Profiles of Psychological Distress among Middle-aged and Older Adults: Findings from the National Survey of American Life

Summer Training Workshop on African American Aging Research

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University of Michigan, School of Social Work, 2012

USC Edward R. Roybal Institute on Aging
Overarching goal of my research

• “Obesity-depression paradox”

• Lower rates of depression for Black Americans compared to non-Hispanic Whites, but higher rates of obesity.

• Etiology vs. epidemiology
Serious psychological distress (SPD)

• A nonspecific indicator of past-year mental health problems such as anxiety or mood disorders.
• The associations between SPD and sociodemographic characteristics, health status, and health care utilization are similar to the relationships found between serious mental illnesses (e.g., major depression or schizophrenia) and these same variables.
Percentage of adults aged 18 years and over who experienced serious psychological distress during the past 30 days: United States, 1997–June 2011
Serious psychological distress in the past 30 days among adults 18 years of age and over, by race/ethnicity and poverty status: United States, 2008–2009
Percentage of adults aged 18 years and over who experienced SPD during the past 30 days, by age group and sex: United States, January–June 2011

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-44</td>
<td>3.0</td>
<td>3.5</td>
<td>2.5</td>
</tr>
<tr>
<td>45-64</td>
<td>5.0</td>
<td>6.0</td>
<td>4.0</td>
</tr>
<tr>
<td>65 and over</td>
<td>2.5</td>
<td>3.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Age-adjusted percentages of U.S. men and women who had serious psychological distress by obesity, 2007 BRFSS

BMI categories:
- BMI <18.5
- BMI 18.5≤25
- BMI 25≤30
- BMI 30≤35
- BMI 35≤40
- BMI ≥40

Graph showing the percentage of men and women by BMI category.
Age-adjusted prevalence of SPD among U.S. adults with or without obesity-related comorbidities (A) and among U.S adults who had 0 to 8 of obesity-related comorbidities (B); 2007, BRFSS.
Older adults with SPD

• Higher prevalence of ever being diagnosed with heart disease, diabetes, arthritis, and stroke than persons without SPD.

• More likely to report needing help with activities of daily living (ADLs) and instrumental activities of daily living (IADLs).

• Use more medical care services such as doctor visits and visits to mental health professionals.
Percentages of Persons Aged 50+ with Past Year SPD Who Reported Past Year Mental Health Treatment and Perceived Need for Treatment, by Age Group: 2005 and 2006
Current literature on SPD

- Comparative studies make up the bulk of investigations of SPD among African Americans.
- Studies typically report significantly higher levels of SPD for non-Hispanic whites compared with African Americans.
- Non-Hispanic white adults aged 65 and older have the lowest prevalence of SPD.
Limitations of existing research

- Studies that treat Black Americans as a monolithic group may obscure important mental health differences.
- Few studies examine the risk factors for SPD using representative broad-based national or community samples of older Black Americans.
- Consequently, little is known about whether identified risk factors function in the same way and to the same extent among older Black Americans compared with other groups.
Purpose of study

• Identify the risk profiles of serious psychological distress among a nationally representative sample middle-aged and older African American, Caribbean Black and non-Hispanic white adults.
Data

• The National Survey of American Life
• $N = 6,082$
  – 3,570 African Americans
  – 1,621 Caribbean Blacks
  – 891 non-Hispanic whites
• Response rate = 72.3%
• Data collection: February 2001-June 2003
Measures

- Serious psychological distress: measured using the K6.
- Assesses non-specific psychological distress in the past 30 days.
- Identifies individuals with a high likelihood of having a diagnosable mental illness and associated impairment in social and occupational functioning that requires treatment.
  - So sad that nothing could cheer you up
  - Nervous
  - Restless or fidgety
  - Hopeless
  - That everything was an effort
  - Worthless
## Sample characteristics (covariates)

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>1364</td>
<td>61</td>
</tr>
<tr>
<td>Caribbean Black</td>
<td>549</td>
<td>24</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>330</td>
<td>15</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>45-64</td>
<td>1580</td>
<td>70</td>
</tr>
<tr>
<td>65+</td>
<td>663</td>
<td>30</td>
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<table>
<thead>
<tr>
<th>Poverty status</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Poor</td>
<td>449</td>
<td>20</td>
</tr>
<tr>
<td>Near poor</td>
<td>558</td>
<td>25</td>
</tr>
<tr>
<td>Non-poor</td>
<td>658</td>
<td>29</td>
</tr>
<tr>
<td>Affluent</td>
<td>578</td>
<td>26</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Body mass index</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not overweight (&lt;24)</td>
<td>625</td>
<td>28</td>
</tr>
<tr>
<td>Overweight (25-29)</td>
<td>836</td>
<td>37</td>
</tr>
<tr>
<td>Obese (30+)</td>
<td>782</td>
<td>35</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>867</td>
<td>61</td>
</tr>
<tr>
<td>Female</td>
<td>1376</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>681</td>
<td>30</td>
</tr>
<tr>
<td>High school diploma</td>
<td>716</td>
<td>32</td>
</tr>
<tr>
<td>Some college</td>
<td>414</td>
<td>18</td>
</tr>
<tr>
<td>College degree</td>
<td>432</td>
<td>19</td>
</tr>
</tbody>
</table>
Analytic approach

• Latent class analysis
  • Mplus 6.1

• Multivariate logistic regression
  • Stata 11.0

• Geo mapping
  • ArcGIS 9.0
SPD using recommended cut-off of 13

- Low Distress: 83.7
- High Distress: 16.3
Endorsement profile

- Low Distress
- High Distress

<table>
<thead>
<tr>
<th></th>
<th>sad</th>
<th>nervous</th>
<th>restless</th>
<th>hopeless</th>
<th>effort</th>
<th>worthless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gender

