Anger Within an HIV+ Population in Relation to Stigma & Anxiety

Mark Pierson
Eliot J. Lopez, M.S.
Mark Vosvick, Ph.D.
Department of Psychology
Why Anger?

- HIV+ individuals’ immune functioning is negatively associated with stress-related anger (Gill, 2001).
- Both anxiety and anger are associated with self-labeling (Vie, Glaso & Einarsen, 2010); a behavior indicative of HIV-related stigma.
- HIV-related stigma, conversely, is related to high levels of anxiety and psychological distress (Wagner et al., 2010).
Theory: Beck’s Cognitive Triad (1976)

- Negative views about the world (Anger)
- Negative Views about oneself (Stigma)
- Negative views about the future (Anxiety)
Hypotheses

1. Stigma is positively associated with anger.

2. Anxiety is positively associated with anger.

3. Stigma and anxiety explain a significant proportion of variance in anger.
Participants

- Participants with HIV were recruited from the Dallas / Fort Worth area.
  - 18 years or older
  - Fluent in English
- Participants signed informed consent forms for our Institutional Review Board (IRB) approved study.
- We used computer-based questionnaires.
- Participants were provided an incentive of $25 upon completion of the questionnaire.
## Demographics n=118

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Gender:</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>58 (48.2%)</td>
</tr>
<tr>
<td>Male</td>
<td>60 (50.8%)</td>
</tr>
<tr>
<td><strong>Ethnicity:</strong></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>81 (68.6%)</td>
</tr>
<tr>
<td>European American</td>
<td>29 (24.6%)</td>
</tr>
<tr>
<td>Latino</td>
<td>4 (3.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (1.6%)</td>
</tr>
<tr>
<td><strong>Sexual Orientation:</strong></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>59 (50%)</td>
</tr>
<tr>
<td>Gay</td>
<td>38 (32.2%)</td>
</tr>
<tr>
<td>Bisexual</td>
<td>20 (17.8%)</td>
</tr>
<tr>
<td>Asexual</td>
<td>1 (.008%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
<td>47</td>
<td>8.9</td>
<td>23-66</td>
</tr>
<tr>
<td>Years of education</td>
<td>12</td>
<td>2.6</td>
<td>3-18</td>
</tr>
</tbody>
</table>
Methodology

- Cross-sectional correlational design
- Hierarchical Linear Regression analysis

Dependent variable: Anger Expressed Inward
Independent variables: Negative Self Image & Trait Anxiety
Measure: Anger

**Anger**: State-Trait Anger Expression Inventory (STAXI)
- Cronbach’s $\alpha = .72-.89$ (Buss & Perry, 1992; Harris, 1997)
- Convergent validity: (MMPI: Overt Hostility Scale)
- 57 Likert-type items 1 (strongly disagree) - 4 (strongly agree)
- Higher scores denote more anger

“When I get frustrated, I feel like hitting someone”
Measure: Stigma

**Stigma**: HIV-related Stigma Scale (HSS)
- Cronbach’s α = .96 (Berger, Ferrans, & Lashley, 2001)
- Construct validity with related variables (i.e. social conflict)
- 40 Likert-type items: 1 (strongly disagree) - 4 (strongly agree)
- Higher scores denote more HIV-related Stigma

“I feel I am not as good a person as others because I have HIV”
Measure: Anxiety

**Anxiety**: State-Trait Anxiety Inventory (STAI)
- Cronbach’s $\alpha = .89-.94$ (Spielberger et al., 1983)
- Convergent validity: Taylor manifest anxiety scale ($r = .80$)
- 40 Likert-type items: 1 (strongly disagree) - 4 (strongly agree)
- Higher scores denote more (state/trait) Anxiety

“I feel that difficulties are piling up so that I cannot overcome them”
## Data Analysis

<table>
<thead>
<tr>
<th>Univariate</th>
<th>M (SD)</th>
<th>Possible range</th>
<th>Actual range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger expressed in</td>
<td>16.1(4)</td>
<td>0-30</td>
<td>9-30</td>
<td>.86</td>
</tr>
<tr>
<td>Negative self image (Stigma)</td>
<td>25.2(6)</td>
<td>13-52</td>
<td>13-47</td>
<td>.82</td>
</tr>
<tr>
<td>Trait Anxiety</td>
<td>24.1(7)</td>
<td>0-40</td>
<td>9-36</td>
<td>.84</td>
</tr>
</tbody>
</table>

### Bivariate

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Age</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.Years of education</td>
<td>.18*</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3.Anger express in</td>
<td>-.15</td>
<td>-.08</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4.Negative self image</td>
<td>-.07</td>
<td>-.04</td>
<td>.42**</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>5.Trait Anxiety</td>
<td>-.01</td>
<td>-.05</td>
<td>-.35**</td>
<td>-.45**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: *p<.05 **p<.01
Data Analysis

- Dependent Variable: Anger Expressed Inward.
- Variables were entered simultaneously.
- No variables controlled for.

<table>
<thead>
<tr>
<th>Multivariate</th>
<th>$\beta$</th>
<th>$t$</th>
<th>Tolerance</th>
<th>VIF</th>
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</thead>
<tbody>
<tr>
<td>Negative Self Image</td>
<td>.31</td>
<td>3.33***</td>
<td>.79</td>
<td>1.27</td>
</tr>
<tr>
<td>Trait anxiety</td>
<td>.21</td>
<td>-2.30*</td>
<td>.79</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Note: *$p<.05$  **$p<.01$  ***$p<.001$  
(Adj. $R^2=.20$, $F(2,115)= 8.26$, $p<.001$)
Discussion

• 1. Stigma is positively associated with anger: Supported
• 2. Anxiety is positively associated with anger: Not Supported
• 3. Stigma and anxiety explain a significant proportion of variance in anger: Supported

• Conclusion: Our goal to elucidate the relationship between Stigma & Anxiety on Anger has been completed; however, trait anxiety was negatively associated with expressed anger.
Discussion

Clinical Implications: Results from our study support interventions aimed at reducing HIV-related stigma in hopes of promoting healthy immune functioning (Gill, 2001) by reducing stress-related anger.

Through such self image interventions, therapy could promote psychological health (Wager et al, 2010) and perhaps reduce HIV-related stigma.

By working with clients on anger and anxiety, self labeling can be affected (Vie, Glaso & Einarsen, 2010), hopefully minimizing negative self image.
Discussion continued...

Limitations: Our cross-sectional correlation design inhibited our ability to infer causal relationships.

Self-report style scales used are vulnerable to participants giving socially desirable answers restricting validity.

Lastly, convenience sampling techniques limit our ability to generalize our findings.

Future research: Anger, Stigma, and Anxiety measures could be given to participants before and after a therapy intervention in aims of predicting and reducing anger.
Acknowledgements

- Center for Psychosocial Health Research
  - Members & Faculty
- Dallas Resource Center
- Samaritan House in Fort Worth
- HIV Community
- Ronald E. McNair Program
Questions?


Spielburger, C, Sydemian, S, Owen, A, & Marsh, B. (1999). measuring anxiety and anger with the state-trait anxiety inventory (stai) and the state-trait anger expression inventory (staxi). *The use of psychological testing for treatment planning and outcomes assessment (2nd ed.)*,
