# Effect of Promotional Materials on Nonusers' Intentions to Try and Use a Specific e-Vapor Product

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### Abstract

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**Significance.** The Family Smoking Prevention and Tobacco Control Act gave FDA the authority to regulate tobacco products. FDA issued Draft Guidance regarding the evidence manufacturers should provide to support new product applications, including data on the effects of marketing and advertising on tobacco users and non-users' likelihood of trying and using the candidate tobacco product. This research examined whether promotional materials have an effect on non-users' intentions to try and use any of the e-vapor products associated with a specific brand (referred to here as "e-vapor products").

**Methods.** A convenience sample of self-reported adult former (n = 841) and never tobacco users (n = 840), including a subsample of legal age (LA) to 24 year olds (n = 838), were assigned to one of two conditions: full vs reduced exposure. In the full exposure condition, participants viewed print marketing materials, a digital video ad, and front pack shots representing the portfolio of e-vapor products. In the reduced exposure condition, participants viewed the front pack shots. Participants completed both a pre- and post-test survey measuring intentions to try and intentions to use e-vapor products. Separate Analyses of Variance (ANOVA) were employed to test the differential effect of exposure on intentions to try and use the e-vapor products. In each ANOVA, the factors included time (within-subjects; pre-exposure, post-exposure) and condition (between subjects; full exposure, reduced exposure), and time-X-condition interaction.

**Results and Significance.** Results revealed that promotional materials did not have a differential effect on non-users intentions to try and/or use the e-vapor products. Specifically, there were no statistically significant interactions for tobacco never users, former users, or tobacco non-users aged LA-24. In conclusion, the promotional materials did not have a differential effect on increasing behavioral intentions among non-users. This suggests that exposure to promotional material minimally influences non-users' intentions to try and use any of the e-vapor products associated with this specific brand.

### Background

- The role of promotional materials and tobacco product packaging and design in initiation is an active area of research and debate.<sup>2,3</sup>
- The FDA's Draft Electronic Nicotine Delivery Systems (ENDS) Premarket Tobacco Product Applications (PMTA) Guidance recommends submitting evaluations of "use intentions among current ENDS users, non-users, and other tobacco product users..."
- The FDA further recommends that consumer perception studies "should address how consumers perceive product risk and include consideration of packaging and labeling," and the evaluation of "perceptions of product risk, (should be) both absolute and in comparison to other categories of tobacco products, as well as to quitting all tobacco use".<sup>1</sup>

### Objective

- To provide insights into likelihood of initiation among adult non-users of tobacco (former and never users), using validated metrics of:
- Intentions to Try e-vapor products
- Intentions to Use e-vapor products

## References & Notes

- 1. Draft guidance for ENDS PMTAs, page 36, Lines 1431-1432
- 2. Popova, L., & Ling, P. (2014). Nonsmokers' responses to new warning labels on smokeless tobacco and electronic cigarettes: an experimental study. BMC Public Health, 14.
- 3. Kotnowski, K., Fong, GT., Gallopel-Morvan, K., Islam, T., & Hammond, D. (2016). The impact of cigarette packaging design among young females in Canada: Findings from a discrete choice experiment. Nicotine Tobacco Research, 18(5), 1348-1356.
- 4 Note: These items were found to be reliable and valid based on FDA's 2009 Guidance for Industry in Patient Reported Outcomes. Results from this validation study can be found at SRNT poster titled "Validation of Perceptions and Behavioral Intentions Survey: Psychometric evaluation of tobacco-related behavioral intentions to try, use, dual use,
- 5. Draft guidance for ENDS PMTAs, page 36, Lines 1424-1425

