physical health problems. Measurement of PTSD and SUD were based on the definitions and criteria specified in the DSM–III–R; APA, 1987). Alcohol and drug dependence were operationalized in 12-month screening versions of the CIDI (Kessler et al., 1998; WHO, 1990). PTSD was measured using the full CIDI measure. We also surveyed the use of psychotropic medication within the past year. Physical limitations were assessed using a single item from the SF-36 Physical Functioning subscale; i.e., “Do you have a chronic condition that keeps you from work?”).

Hypothesized protective factors included mastery, social supports, and religiosity. Mastery was assessed using Pearlin, Menaghan, and Lieberman’s (1981) Mastery Scale, a seven-item scale designed to measure perceived mastery over one’s life or self-efficacy. The scale reliability is moderate with an alpha coefficient of .78. Social support was measured with a five-item summary scale; respondents were asked if there is someone they can count on to run errands, lend money, provide encouragement, watch their children, and lend a car or give a ride if needed. Affirmative responses were summed. Scale reliability was relatively high with an alpha coefficient of .87. Religiosity was assessed with a single item that asked respondents to rate themselves from 1 (not very religious) to 4 (very religious).
Data Analysis

Initial analyses provided descriptive statistics for the sociodemographic characteristics of the entire sample, followed by a comparison of groups after dividing the sample by race. Within-group analyses compared those with and without depressive symptoms on sociodemographics, stressors, co-occurring conditions, and protective factors. Finally, variables were entered in blocks by category (demographics, stressors, co-occurring conditions, and protective factors) using logistic regression to determine the most predictive model.

RESULTS

Nearly two thirds (63%) of the sample was African American. The average age was 35 years, although African American women tended to be slightly younger (see Table 1). Nearly half of the respondents had not completed high school (47%), only about one quarter were employed at the time of the survey (28%), and the average personal income was $4,385 per year. White women were somewhat more likely to be employed (35% vs. 24% of African American women), and had a higher personal income ($5,456 per year vs. $3,739). The only significant difference between women was the number of children they cared for. On average African American women cared for 3.2 children and White women cared for 2.2 ($p = .02$).

Overall, 44% of the sample met the CIDI diagnostic screening criteria for recent major depression. Consistent with other research, although not reaching statistical significance in this small sample, African American women had lower rates of depression; among White women, 55% met the diagnostic criteria for depression, compared with 37% of African American women ($p = .113$). Among African American women, those meeting the screening criteria for depression were slightly older than other African American women (35.9 years, vs. 32.6 years among those not depressed, $p = .085$). A significant and unexpected finding was that depressed African American women had significantly higher personal incomes than African American women who did not meet the criteria for major depression ($6,131 vs. $2,303 per year, $p = .047$). This finding is corroborated by evidence that depressed African American women had attained higher levels of education than those without depression, although educational differences did not reach statistical significance. White women meeting
### TABLE 1. Sample Characteristics, Overall and by Race and Ethnicity

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall&lt;sup&gt;a&lt;/sup&gt; % or M (SD)</th>
<th>African American&lt;sup&gt;b&lt;/sup&gt; % or M (SD)</th>
<th>White&lt;sup&gt;c&lt;/sup&gt; % or M (SD)</th>
<th>p value&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race or ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>63%</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>37</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>35.1 (8.1)</td>
<td>33.8 (7.5)</td>
<td>37.2 (8.7)</td>
<td>.076</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>47%</td>
<td>47%</td>
<td>48%</td>
<td>.847</td>
</tr>
<tr>
<td>High school grad</td>
<td>32</td>
<td>31</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>21</td>
<td>22</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Partner status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live-in/steady partner</td>
<td>60%</td>
<td>61%</td>
<td>59%</td>
<td>.820</td>
</tr>
<tr>
<td>No partner</td>
<td>40</td>
<td>39</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>No. children currently caring for</td>
<td>2.2 (1.2)</td>
<td>3.2 (1.9)</td>
<td>2.2 (.8)</td>
<td>.025*</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>28%</td>
<td>24%</td>
<td>35%</td>
<td>.087</td>
</tr>
<tr>
<td>Welfare</td>
<td>24</td>
<td>33</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Neither</td>
<td>48</td>
<td>44</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Personal income (annual)</td>
<td>$4,385 ($5,446)</td>
<td>$3,739 ($5,230)</td>
<td>$5,456 ($5,718)</td>
<td>.117</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>44%</td>
<td>37%</td>
<td>55%</td>
<td>.113</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>63</td>
<td>45</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>n = 78. <sup>b</sup>n = 49. <sup>c</sup>n = 29. <sup>d</sup>χ² or Mann–Whitney test p value, indicating statistical significance of race differences.

