Stress Exposure and Depression in Disadvantaged Women: The Protective Effects of Optimism and Perceived Control

A presentation based on the work of Nancy K. Grote, Sarah E. Bledsoe, Jill Larkin, Edward P. Lemay, Jr., and Charlotte Brown


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Slides prepared by Matt Toth
Introduction

This study measures the extent to which individual protective factors, such as optimism and perceived control over acute and chronic stressors, moderate the relationship between acute and chronic stress exposure and depression severity in a disadvantaged population.
Background

- Individuals respond in a variety of ways to adversity and risk.

- From a risk and resilience perspective, individuals who show resilient adaptation to stressful conditions do not develop significant psychological symptoms. (Luther & Cicchetti, 2000)

- Much work has been done to identify protective factors that modify the negative effects of stressful life events on positive adjustment in children and adults. (Luther & Cicchett, 2000; Jackson & Huang, 2000; Kaslow et al., 2002; Major et al., 1998; Siefert, Hefflin, Corcoran, & Williams, 2004)
Logic Model

- Poverty predicts an increased exposure to acute and chronic stressors, and is heavily related to major depression (Belle, 1990; Bruce, Takeuchi, & Leaf, 1991)
  - Acute Stress: Time limited events, such as death, divorce, job loss, or acute illness
  - Chronic Stress: Continuous, demanding situations that do not easily change (i.e. financial hardship, crowded housing, discrimination)

- Race, by itself, does not predict depression severity. However, Kessler and Neighbors (1986) observed that low income African Americans had greater depression severity than low income whites, but not at higher levels of income (Williams, 2000)

- As such, the interaction of race and poverty, and acute and chronic stress exposure are included in this logic model (Slide 6)
Logic Model cont.

- Also included in this logic model are individual protective factors.

- Individual protective factors have been shown to moderate stress, and contributes to differential psychological outcomes (Luthar & Cicchetti, 2000).

- Exposure to acute and chronic stress in the context of race and poverty interact with personal protective factors to affect levels of depression.
Logic Model

Poverty and Race

→

Acute/Chronic Stressors

→

Individual Protective Factors

→

Depression Severity

Objectives

1) Examine the extent to which optimism and perceived control buffer the relationship between acute and chronic stress exposure and depression severity.

2) Examine whether optimism and perceived control buffer the relationship between acute and chronic stress exposure and depression severity for low-income minority individuals.
Hypotheses

- **Hypothesis One:**
  - Cumulative exposure to acute and chronic stressors will predict severity of depression
  - The protective factors of optimism and perceived control will moderate the effects of stress exposure on depression

- **Hypothesis Two:**
  - Optimism and perceived control will buffer the relationship between stress exposure and depression in a disadvantaged population
    - Poor women experience more frequent stressful life events than the general population (Belle, 1990)
    - Poor African American women are subject to the routine and chronic stress of discrimination (Clark, Anderson, Clark, & Williams, 1999; Grote et al., in press)
Protective Benefits of Optimism

- **Optimism** is the general expectancy that one will experience positive outcomes in the future
  - Its opposite, **pessimism**, refers to the expectancy that one will experience negative outcomes in the future.

- Evidence suggests that optimism is beneficial for one's overall psychological well-being, whereas pessimism is detrimental (Major et al., 1998; Scheier & Carver, 1992)

- Bromberger and Matthews (1996) found that optimistic women who experience acute and chronic stressors were, over time, less likely to become depressed than pessimistic women
How Optimism Provides Resilience

- Optimists use constructive coping strategies, involving active coping, planning, positive reinterpretation, turning to religion, humor, and acceptance when stress is perceived as less controllable (Scheier, Carver, & Bridges, 1994)

- This ultimately promotes better psychological adjustment under stressful situations, whereas maladaptive responses to stress can render individuals more vulnerable to psychological distress (Brissette et al., 2002)
Protective Benefits of Perceived Control

- The sense of *perceived control* is the belief that one can influence events and conditions within one’s environment.

- Individuals who are poor, less educated, or unemployed are more likely to have lower levels of perceived control (Ross & Sastry, 1999).