### Methods

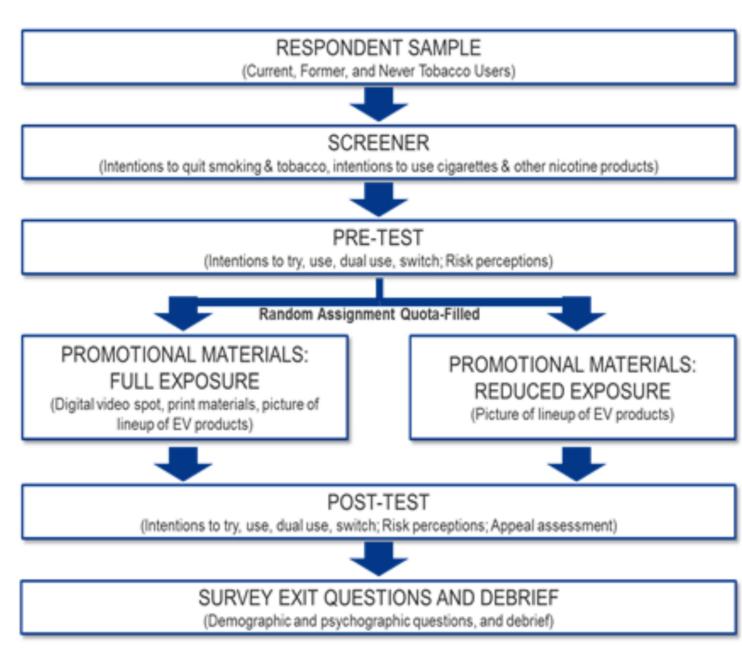
#### Design and Procedure

- Quasi-Experimental, 40-minute online survey
- Participants were recruited from a variety of non-probability sampling methods, including online, e-mail, phone, or in-person
- Recruitment matched the U.S. population on major demographic variables (gender, age, race/ethnicity, education, and region) using quotas from PATH (Wave 1)
- Data collected between February 2017 to April 2017

#### **Study Groups**

Qualified adult participants of legal age to purchase tobacco were placed into one of five groups (N = 5,374):

- Adult smokers not planning to quit smoking (ASNPQ; n= 841)
- Adult smokers planning to quit smoking (ASPQ; n= 841)
- Adult e-vapor users (EV users; n = 841)
- Adult former tobacco users (Former Users; n=841)
- Adult never tobacco users (Never Users; n=840)An initial pool of items was developed by a team of subject
  matter experts, drawing from previous research. Importantly, published items were modified and new items
  were developed in order to adequately capture behavioral intentions regarding e-vapor/e-cigarette
  products.



#### Measures

Intention to try was measured with 3 validated items:5

- . I am open to trying a e-vapor/e-cigarette product in the next 30 days.
- . Based on what you know about e-vapor/e-cigarette products, how likely or unlikely are you to try a e-vapor/e-cigarette product.
- 3. Based on what you know about e-vapor/e-cigarette products, how likely or unlikely are you to try a e-vapor/e-cigarette product if one of your best friends were to offer a e-vapor/e-cigarette product to you? A composite measure of intention to try was created by taking the average of the 3 items.

Intention to use was measured with 4 validated items:5

- 1. I would consider using a e-vapor/e-cigarette product more than once.
- 2. I expect to use a e-vapor/e-cigarette product.
- 3. It is likely that I will regularly use a e-vapor/e-cigarette product in the next 6 months.

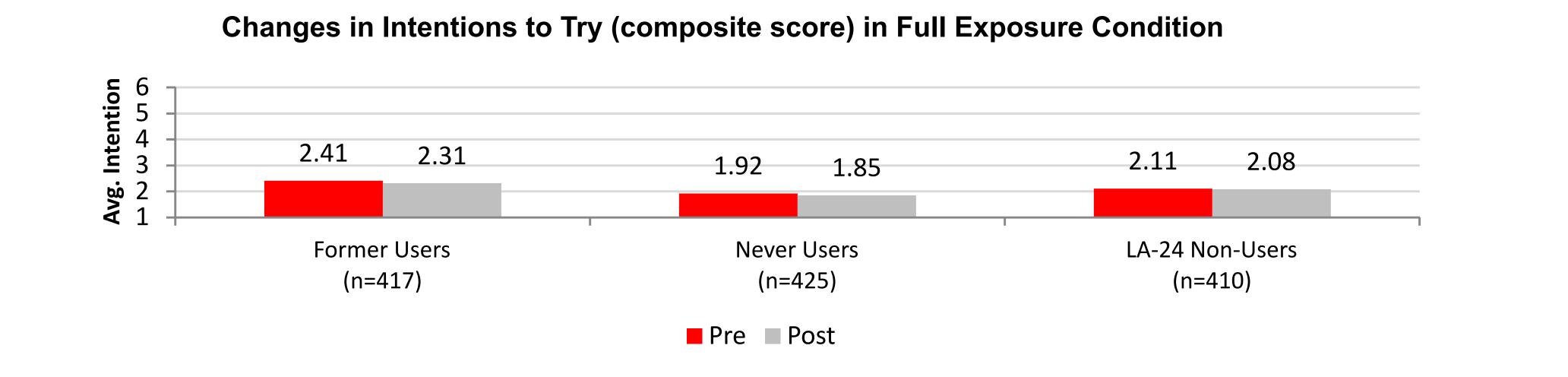
4. A e-vapor/e-cigarette product will be my regular brand of e-vapor/e-cigarette in the next 30 days. A composite measure of intention to use was created by taking the average of the 4 items.