*<sup>p</sup> < .05.

the screening criteria for major depression were demographically similar to White women without such a diagnosis (see Table 2).

We also compared depressed and not depressed women, within each group, for differences in stressors, co-occurring conditions, and hypothesized protective factors (mastery, social support, religiosity). Among African American women the number of traumas was a significantly associated with depression, whereas among White women it was not. Depressed African American women reported 6.6 trauma events on average, compared with a mean of 3.9 events among African American women without depression (p = .001). PTSD was substantially more
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall&lt;sup&gt;a&lt;/sup&gt;</th>
<th>African American&lt;sup&gt;b&lt;/sup&gt;</th>
<th>White&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>% or M (SD)</td>
<td>p&lt;sup&gt;d&lt;/sup&gt;</td>
<td>% or M (SD)</td>
</tr>
<tr>
<td>Age</td>
<td>36.9 (9.1)</td>
<td>.119</td>
<td>35.9 (7.6)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; High school</td>
<td>47%</td>
<td></td>
<td>39%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>27%</td>
<td></td>
<td>22%</td>
</tr>
<tr>
<td>College</td>
<td>27%</td>
<td></td>
<td>39%</td>
</tr>
<tr>
<td>Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohabitating</td>
<td>62%</td>
<td>.811</td>
<td>72%</td>
</tr>
<tr>
<td>No partner</td>
<td>38%</td>
<td></td>
<td>28%</td>
</tr>
<tr>
<td>No. of children caring for</td>
<td>2.7 (1.5)</td>
<td>.751</td>
<td>3.2 (1.7)</td>
</tr>
<tr>
<td>Personal income (annual)</td>
<td>$4,899</td>
<td>.217</td>
<td>$6,131</td>
</tr>
<tr>
<td></td>
<td>(5,566)</td>
<td></td>
<td>($6,749)</td>
</tr>
</tbody>
</table>

<sup>a</sup>n = 78.  <sup>b</sup>n = 49.  <sup>c</sup>n = 29.  <sup>d</sup>χ² or Mann–Whitney test p value, indicating statistical significance of race differences.

*p < .05.
prevalent among depressed African American women than among those not depressed (83% vs. 35%, \( p = .001 \)). Even though alcohol and drug dependence tended to co-occur with depression, only alcohol dependence demonstrated significant differences between depressed and nondepressed women in the overall sample and the African American subsample. Among depressed African American women, 44% showed probable alcohol dependence, compared with 6% of other African American women \( (p = .001) \). Among African American women, 39% of those meeting the diagnostic criteria for depression and 10% of those without depression reported a chronic health condition that prevented them from working \( (p = .014) \).

Among White women, those who were depressed had substantially higher rates of co-occurring PTSD (94% of those depressed vs. 54% of other White women, \( p = .013 \)). Alcohol dependence and drug dependence were more prevalent among depressed White women, although only the association with alcohol dependence approached statistical significance. Chronic health problems that prevented the respondent from working were much more prevalent among depressed White women than those without depression (63% vs. 23%, \( p = .034 \)). Social support, and to a lesser extent mastery, appeared protective against depression in White respondents. Depressed White women exhibited significantly less social support \( (M = 3.5, \text{ vs. } 4.5 \text{ among nondepressed White women, } p = .020) \), and marginally lower mastery scores \( (M = 19.4 \text{ vs. } 22.1, p = .068) \).

Three factors exhibited a notably different relationship with depression in African American women compared with White women. First, the use of prescribed psychotropic medication was significantly associated with depression in African American women, with 28% of those depressed and 6% of those not meeting the criteria for depression reporting taking such medications \( (p = .040) \). In White women, the use of such medication was more common, but did not vary at all by depression status. Second, whereas greater mastery appeared protective against depression in White women, it bore no relationship to depression in African American respondents. However, because in neither instance is the relationship significant, these differences are still attributable to chance. Lastly, depressed African American women reported significantly more social support than those without depression \( (M = 4.4, \text{ vs. } 3.8 \text{ among those not depressed, } p = .020) \). Thus, among African American women, social support showed an equally statistically significant but opposite relationship to depression, when contrasted with White women.

