**Introduction**

- Evidence that LGBTQ+ persons exhibit:
  - greater use of electronic vaping devices\(^1\)
  - elevated rates of cannabis use\(^2\)–\(^3\)
- Cross-sectional data suggest LGBTQ+ youth have greater odds of vaping cannabis products (delta-9-THC)\(^4\)
- Psychosocial factors (e.g., depression, minority stressors) may underlie disparities\(^5\)

Longitudinal data on cannabis vaping in LGBTQ+ emerging adults is scarce.

**Purpose**: to examine cannabis vaping among LGBTQ+ and cisgender heterosexual young adults

**Method**

**Sample Population**
- Happiness & Health Study
  - Recruited Los Angeles-area high school students beginning 2013
  - 2,006 participants with complete data at 3 waves
  - 6,018 unique observations

**Measures**
- LGBTQ+ Status
- Outcomes
  - Past 6-month cannabis vaping (yes vs. no)
  - Past month cannabis vaping days (ordinal scale: 0-30)
- Moderators
  - Center for Epidemiological Studies Depression; CESD
  - General Anxiety Disorder-7; GAD-7
  - Everyday Discrimination Scale; EDS

**Data Analysis**
- Generalized Linear Mixed Modeling (GLMM) with robust estimators
- Binary Logistic Regression (6-month vaping)
- Negative Binomial regression (past month vaping days)
- Adjusted for sex, ethnicity, and lifetime e-cigarette device use

**Results**

<table>
<thead>
<tr>
<th>Table 1. Cross-Sectional Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGBTQ+ Status</td>
</tr>
<tr>
<td>Citizen Heterosexual</td>
</tr>
<tr>
<td>LGBTQ+</td>
</tr>
</tbody>
</table>

**Table 3. Vaping**

<table>
<thead>
<tr>
<th>LGBTQ+ Status</th>
<th>F</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGBTQ+</td>
<td>7.94</td>
<td>.005</td>
<td>2.54</td>
<td>1.40 – 4.60</td>
</tr>
<tr>
<td>Citizen Heterosexual</td>
<td></td>
<td></td>
<td>(ref)</td>
<td></td>
</tr>
<tr>
<td>LGBTQ+ Status *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CESD</td>
<td>0.15</td>
<td>.698</td>
<td>0.99</td>
<td>0.94 – 1.04</td>
</tr>
<tr>
<td>GAD</td>
<td>0.08</td>
<td>.780</td>
<td>1.01</td>
<td>0.95 – 1.08</td>
</tr>
<tr>
<td>EDS</td>
<td>2.25</td>
<td>.134</td>
<td>0.97</td>
<td>0.94 – 1.01</td>
</tr>
</tbody>
</table>

**Table 4. Vaping Days**

<table>
<thead>
<tr>
<th>LGBTQ+ Status</th>
<th>F</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGBTQ+</td>
<td>8.50</td>
<td>.004</td>
<td>1.79</td>
<td>1.13 – 2.84</td>
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<tr>
<td>Citizen Heterosexual</td>
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<tr>
<td>LGBTQ+ Status *</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CESD</td>
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<td>.457</td>
<td>0.99</td>
<td>0.95 – 1.02</td>
</tr>
<tr>
<td>GAD</td>
<td>4.03</td>
<td>.045</td>
<td>1.04</td>
<td>1.00 – 1.08</td>
</tr>
<tr>
<td>EDS</td>
<td>10.05</td>
<td>.002</td>
<td>0.97</td>
<td>0.94 – 0.99</td>
</tr>
</tbody>
</table>

**Conclusions**

- LGBTQ+ identity associated with:
  - greater odds of cannabis vaping in past 6 months
  - greater frequency of cannabis vaping in past month
- Participants at Wave 10 demonstrated:
  - lower odds of cannabis vaping in past 6 months
  - fewer cannabis vaping days in past month
  - Higher GAD scores associated with greater days among LGBTQ+ participants
  - Lower EDS scores associated with fewer days among LGBTQ+ participants

**Limitations & Future Directions**
- Impact of COVID-19 (Wave 10)
- Examine within-subject effect of LGBTQ+ identity
- Incorporate additional random effects (e.g., time, CESD, GAD, EDS)

**References**
- Struble et al. (2021)
- Dunbar et al. (2022)
- Slomon et al. (2022)
- Mattingly et al. (2022)
- Newberger et al. (2022)