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Examining Young Adult E-Cigarette Users by Device Type: A Latent Class Analysis

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Introduction

- E-cigarette users are often treated as a homogenous group, with user states often grouped by current or previous use.
- Some research has explored reasons for use and use by device type and flavor preferences1,2; however, with an evolving landscape of e-cigarette devices, it is important to explore young adult e-cigarette users’ profiles/characteristics based on the type of devices they use.

Methods

- Young adult e-cigarette users are often treated as a homogenous group, with user states often grouped by current or previous use.
- Some research has explored reasons for use and use by device type and flavor preferences1,2; however, with an evolving landscape of e-cigarette devices, it is important to explore young adult e-cigarette users’ profiles/characteristics based on the type of devices they use.

Purpose

- The purpose of this study was to explore if there are heterogenous groups of young adult e-cigarette users when examining their use by device type and to understand what influences users to choose specific devices.

Participants (n=595)

- Young adults, 18-30 years of age
- Had used an e-cigarette in the past 30 days
- Used e-cigarettes every day or somedays
- Used e-cigarettes > 1 day per week

Study Design and Protocol

- Explanatory Mixed Methods Design Using Pre-Collected Data From:
  1. Cross-sectional, online survey
  2. Zoom Interviews with 25 survey participants

Measures

- In the survey, participants selected all e-cigarette devices they had used in the past 30 days with pictures of each device.
- Interviews transcripts coded using NVivo.

Acknowledgements

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References


Results

Table 1. Item-response Probabilities Given 5 Class Membership (n=595)

<table>
<thead>
<tr>
<th>Class</th>
<th>Non-JUUL Pod-based Users</th>
<th>JUUL Pod and E-liquid Disposable Users</th>
<th>Non-Puff Bar Disposable Users</th>
<th>Box Mod Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>21.6%</td>
<td>6.1%</td>
<td>31.2%</td>
<td>18.9%</td>
</tr>
<tr>
<td>Class 2</td>
<td>.23</td>
<td>.74</td>
<td>.38</td>
<td>.16</td>
</tr>
<tr>
<td>Class 3</td>
<td>.04</td>
<td>.00</td>
<td>.19</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: Boldface numbers represent moderate to high probabilities.

Conclusions

- There were distinct classes of e-cigarette users based on the type of device and brand loyalty to highly marketed devices.
- Young adult e-cigarette users are not a homogenous group and should not be classified as such in tobacco research.
- Overall, understanding the themes common within each class of e-cigarette users can aid in tailoring cessation and intervention strategies that are unique and personalized for each class of e-cigarette users.

Non-JUUL Pod users, reported the following reasons for their preference:

- I. The pod/design was more reliable than JUUL.
- II. More fruity flavors (this was lacking in JUUL) and easy to use
- III. More abrasive/stronger pulls
- IV. Ease of access
- V. Cheaper Price

JUUL users reported the following similarities:

- I. It was the first device that they used and had a level of brand loyalty.
- II. Ease of access, portability

Users preferred Puff Bar Disposables for the following reasons:

- I. "I love the different flavors, and I want to be able to not vape constantly. With disposables I have to go out and get it. This makes a barrier to entry, which prevents me from smoking."
- II. "Puff Bar users usually have little idea of what is going on. They are more likely to be just teenagers."

Non-Puff Bar Disposables Users:

- I. Desire to quit/decrease use
- II. Cheaper than Puff Bar disposables

Box mod users:

- I. "You can customize it and set it up however you like. You can have custom wattages, coils, and it is rechargeable."
- II. "Box mods are kind of reserved for like the enthusiasts and the hobbyists. You have people who like to do smoke tricks."
- III. "I think that early 20s/teenagers are more likely to be using the disposable or the rechargeable as opposed to like the box mods. I think the box mods are like an older generation of vaping technology."

All Devices (6.1%)

Themes for all devices can be a collection of the themes in each class.