Recognizing that many of the factors we examined in Tables 2 and 3 were intercorrelated, we examined the contributions of these measures
<table>
<thead>
<tr>
<th>Risk / protective factors</th>
<th>Overall(^a)</th>
<th>African American(^b)</th>
<th>White(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes % or M (SD)</td>
<td>% or M (SD)</td>
<td>p(^d)</td>
</tr>
<tr>
<td>Traumatic events (0–12)</td>
<td>6.8 (3.8)</td>
<td>4.5 (2.9)</td>
<td>.000*</td>
</tr>
<tr>
<td>Difficult life circumstances (0–9)</td>
<td>3.7 (1.9)</td>
<td>2.9 (1.9)</td>
<td>.072</td>
</tr>
<tr>
<td>Food insufficiency</td>
<td>32%</td>
<td>27%</td>
<td>.626</td>
</tr>
<tr>
<td>Poor/impoverished neighborhood</td>
<td>29%</td>
<td>48%</td>
<td>.028*</td>
</tr>
<tr>
<td>Postraumatic stress disorder</td>
<td>88%</td>
<td>41%</td>
<td>.000*</td>
</tr>
<tr>
<td>Alcohol dependency</td>
<td>32%</td>
<td>5%</td>
<td>.001*</td>
</tr>
<tr>
<td>Drug dependency</td>
<td>50%</td>
<td>32%</td>
<td>.104</td>
</tr>
<tr>
<td>Psych. medication</td>
<td>32%</td>
<td>16%</td>
<td>.087</td>
</tr>
<tr>
<td>Chronic health problem</td>
<td>50%</td>
<td>14%</td>
<td>.000*</td>
</tr>
<tr>
<td>Mastery (11–28)</td>
<td>20.2 (3.9)</td>
<td>21.1 (3.0)</td>
<td>.494</td>
</tr>
<tr>
<td>Social support (1–5)</td>
<td>4.0 (1.0)</td>
<td>4.0 (0.9)</td>
<td>.863</td>
</tr>
<tr>
<td>Religiosity (1–4)</td>
<td>3.0 (0.8)</td>
<td>2.9 (0.7)</td>
<td>.396</td>
</tr>
</tbody>
</table>

\(^a\)n = 78. \(^b\)n = 49. \(^c\)n = 29. \(^d\)χ\(^2\) or Mann–Whitney test p value, indicating statistical significance of race differences. *p < .05.
after adjustment for one another. The small sample size (49 African American and 29 White women) prevented the inclusion of all factors in a logistic regression model predicting depression or testing the model by race. Instead, we tested an overall model, considering factors in consecutive blocks. Beginning with demographic characteristics (age and income) we allowed any factor approaching significance ($p < .10$) to remain in the model thereafter, even if it lost significance at a later step. The next block of variables, stressors (trauma, difficult life events, and poor neighborhood) was then added to the model, and marginally significant or significant factors were allowed to remain. The third block comprised co-occurring health conditions (PTSD, alcohol dependence, drug dependence, use of prescribed psychotropic medication, and chronic health problems), and the last group included potential protective factors (mastery and social support).

Our final logistic regression model for African American and White women found that two variables were significant in predicting depression—alcohol dependency and meeting the diagnostic criteria for PTSD (see Table 4). The strongest predictor (or correlate) of meeting the diagnostic screening criteria for major depression was alcohol dependency, which was associated with a seven-fold increase in the odds of depression ($OR = 7.70$, $95\% CI = 1.28–46.09$). Although this finding is consistent with other research, it should be noted that the confidence intervals are wide and this finding should be treated with caution. Similarly but also consistent with other research, PTSD was predictive of depression with women meeting diagnostic criteria having a four-fold increase in the likelihood of depression ($OR = 4.58$, $95\% CI = 1.15–18.21$).

