Differences in Sexual Health Communication: The Use of Latent Class Analysis to Inform HIV Intervention Tailoring for Young Black Women

Jaih Craddock, PhD, MSW, MA
Assistant Professor
Jaih.Craddock@ssw.umaryland.edu
Background

- Black American women account for 57% of new HIV infections among U.S women [3].
- Challenges remain in identifying which Black women are at elevated risk for HIV [5] due to complex and multifaceted factors associated with HIV acquisition (e.g., individual behaviors, social network dynamics, and HIV knowledge and prevention awareness) [6].
Why Latent Class Analysis?

The literature has...

1. Understudies sexual health communication differences among young Black women, and
2. Overlooked how these differences may be associated with YBW's HIV prevention and risk behaviors.

Latent class analysis (LCA) is a method used to provide insight into patterns of behaviors. Specifically, LCA identifies subgroups within a sample and highlights underlying profiles and conditional probabilities (in this case, of communication) within an emerging latent class.
Why Sexual Health Communication?

• It has shown to be a critical determinant of HIV prevention behaviors cross the lifespan [13].

• Little attention has been given to understanding who (besides partners) YBW may communicate with about sexual health topics or how it may be associated with YBW’s HIV prevention behaviors.

• Variations in sexual health communication with SNMs may be associated with effectiveness outcomes of HIV interventions targeting YBW.
Recruitment
- June 4, 2018 to December 2, 2018
- Fourteen YBW (seeds) were recruited from various community organizations in the Los Angeles area and on Twitter and Facebook.

Screening and enrollment
(a) 18 to 24 years of age
(b) Identify as a Black or African American woman
(c) Ever sexually active

Respondent Driven Sampling
- As part of the RDS, participants were asked to invite at least three eligible YBW to participate in the study, until 200 women have participated.
14 Seeds
427 Total Referrals

Online
Contacts 365
Ineligible 7
Survey Sent 212
Completed 159
Not Completed 53
96 Did Not Refer
110 Referred

In-Person
Contacts 76
Not Scheduled 25
Scheduled 51
Completed 42
Cancelled 9
1 Did Not Refer
41 Referred

What?
Demographics (n = 180)

Age: 18 to 24 years (M = 21.15)

Regions lived in...
- 42.13% - South
- 41.01% - West
- 8.99% - Northeast
- 7.87% - Midwest

Outcome Variables
- 72.22% - Reported ever tested for HIV
- 40.22% - Reported using a condom at last sex
- 36.11% - Reported being interested in using PrEP for HIV prevention

Education

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>12%</td>
</tr>
<tr>
<td>Some College</td>
<td>48%</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>35%</td>
</tr>
<tr>
<td>Professional</td>
<td>5%</td>
</tr>
</tbody>
</table>
SH Communication with SNMs

- **CONDOM USE**
  - Friend: 60.56%
  - Sexual Partner: 77.69%
  - Family: 81.11%

- **STI TESTING**
  - Friend: 33.33%
  - Sexual Partner: 42.15%
  - Family: 67.78%

- **HIV TESTING**
  - Friend: 23.33%
  - Sexual Partner: 61.98%
  - Family: 48.33%
What did we find? (Results)
There were SEVEN Subgroups of Cisgender Young Black Women

- Spoke about condom use with Friends and Family
- Spoke to Friends & Partners
- Spoke to Friends & Family
- Spoke to Everyone
- Only Spoke with Friends
- Only Spoke with Partners
- Spoke with NO ONE
What did we find?

(Results)