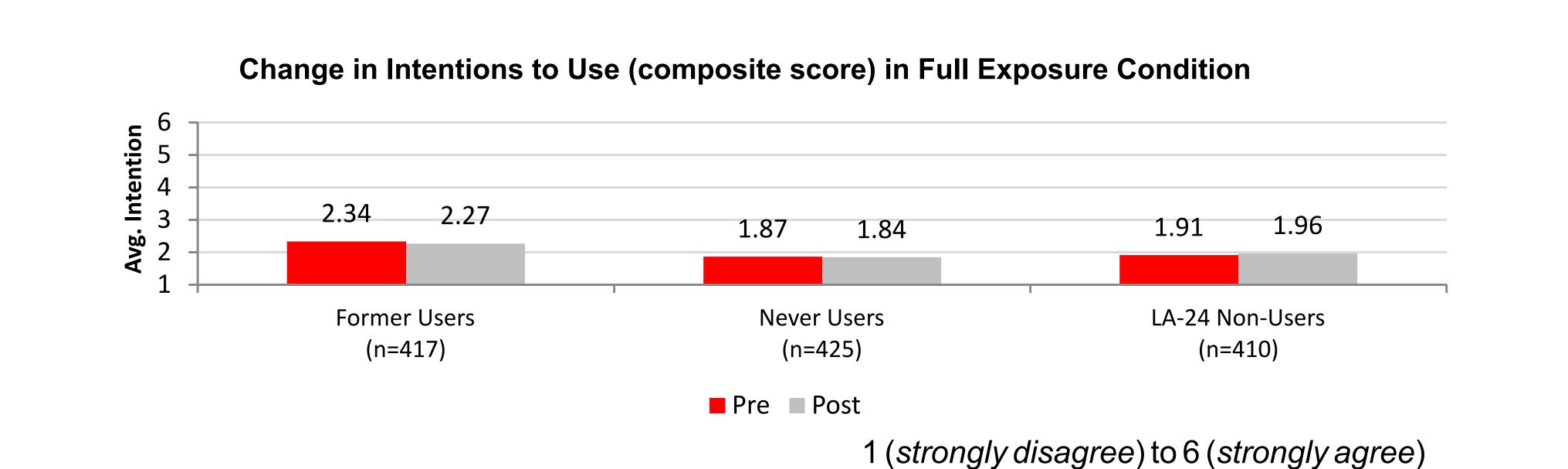
Participants responded to items on a 6-point scale.

In addition to a composite measure, "positive affect" frequencies were calculated by considering participants with a composite score above a 3.5 and who selected "yes" to whether they would purchase the product now at a store.

### Results

Incoming intentions to try e-vapor products were low (between 1.9 and 2.4) in both conditions and across subgroups. There were no significant changes from pre-test to post-test, in either condition or subgroup.