| TABLE 4. Final Logistic Regression Models Predicting Depression in the Entire Sample |
|---------------------------------|-----------------|-----------------|
| **Entire sample ($n = 78$)**    | **Odds ratio**  | **p value**     | **95% CI**      |
| Age                            | 1.02            | .520            | 0.95–1.10       |
| Trauma sum                     | 1.16            | .169            | 0.94–1.42       |
| Neighborhood safety            | 0.49            | .046*           | 0.24–0.99       |
| Posttraumatic stress disorder  | 4.58            | .031*           | 1.15–18.21      |
| Alcohol dependency             | 7.70            | .025*           | 1.28–46.09      |

*$p < .05.$
DISCUSSION

A very high proportion of the women in our sample—44%—met the diagnostic screening criteria for having experienced a major depressive disorder within the past 12 months. To place this finding in perspective, the NCS found the 12-month prevalence of major depressive disorder to be 11% among women in the general population (Kessler et al., 1996). However, we also found that rates of depression varied considerably by race, with more than half (55%) of the White women meeting the criteria for major depression within the past year compared with 37% of African American women. This finding is consistent with other research showing that African Americans have lower rates of major depression than Whites, but it is impressive that this difference persists even in this severely economically disadvantaged sample of drug-convicted women (Williams, 1997).

Although there were few demographic differences between African American and White women who were depressed or not depressed, an unanticipated finding was that African American women with higher incomes were significantly more likely to be depressed. Most other research on income and depression finds that greater financial strain is associated with higher risk of depression. It is unclear why income failed to confer protection against depression among the African American women in our sample. Gazmararian, James, and Lepkowski (1995) found elevated levels of depression among higher socioeconomic status (SES) African American women and speculated that to assimilate socially and economically, African American women may pay a higher emotional price than their White counterparts. In addition, African American women of higher SES may have more “caretaking” responsibilities (Gazmararian et al., 1995). Also, Williams (2003) notes that there are important racial differences in economic circumstances that are not captured by traditional measures of SES. At every level of education, African American women earn less than White women, and African American families rely more heavily on women’s earnings than other families, which means that racial differences in income are understated (Williams, 2003). It is not unlikely that having to face the reality of the limited life opportunities imposed by their particular social location, despite having achieved higher levels of education and income, is depressogenic.

Similar to other studies, we found differences in the effects of social support between African American and White women. Although levels of social support did not statistically differ in general between African
American and White women (4.04 and 3.94, respectively), $t(76) = 0.39$, $p = .70$, there were statistical within-group differences based on depression. However, these within-group differences were in opposite directions, implying that whereas social supports were protective for White women, they increased the risk of depression in African American women. Stack (1974) and more recently Edin and Lein (1997) noted that stronger kinship relationships implicate the reciprocity of social support in the African American community that may create either a sense of burden or guilt that could exacerbate depression. Jackson (1998) reported similar findings, suggesting that the greater availability of social support exacerbated the effects of depression on maternal stress among low-income, single African American mothers, and speculated that the psychological costs of support may include feeling burdened or exploited.

As anticipated, rates of other comorbid conditions were high, and significantly associated with depression. Chronic health problems were associated with major depression in both groups, but African American women were less likely than White women to be receiving prescribed psychotropic drugs, whether meeting the 12-month diagnostic screening criteria for depression or not. These findings may represent differences in access to or quality of care (Melfi, Croghan, Hanna, & Robinson, 2000; Smedley, Stith, & Nelson, 2002), as well as possible overprescription of psychotropic drugs for White women.

In our final model, we determined that for the combined sample, alcohol addiction and PTSD were the strongest predictors of depression. The relationship between these variables and depression remained significant even when controlling for a large number of demonstrated risk factors for depression. The highest magnitude of effect was for alcohol dependency—with a seven-fold increase in risk for depression. The relationship between depression and alcohol use is well documented; as many as 70% of people with alcohol dependence have depressive symptoms severe enough to interfere with daily living (Schuckit, 1991). Due to the cross-sectional nature of our data we do not know if depression is primary or a secondary effect of alcohol abuse. Epidemiological studies suggest that the odds of depression preceding alcoholism are equal to the odds that alcoholism will precede depression (Swendsen et al., 1998). Certainly, as we find in this study, alcohol and drug dependency often co-occur with a wide range of psychological disorders.