- Evidence suggests that individuals with high levels of perceived control (either in a general sense or over a specific event) have lower levels of psychological distress (Alloy & Clements, 1992; Benassi, Sweeney, & Dufour, 1988).
How Perceived Control Affects Well-Being

- If one believes that outcomes are within one’s control, one ought to be more willing to actively cope with stressful situations

- Active, effortful coping increases the probability of achieving successful outcomes

- Therefore perceived control acts as a stress buffer (Cohen & Edwards, 1989)

- Perceived control predicts active coping and, in turn, is associated with less severity of depression (Ross & Mirowsky, 1989)
Method

- **Participants**
  - 97 Caucasian women
  - 97 African American women
  - 11 of other ethnicities
  - All were waiting to receive services in a public care OB/GYN center in Pittsburgh
Method cont.

- **Measurements:**
  - Depression
    - Beck’s Depression Inventory – II (Beck, Steer, & Brown, 1996)
  - Exposure to Acute and Chronic Stressors
    - Revised African American Women’s Stress Scale to be culturally relevant. This resulted in the 90-item Women’s Stress Scale (WSS) (AWSS; Watts-Jones, 1990; WSS; Grote et al, in press)
  - Perceived Control over Acute and Chronic Stressors
    - Participants were asked to rate (1 to 5) on the WSS the extent to which they felt they had control over the particular acute or chronic stress
  - Optimism
    - Life Orientation Test (Scheier et al., 1994)
**Results**

- Demographics
  - 77.5% had income below $20,000
  - 88.3% were not married, with an average of at least one child in the home
  - 58.3% lived with a partner or husband
  - 85.8% had at least a high school education or GED
  - 54.1% were currently unemployed
  - 55% were pregnant
Results cont.

- **Descriptive Analysis**
  - When controlling for income, African American women reported only a marginally greater depressed mood than white women ($p < .07$)
    - Consistent with previous research showing racial differences in depression severity tend to disappear when controlling for income (Williams, 2000)
  - African American women reported a greater number of total stressors ($p < .05$) and chronic stressors ($p < .05$) than white women, controlling for income.
  - African American women experienced a greater number of chronic stressors than acute stressors ($p = .05$)
Results cont.

- Correlations among the variables
  - Exposure to acute (.38, p < .001) and chronic (.46, p < .001) stressors were significantly and moderately correlated with depression severity, confirming the first hypothesis.

- Perceived control was significantly inversely related to acute and chronic stress exposure and depression, with one exception (see Table 1)

- Optimism showed a modest correlation with perceived control variables, indicating that these two independent variables are not redundant.

Table 1: Correlations between Depression, Optimism, Perceived Control of Chronic and Acute Stressors, Stress Exposure, and Income.

<table>
<thead>
<tr>
<th></th>
<th>Depression Severity</th>
<th>Optimism</th>
<th>Perceived control-Chronic stressors</th>
<th>Perceived control-Acute stressors</th>
<th># of chronic stressors</th>
<th># of Acute Stressors</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depression Severity</td>
<td>--</td>
<td>-.59***</td>
<td>-.35***</td>
<td>-.39***</td>
<td>.46***</td>
<td>.38***</td>
<td>-.19*</td>
</tr>
<tr>
<td>2. Optimism</td>
<td>--</td>
<td></td>
<td>.30***</td>
<td>.26***</td>
<td>-.31***</td>
<td>-.23***</td>
<td>.29***</td>
</tr>
<tr>
<td>3. Perceived control-Chronic</td>
<td>--</td>
<td></td>
<td>--</td>
<td>.71***</td>
<td>-.17*</td>
<td>-.12</td>
<td>.05</td>
</tr>
<tr>
<td>4. Perceived control-Acute</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
<td>-.18*</td>
<td>-.17*</td>
<td>.26***</td>
</tr>
<tr>
<td>5. Number of Chronic Stressors</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>.74***</td>
<td>-.18*</td>
</tr>
<tr>
<td>6. Number of Acute Stressors</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-.06</td>
</tr>
</tbody>
</table>

*(p < .05), **(p < .01), ****(p < .001)

Buffering Effects of Optimism and Perceived Control on Stress Exposure and Depression

- A hierarchal regression analysis was used to test the hypothesis that each protective factor (Optimism and Perceived Control) would buffer the negative effects of stress exposure on depression severity, with a separate analysis for acute and chronic stress exposure.
Optimism vs. Chronic Stress and Depression Severity