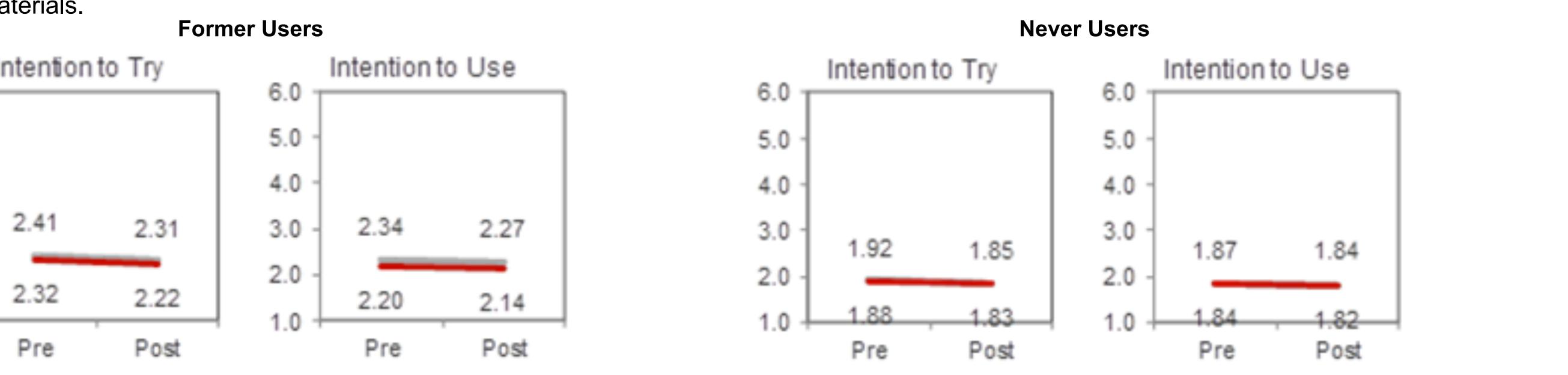


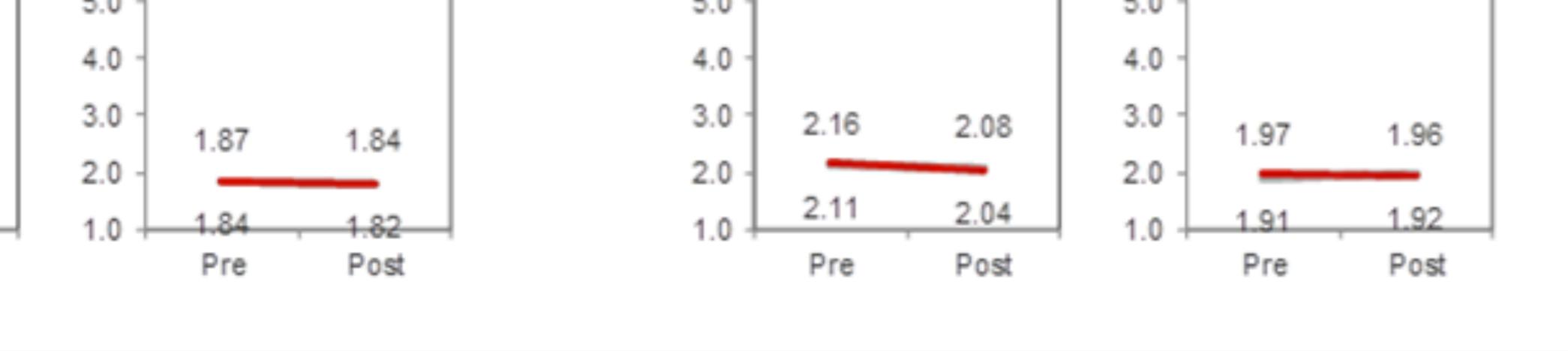


There was no significant interaction effect between time and condition, such that participants in the full exposure condition did not have higher intentions to try and/or use the e-vapor product after viewing higher levels of exposure to promotional materials.