In this study, the other salient comorbidity associated with depression was PTSD, which was associated with a four-fold increase in risk.
Although we do not have information about the onset of PTSD in relation to the diagnosis of major depression in this sample, several studies suggest that depression may represent a vulnerability factor that makes PTSD more likely after trauma exposure (Breslau, Glenn, Andreski, Peterson, & Schultz, 1997; Bromet, Sonnega, & Kessler, 1998). It may be that women were depressed prior to experiencing the traumatic event or events initiating PTSD. Interestingly, although PTSD differentiated depression status among African American and White groups as a single predictor, traumatic events did not. Surprisingly, White women experienced a greater number of traumatic events (6.76 vs 4.92), but the number of events did not contribute to depression. Certainly these differences may be attributable to factors associated with the traumatic event such as attributions of blame and causality. Self-blaming has been associated with a more detrimental effect on recovery (Ullman, 1997), just as feeling more supported when reporting has more positive effects (Ullman, 1996). Also, due to depression some of the affect related to the events may be muted (see DSM criteria for each disorder).

Our final model combines both African American and White women to provide a sample size sufficient to examine the relative contribution of individual predictors. However, our findings also suggest that doing so may obscure important differences in predictors of depression.

**Limitations**

Limitations of this study include reliance on self-reported data, which may have resulted in response bias. Attempts to minimize such biases included highly trained interviewers, attempts to match demographic characteristics of interviewers with interviewees, and interviewing only women involved in the criminal justice system to decrease social desirability. In addition, the instruments used were well validated on similar populations. However it is important to remember that our measure of trauma assesses the number of categories, not the number of discrete events, the women experienced.

Other limitations include cross-sectional data that preclude causal inference and a small, nonrandom sample. However, this “hidden” population is rarely accessed by researchers, and this is one of very few studies to interview community-dwelling women convicted of a felony drug offense.
Although such limitations must be kept in mind, this study nonetheless has implications for practice, policy, and future research for social workers and other practitioners concerned with this vulnerable population. The high rates of depression and PTSD that we documented underscore the need for screening, assessment, and treatment of co-occurring psychiatric and substance use disorders among women involved in all dispositions of the criminal justice system. Although there has been some recognition of this, rarely are women treated in a manner consistent with best practice standards that require integrated models addressing both substance use and psychiatric disorders (Mueser, Noordsy, Drake, & Fox, 2003; Najavits, 2002).

The importance of efficacious treatment is particularly imperative in treating women involved in the criminal justice system. Although they may be hidden within community treatment venues, 85% of convicted women are in the community on probation and parole status. Social workers and other clinicians in community-based practice settings may be unaware of their presence, but failure or noncompliance in treatment may be considered a violation of probation or parole orders that can result in sanctions, including incarceration. Social work practitioners should ask questions regarding criminal justice status and, if consent from the client is obtained, have open and ongoing dialogue with the supervising agent.

Importantly, our findings also point to the need to develop interventions that are culturally appropriate. The differences we found in risk and protective factors for depression among African American and White women suggest that treatment strategies that are helpful for White women may not necessarily be appropriate for African American women, and could even be harmful. Interventions to increase social support, for example, might actually increase stress for African American women. Assessment of social support—and the costs or obligations associated with the receipt of that support—should be ascertained. Examination of responses to various intervention strategies—and how those responses may differ among individuals—should be an important area of research for social workers and other mental health services providers.

The findings of this study also remind us that the prevention of modifiable chronic stress and trauma is a societal task. Poverty, racial bias, interpersonal violence, and criminal sanctions for drug possession and use are modifiable social conditions. Alleviating these conditions may enhance the mental health of poor and oppressed women. Conversely, the
stigma associated with conviction status may hinder employment and educational opportunities, just as recent welfare reform policies prevent eligibility for benefits that may promote recovery and self-sufficiency (Kubiak et al., 2004). Such public policies demand social work advocacy and careful assessment of their costs as well as their presumed benefits.

Finally, from a research perspective, this study highlights the need for conceptual models that assess both social and environmental location, contextualize stressors, and consider the implicit power differentials that exist for women, especially poor and oppressed women. Too often, interactional models do not consider the effect of multiple oppressions in the formation of personality or response of the individual to their environments. Choice is too often constrained by social location and intersections of race, class, and gender (Crenshaw, 1995; Hurtado, 1997).

REFERENCES


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