- Does Optimism buffer the relationship between chronic stress exposure and Depression severity? Regression analysis revealed: (See Table 2)
  - Optimism and number of chronic stressors accounted for a significant amount of the variance in depressed mood ($R^2 = .23$ and .20, $p < .001$, respectively)
  - Interaction between optimism and number of chronic stressors also significant ($R^2 = .06$, $p < .001$)

- What was the nature of the interaction?
  - Positive relationship between number of chronic stressors and depression severity at low levels of optimism ($B = .53$, $p < .001$)
  - At high levels of optimism, the positive relationship between chronic stress exposure and depression severity become insignificant.
**Table 2: Hierarchical Regression Analysis with Optimism and Chronic Stress as Predictors of Depression Severity**

<table>
<thead>
<tr>
<th>Optimism and Chronic Stress</th>
<th>B</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>-.02</td>
<td>.03*</td>
</tr>
<tr>
<td>Optimism</td>
<td>-.51***</td>
<td>.23***</td>
</tr>
<tr>
<td># of Chronic Stressors</td>
<td>.27***</td>
<td>.20***</td>
</tr>
<tr>
<td># of Chronic Stressors by Optimism</td>
<td>-.24***</td>
<td>.06***</td>
</tr>
<tr>
<td>Full equation</td>
<td>--</td>
<td>.52***</td>
</tr>
</tbody>
</table>

*(p < .05), **(p < .01), ****(p < .001)
Does optimism buffer the relationship between acute stress exposure and depression severity? 
- The interaction between optimism and acute stress exposure significantly predicted depression severity ($R^2 = .04$, $p < .001$)

Nature of interaction:
- Low levels of optimism and acute stress exposure predicted depression severity, whereas high levels of optimism and acute stress exposure did not predict depression severity.
- The number of acute stressors interacting with optimism had a significant inverse relationship to depression severity ($B = -.20$, $p < .001$)

This is consistent with the results of chronic stressors, thus confirming the hypothesis that optimism will buffer the relationship between acute and chronic stress exposure and depression severity.
Table 3: Hierarchical Regression Analysis with Optimism and Acute Stress as Predictors of Depression Severity

<table>
<thead>
<tr>
<th>Optimism and Acute Stress</th>
<th>B</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>-.02</td>
<td>.03*</td>
</tr>
<tr>
<td>Optimism</td>
<td>.55***</td>
<td>.27***</td>
</tr>
<tr>
<td># of Acute Stressors</td>
<td>.21***</td>
<td>.14***</td>
</tr>
<tr>
<td># of Acute Stressors by Optimism</td>
<td>-.20***</td>
<td>.04***</td>
</tr>
<tr>
<td>Full equation</td>
<td>--</td>
<td>.48***</td>
</tr>
</tbody>
</table>

*(p < .05), **(p < .01), ***(p < .001)

Perceived Control vs. Chronic Stress Exposure and Depression

- Does perceived control buffer the relationship between chronic stress exposure and depression severity? (see Table 4)
  - Significant relationship between number of chronic stressors and depression severity ($R^2 = .16, p < .001$)
  - Perceived control explained a portion of the variance in depression severity ($R^2 = .11, p < .001$)

- Nature of the interaction between perceived control and chronic stress on depression severity
  - The interaction between perceived control and chronic stress had significant negative relationship with depression severity ($B = -.22, p < .001$)
  - When perceived control was high, there was a weaker relationship between chronic stress and depression ($B = .17, p < .10$)
Table 4: Hierarchical Regression Analysis with Perceived Control and Chronic Stress as Predictors of Depression Severity

<table>
<thead>
<tr>
<th>Perceived Control and Chronic Stress</th>
<th>B</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>-.11</td>
<td>.03*</td>
</tr>
<tr>
<td>Perceived Control</td>
<td>-.28***</td>
<td>.11***</td>
</tr>
<tr>
<td># of Chronic Stressors</td>
<td>.38***</td>
<td>.16***</td>
</tr>
<tr>
<td># of Chronic Stressors by Perceived Control</td>
<td>-.22***</td>
<td>.05***</td>
</tr>
<tr>
<td>Full Equation</td>
<td>--</td>
<td>.35***</td>
</tr>
</tbody>
</table>

