HIV Risk Reduction Behaviors in Adolescent Females: The Influence of Mastery & Self-Esteem

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Problem Statement

• AIDS—A leading cause of death in adolescents & young adults
• Adolescent females—Particularly at risk
• Minorities—Over-represented among those diagnosed with AIDS

AIDS Incidence Reported July 1998 - June 1999

- 40%
- 31%
- <1%
- 1%


- 36%
- 62%
- 1%
- <1%
- 2%

Risk Exposure

- Injection drug use (IDU)
- Heterosexual contact
- Transfusion
- Hemophilia
- Other/not identified

* Data adjusted for reporting delays and estimated proportional redistribution of cases initially reported without risk. Data reported through March 2000.
AIDS Cases and Rates in Adult/Adolescent Women, by Race/Ethnicity, Reported in 1999, United States

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Number</th>
<th>Percent</th>
<th>Rate per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, not Hispanic</td>
<td>1,924</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Black, not Hispanic</td>
<td>6,784</td>
<td>63</td>
<td>49</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,948</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>63</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>40</td>
<td>&lt;1</td>
<td>5</td>
</tr>
<tr>
<td>Total*</td>
<td>10,780</td>
<td>100</td>
<td>9</td>
</tr>
</tbody>
</table>

*Includes 21 women of unknown race/ethnicity
Theoretical Rationale

• Rising risk of heterosexually-transmitted HIV infection is related to unequal status in relationships (Amaro, 1995)

• Gendered power relationships between young men and women construct and constrain choice in HIV risk reduction behaviors (Lear, 1996)

• Mastery & self-esteem may have a bearing on HIV risk reduction behaviors in adolescent females
Definitions

- Mastery: A global sense of control over one’s life
- Self-Esteem: The extent to which one accepts oneself; the value placed on self
- HIV Risk Reduction Behaviors: Actions taken by an individual to diminish the chance of acquiring HIV
Significance of Study

- Enhance understanding of who is proficient at HIV risk reduction behaviors and who is at-risk for HIV risk-taking behaviors
- Above knowledge can allow HIV preventive interventions to be tailored to the individual
- Potential for reduction in HIV infection
Aims of Study

1) Examine the relationships among mastery, self-esteem and HIV risk reduction behaviors in a culturally diverse group of adolescent females

2) Determine if differences exist in relationships among mastery, self-esteem and HIV risk reduction behaviors across three cultural groups
Relationships Among Variables
Mastery as Moderator

Self-Esteem
Mastery
Self-Esteem X Mastery

HIV Risk Reduction Behaviors
Research Hypotheses

After accounting for the influence of selected demographic variables, mastery will moderate the relationship of self-esteem and HIV risk reduction behaviors:

• In a culturally diverse group of adolescent females, and

• In groups of black, Latina, and white adolescent females examined separately.
Review of Literature
Mastery

*What we know*—
Mastery is health-enhancing

*What we don’t know*—
- Whether mastery influences HIV risk reduction behaviors
- What the relationships are between mastery & self-esteem in influencing HIV risk reduction behaviors
Review of Literature
Self-Esteem

*What we know*—
Self-esteem is health-enhancing.

*What we don’t know*—

- Whether self-esteem influences HIV risk reduction behaviors
- What the relationships are between self-esteem & mastery in influencing HIV risk reduction behaviors
Review of Literature
HIV Risk Reduction Behaviors

*What we know*—
Abstinence and condom use reduce HIV infection

*What we don’t know*—

- The importance of multiple partners in predicting risk for HIV infection, i.e.
  - How many partners is too many?
- The frequency of intercourse with an HIV infected individual that results in infection
Review of Literature
Culture

What we know—
Minorities are over-represented among those diagnosed with AIDS

What we don’t know—
Whether cultural affiliation influences mastery, self-esteem and HIV risk reduction behaviors
Methods

• Site: Adolescent clinic in northeastern city
• Sample: Adolescent females aged 15-19 years
• Procedures: Questionnaire completed anonymously
• Human Subjects: Review at respective institutions—study site, university, and Office of Protection from Research Risks
Methods

• Measures
  – Demographic Data Form
  – Pearlin Mastery Scale
  – Rosenberg Self-Esteem Scale
  – Metzger High Risk Sexual Relationship Subscale of Adolescent Problem Severity Index

• Data Analysis: Hierarchical Multiple Regression
Mastery & Self-Esteem Scores
Total Sample N=224

• Mastery:
  Total Sample: $M=21.38$, S.D.$=3.41$
  Range: 11-28 (Possible Range: 7-28)

• Self-Esteem:
  Total Sample: $M=31.48$, S.D.$=4.83$
  Range: 16-40 (Possible Range: 10-40)
Mastery Scores by Cultural Groups

Mastery Scores*

– Black Participants: $M=22.06$, S.D.=3.33
– Latina Participants: $M=20.57$, S.D.=3.87
– White Participants: $M=20.93$, S.D.=2.80

*Black participants with significantly higher mastery scores than Latina participants
Self-Esteem Scores by Cultural Groups

Self-Esteem Scores*

- Black Participants: $M=32.46$, S.D.$=4.72$
- Latina Participants: $M=30.60$, S.D.$=4.53$
- White Participants: $M=30.49$, S.D.$=5.05$