- Low Distress:
  - Female: 46.64
  - Male: 53.36

- High Distress:
  - Female: 55.62
  - Male: 55.62

Legend:
- Female
- Male
Age

- Low Distress:
  - 45-64: 67.96
  - 65+: 82.66

- High Distress:
  - 45-64: 32.04
  - 65+: 17.34
Poverty status

- Poor
- Near-poor
- Non-poor
- Affluent

Low Distress:
- Poor: 13.19
- Near-poor: 19.99
- Non-poor: 31.07
- Affluent: 35.74

High Distress:
- Poor: 24.74
- Near-poor: 24.87
- Non-poor: 32.08
- Affluent: 18.31

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Race/ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Low Distress</th>
<th>High Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>51.79</td>
<td>46.52</td>
</tr>
<tr>
<td>Caribbean Black</td>
<td>3.72</td>
<td>1.47</td>
</tr>
<tr>
<td>White</td>
<td>44.49</td>
<td>52.02</td>
</tr>
</tbody>
</table>
Body mass index

![Body mass index chart]

- Low Distress:
  - Not Overweight: 28.13
  - Overweight: 38.15
  - Obese: 33.72

- High Distress:
  - Not Overweight: 37.72
  - Overweight: 24.32
  - Obese: 37.95

Categories:
- **Obese**
- **Overweight**
- **Not Overweight**

Distress Levels:
- **Low**
- **High**
Multivariable logistic regression

- Used to identify significant covariates that predict class assignment in distressed class vs. not distressed class.
## Distressed class assigned in 2-class solution of LCA model

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.120</td>
<td>0.138</td>
<td>0.120</td>
<td>-0.017</td>
</tr>
<tr>
<td>White</td>
<td>0.304</td>
<td>0.477</td>
<td>0.467</td>
<td>0.677*</td>
</tr>
<tr>
<td>Caribbean</td>
<td>-0.826*</td>
<td>-0.759*</td>
<td>-0.813*</td>
<td>-0.651</td>
</tr>
<tr>
<td>65+</td>
<td>-0.835**</td>
<td>-1.019**</td>
<td>-1.065**</td>
<td>-1.076**</td>
</tr>
<tr>
<td>High school</td>
<td>-0.800***</td>
<td>-0.828***</td>
<td>-0.569**</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>-0.659*</td>
<td>-0.669*</td>
<td>-0.181</td>
<td></td>
</tr>
<tr>
<td>College degree</td>
<td>-1.290*</td>
<td>-1.325**</td>
<td>-0.632</td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>0.013</td>
<td>-0.417***</td>
<td>-0.372***</td>
<td></td>
</tr>
<tr>
<td>BMI²</td>
<td></td>
<td>0.007***</td>
<td>0.006***</td>
<td></td>
</tr>
<tr>
<td>Near poor</td>
<td></td>
<td></td>
<td></td>
<td>-0.697**</td>
</tr>
<tr>
<td>Non-poor</td>
<td></td>
<td></td>
<td></td>
<td>-1.025***</td>
</tr>
<tr>
<td>Affluent</td>
<td></td>
<td></td>
<td></td>
<td>-1.643***</td>
</tr>
</tbody>
</table>

* p<.05; ** p<.01; *** p<.001
Percent Classified as Distressed (K6-based 2-class model)
by Weight Status and Race/Ethnicity, NSAL, ages 45+

<table>
<thead>
<tr>
<th></th>
<th>Not Overweight</th>
<th>Overweight</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>17.07</td>
<td>6.11</td>
<td>8.00</td>
</tr>
<tr>
<td>Caribbean American</td>
<td>8.24</td>
<td>10.76</td>
<td></td>
</tr>
<tr>
<td>White American</td>
<td>24.01</td>
<td>12.32</td>
<td>18.62</td>
</tr>
</tbody>
</table>

Percent Classified Distressed
Log-odds of Distressed Classification by BMI by Race/Ethnicity, NSAL, ages 45+, quadratic fit, sex and age controlled

![Graph showing estimated log-odds of being classified as distressed by BMI Z-Score for African American, Caribbean American, and White American groups.](image)
Geo mapping

- Geo mapping was used to provide an example of the geographic distribution of adults 45+ with SPD based on class assignment.
- Map reflects individuals assigned to “high distressed” class vs. prevalence of SPD by state.
Distribution of Serious Psychological Distress, NSAL, age 45+

Legend
State level results
Proportion of respondents in high distressed class
- Unsampled state
- 0.01 - 0.07
- 0.08 - 0.14
- 0.15 - 0.21
- 0.22 - 0.27
Potential explanations for protective effect of “overweight” status

• “Jolly fat” hypothesis
• Influence of society standards of “beauty”
• Biology/physiology
  – Inflammation, insulin resistance, cortisol, allostatic load
• Psychosocial/health behaviors
Implications for research and intervention

• This work highlights the need to consider heterogeneity within racial and ethnic populations.

• Findings identified two classes of people with varying risk, which can facilitate the development of targeted interventions designed to reduce the burden of SPD.

• Geo mapping in combination with LCA can be used to locate individuals with SPD using survey data.
  – Advantage over prevalence rates.
Acknowledgements

• R01 MH084963 (NIMH)
  – PI: Karen Lincoln
  – “Risk and Protective Factors for Depression among Racial Groups”

• Los Angeles Basin Clinical and Translational Science Institute
  – PI: Karen Lincoln
  – “Mental Health Disparities within the Context of Health Disparities: Depression and Obesity among Black Women”