*(p < .05), **(p < .01), ***(p < .001)

Perceived Control vs. Acute Stress Exposure and Depression

- Does perceived control buffer the relationship between acute stress exposure and depression severity? (see Table 5)
  - The interaction of perceived control and acute stress significantly explained the variance in depression outcomes ($R^2 = .07$, $p < .001$)
  - Perceived control significantly explained depression variance ($R^2 = .15$, $p < .001$)

- What is the nature of the interaction between perceived control and acute stress on depression outcomes?
  - This interaction had a significant negative relationship with depression severity ($B = -.26$, $p < .001$)
  - Positive relationship between number of acute stressors and depression severity with low levels of perceived control ($B = .56$, $p < .001$)
  - High levels of perceived control moderated the relationship between number of acute stressors and depression severity, making the relationship insignificant

- This confirms the hypothesis that perceived control moderates the relationship between acute and chronic stress exposure and depression severity in disadvantaged women.
**Table 5: Hierarchical Regression Analysis with Perceived Control and Acute Stress as Predictors of Depression Severity**

<table>
<thead>
<tr>
<th>Perceived Control and Acute Stress</th>
<th>B</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>-.19*</td>
<td>.04*</td>
</tr>
<tr>
<td>Perceived Control</td>
<td>-.37***</td>
<td>.15***</td>
</tr>
<tr>
<td># of Acute Stressors</td>
<td>.29***</td>
<td>.09***</td>
</tr>
<tr>
<td># of Acute Stressors by Control</td>
<td>-.26***</td>
<td>.07***</td>
</tr>
<tr>
<td>Full equation</td>
<td>--</td>
<td>.35***</td>
</tr>
</tbody>
</table>

*(p < .05), **(p < .01), ***(p < .001)

Summary of Results

- Results suggest that when women experienced a high number of acute and chronic stressors, those who were optimistic or perceived these stressors as controllable were at less of a risk of developing depression than those who were pessimistic.
Discussion

- This study attempted to expand the literature on stress and protective factors by including disadvantaged women.

- The results supported both hypotheses, and is consistent with the risk and resilience theoretical perspective and with the strengths-based perspective in social work (Saleeby, 1997).

- For women who experienced a high number of stress exposures, optimism and perceived control were associated with significantly less depression severity.
Discussion cont.

- Results are consistent with previous studies suggesting optimism in face of stressful situations acts as a protective factor against depression (Carver & Gaines, 1987; Chang, 2002)

- Results are consistent with previous studies suggesting perceived control over one’s future outcomes protects against developing depression (Bennassi et al., 1988; Taylor & Brown, 1988)

- While coping strategies were not measured, previous research suggests that those with perceived control over stressful situations utilize active problem solving, limiting severity of depression (Cohen & Edwards, 1989; Ross & Mirowsky, 1989)
  - Therefore, high perceived control seems to be associated with constructive coping strategies, promoting psychological adjustment.
  - Low perceived control is associated with powerlessness, leaving one vulnerable to depression
Limitations

- Findings are not generalizable
  - Non-probability sample of female patients in public care OB/GYN clinic in urban hospital
  - Not representative of clinic population in this hospital or other urban hospital

- Self report measures
  - Subject to bias relating to participants emotional state, disposition, and memory

- Did not examine other protective factors at the family or community level that promote resilience

- Did not control for depression history, which is a stress enhancer (Ilgen & Hutchison, 2005)

- Study was cross-sectional and cannot speak to causality
Implications for Social Work Practice

- For low income, depressed individuals, one ought not just focus on the stressors, but also on the variables of optimism and perceived control.
  - When stressors are objectively controllable, practitioners should help the client develop constructive coping strategies
  - When stressors are objectively uncontrollable, practitioners should help the client facilitate the use of positive adaptation such as reframing the stressful situation, seeking emotional support from social network, acceptance, humor, turning to religion, spirituality, or prayer
    - Spirituality ought to be recognized as a potential source of strength, particularly with African Americans

- Social workers can help clients to distinguish between controllable and uncontrollable stressors, and encourage clients to actively address what can be changed, and manage the emotional consequences of what cannot be changed.
References

References cont.

References cont

References cont.

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