*Black participants with significantly higher self-esteem scores than Latina and White participants
HIV Risk Reduction Behaviors
\[ N=224 \]

- 71.4% (n=160) had sex (oral, anal, or vaginal intercourse) at least once
- Median age of first intercourse was 15 years
- Median number of sexual partners in last year: 1
- 33% (n=73) “always” used a condom during the last year when having sex
HIV Risk Reduction Behaviors

N=224

- 14% (n=32) had an STD history
- 16% (n=35) had been pregnant
- 9% (n=20) had tried to get pregnant
- 12% (n=26) had a forced sex encounter
- 25% (n=57) had used alcohol or other drugs just before having sex
HIV Risk Reduction Scores

HIV Risk Reduction Scores*
(High scores equal high risk reduction behaviors)
- Total Sample: $M=6.60$, S.D.$=3.45$, Range: 0-11
- Black Participants: $M=6.43$, S.D.$=3.62$, Range: 0-11
- Latina Participants: $M=6.69$, S.D.$=3.30$, Range: 0-11
*No significant difference in scores among groups
Research Hypotheses

After accounting for the influence of selected demographic variables, mastery will moderate the relationship of self-esteem and HIV risk reduction behaviors:

• In a culturally diverse group of adolescent females, and
• In groups of black, Latina, and white adolescent females examined separately.
Testing for Demographic Correlates of HIV Risk Reduction Behaviors

- Age
- Income
- Hours Worked
- Number in Household
- Mother in Home
- Father in Home
Hypothesis 1
Total Sample
N=218

- Significant demographic correlates entered first – age, mother in the home, hours worked & income
- 8.1% of adjusted variance explained at .001 level
- Mastery and self-esteem not significantly related to HIV risk reduction behaviors
- No moderating effect of mastery
- Only significant contributor was age (beta=-.228, p=.002), accounting for 5.1% of explained variance
Hypothesis 2A
Black Participants
N=109

- Significant demographic correlates entered first—age & income
- 8.7% of adjusted variance explained at .013 level
- Mastery and self-esteem not significantly related to HIV risk reduction behaviors
- No moderating effect of mastery
- Only significant contributors were age (beta = -.236, p = .013) and income (beta = .224, p = .018) accounting for 5.6% and 5.0% of explained variance respectively
Hypothesis 2B
Latina Participants
N=58

• Age entered first into regression equation
• Non-significant regression equation model
• Mastery and self-esteem not significantly related to HIV risk reduction behaviors
• No moderating effect of mastery
• In regression equation, age no longer significantly related to HIV risk reduction behaviors
Hypothesis 2C
White Participants
N=57

- Age entered first into regression equation
- Non-significant regression equation model
- Mastery and self-esteem not significantly related to HIV risk reduction behaviors
- No moderating effect of mastery
- In regression equation, significant and inverse relationship between age and HIV risk reduction behaviors ($\beta=-.367, p=.009$), but overall regression model not significant
Ancillary Analyses

- Significant correlation between hours worked and HIV risk reduction behaviors in total sample
- But no significant relationships between same variables in the black, Latina and white groups
- Relationship between hours worked and HIV risk reduction behaviors examined in subgroups of those who had jobs in each cultural group
- No significant relationship in black and Latina groups
Ancillary Analyses
White Participants Who Work
N=37

- Age and hours worked entered first
- 22.5% of adjusted variance explained at .022 level
- Mastery and self-esteem not significantly related to HIV risk reduction behaviors
- No moderating effect of mastery
- Significant demographic contributors were age (beta=-.347, p=.040) and hours worked (beta=-.340, p=.048) accounting for 12% and 11.6% of explained variance respectively
Discussion

Theoretical Considerations

• Particularity of HIV risk reduction behaviors as opposed to global nature of mastery and self-esteem
• Developmental issues related to mastery & self-esteem
• High mastery—The risk-takers in life?
Discussion

Literature Considerations

• Is in contrast to overall literature review
• Did not support Cole & Slocomb’s study
• Supports Goldman & Harlow’s study
• Supports Greenwood’s study
• Supports Resnick & colleagues’ study
Discussion

Methodological Considerations

• Economically heterogeneous sample
• Sensitivity of measures
• Procedural issues
• Mastery & self-esteem moderately correlated—Implications for testing moderator effect
Limitations

- Subjective self-report
- Cross-sectional design
- Data reduction implicit in quantitative methodology
- Purposive versus random sampling
- Findings restricted to participants & context of data collection
Implications for Practice

• Equal intention needed toward HIV preventive efforts regardless of level of mastery and self-esteem
• Intensify HIV prevention interventions as female adolescents age
• Findings point toward behavioral approaches to HIV preventive efforts
Implications for Future Research

- Replication of study
- Qualitative research related to HIV risk-taking and risk reduction
- Development of reliable and valid measures of HIV risk-taking and risk reduction behaviors
- HIV prevention interventions
- Multiple risks and co-morbidities of adolescents
- Health-enhancing benefits of mastery & self-esteem beyond HIV risk reduction behaviors
Conclusions

• “Not knowing is a strange way of knowing.”
No significant relationships in this sample among mastery & self-esteem & HIV risk reductions, but enhanced understanding of what did not provide explanatory value

• Increased understanding of mastery & self-esteem in a culturally-diverse adolescent female sample