<table>
<thead>
<tr>
<th></th>
<th>Class 1</th>
<th>Class 2</th>
<th>Class 3</th>
<th>Class 4</th>
<th>Class 5</th>
<th>Class 6</th>
<th>Class 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>38 (21.59)</td>
<td>16 (9.09)</td>
<td>19 (10.80)</td>
<td>34 (19.32)</td>
<td>32 (18.18)</td>
<td>8 (4.55)</td>
<td>29 (16.48)</td>
</tr>
<tr>
<td>Talk to Family Members about...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom Use</td>
<td>1.00</td>
<td>0.47</td>
<td>0.84</td>
<td>1.00</td>
<td>0.30</td>
<td>0</td>
<td>0.24</td>
</tr>
<tr>
<td>STI Testing</td>
<td>0.30</td>
<td>0.11</td>
<td>1.00</td>
<td>0.86</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HIV Testing</td>
<td>0</td>
<td>0</td>
<td>0.79</td>
<td>0.75</td>
<td>0</td>
<td>0.13</td>
<td>0</td>
</tr>
<tr>
<td>Talk to Friends about...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom Use</td>
<td>1.00</td>
<td>1.00</td>
<td>0.95</td>
<td>0.89</td>
<td>0.97</td>
<td>0</td>
<td>0.36</td>
</tr>
<tr>
<td>STI Testing</td>
<td>0.64</td>
<td>1.00</td>
<td>1.00</td>
<td>0.85</td>
<td>0.76</td>
<td>0</td>
<td>0.17</td>
</tr>
<tr>
<td>HIV Testing</td>
<td>0</td>
<td>0.91</td>
<td>1.00</td>
<td>0.77</td>
<td>0.62</td>
<td>0.13</td>
<td>0</td>
</tr>
<tr>
<td>Talk to Sexual Partners about...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom Use</td>
<td>0.47</td>
<td>0.86</td>
<td>0.20</td>
<td>0.91</td>
<td>0.31</td>
<td>1.00</td>
<td>0.29</td>
</tr>
<tr>
<td>STI Testing</td>
<td>0.43</td>
<td>0.84</td>
<td>0</td>
<td>0.93</td>
<td>0</td>
<td>0.88</td>
<td>0.27</td>
</tr>
<tr>
<td>HIV Testing</td>
<td>0.05</td>
<td>0.71</td>
<td>0</td>
<td>0.83</td>
<td>0</td>
<td>1.00</td>
<td>0</td>
</tr>
</tbody>
</table>
What else did we find?

(Results)

Table 4. Univariable multinomial regression models with Class 4 as reference group

<table>
<thead>
<tr>
<th></th>
<th>Class 1</th>
<th>Class 2</th>
<th>Class 3</th>
<th>Class 4</th>
<th>Class 5</th>
<th>Class 6</th>
<th>Class 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>95% CI</td>
<td>OR</td>
<td>95% CI</td>
<td>OR</td>
<td>95% CI</td>
<td>OR</td>
</tr>
<tr>
<td>Sex in the prior 30 days</td>
<td>0.50</td>
<td>0.18, 1.20</td>
<td>1.21</td>
<td>0.39, 3.78</td>
<td><strong>0.31</strong></td>
<td><strong>0.12, 0.86</strong></td>
<td>0.40</td>
</tr>
<tr>
<td>Condom use at last sex</td>
<td>1.27</td>
<td>0.45, 3.57</td>
<td>2.94</td>
<td>0.95, 9.11</td>
<td>1.14</td>
<td>0.40, 3.27</td>
<td><strong>2.87</strong></td>
</tr>
<tr>
<td>Ever tested for HIV</td>
<td><strong>0.21</strong></td>
<td><strong>0.06, 0.71</strong></td>
<td>0.37</td>
<td>0.09, 1.51</td>
<td>1.09</td>
<td>0.23, 5.22</td>
<td><strong>0.16</strong></td>
</tr>
<tr>
<td>Interest in PrEP</td>
<td>0.54</td>
<td>0.20, 1.48</td>
<td>0.75</td>
<td>0.12, 2.22</td>
<td>0.91</td>
<td>0.34, 2.42</td>
<td><strong>0.88</strong></td>
</tr>
<tr>
<td>Participated in HIV prevention Program</td>
<td>0.16</td>
<td><strong>0.03, 0.99</strong></td>
<td>0.46</td>
<td>0.12, 1.69</td>
<td>0.73</td>
<td>0.25, 2.13</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Class 4

Spoke to Everyone

**Note:** OR values in bold indicate significant associations.
So... What does this mean?  
(Discussion & Implications)

Without assessing subgroup differences, a highly effective intervention may not be effective for a seemingly homogeneous population.
Limitations

• Cross-sectional
• Data were self-reported
• Study was respondent driven
Acknowledgments

Thank you to the members of the community advisory board for their time, support, and guidance on this project and the young Black women who participated in this study! This research could not happen without you!

Funded by

- National Institute on Minority Health and Health Disparities
- University of Maryland Baltimore Institute for Clinical & Translational Research
- Columbia HISTP HIV Intervention Science Training Program for Underrepresented New Investigators

Supported by

- University of Maryland School of Social Work
- USC Suzanne Dworak-Peck School of Social Work
THANK YOU!

QUESTIONS?

E: Jaih.Craddock@ssw.umd.edu
T: @jbc.craddock
What did we find?

(Results)

Figure 1. Item Response Probabilities for Sexual Health Communication Across the Seven Classes
What did we find? (Results)

There were SEVEN Subgroups of Cisgender Young Black Women

- Only Talk about condoms With Friends and Family
- Only Spoke to Friends and Partners
- Only Spoke to Friends and Family
- Spoke to Everyone
- Only Spoke with Friends
- Only Spoke with Partners
- Spoke with no one