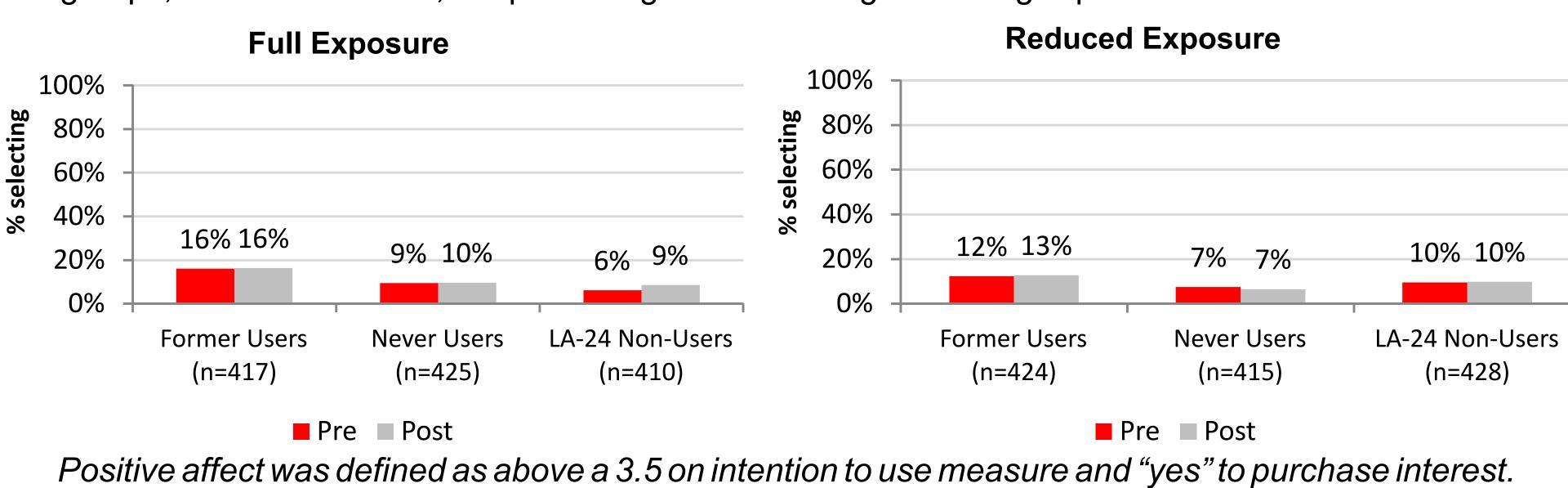
Never Users

Never Users



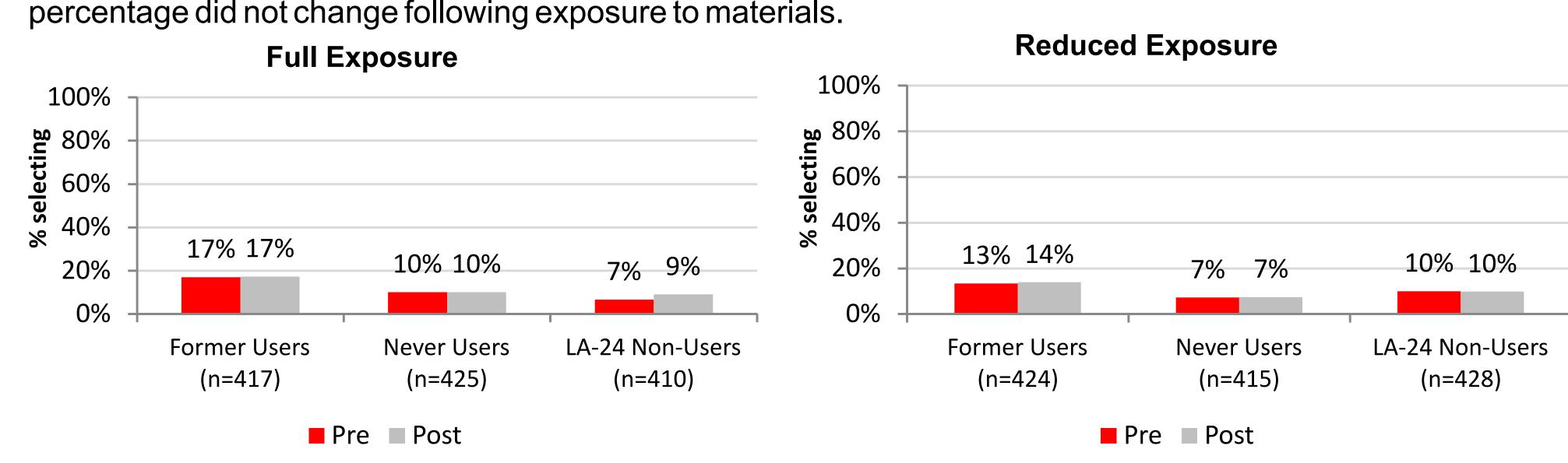


Before seeing promotional materials, 6-16% of participants in the non-user subgroups were identified as likely to respond to intentions to try the e-vapor products with "positive affect" for trial. For many subgroups, across conditions, this percentage did not change following exposure to materials.



Before seeing promotional materials, 7-17% of participants in the non-user subgroups were identified as likely to respond to intentions to use the e-vapor products with "positive affect". For many subgroups, across conditions, this percentage did not change following exposure to materials.

Reduced Exposure



Positive affect was defined as above a 3.5 on intention to use measure and "yes" to purchase interest.

### Discussion

- The results of this study indicate low likelihood of initiation of selected e-vapor product varieties as a result of viewing promotional materials among never- and former tobacco users, demonstrated by:
- low intentions to try and use composite scores (between 1.9-2.4) at pre and post exposure to promotional materials
- 2. no interaction effect between time and condition for both intention to try and intention to use
- Further, there was no or minimal change in nonusers' positive affect to try or use selected e-vapor product varieties after exposure to promotional materials.

### Limitations

- This research used quota-based sampling rather than probability-based sampling.
- Data based on self-report in tobacco research may be subject to social desirability or other types of response bias (e.g., respondent fatigue).
- This study assessed outcome measures after a single-exposure to promotional materials. It is unclear how repeated exposure or influence of other external factors under "real world" conditions might influence future intentions.

### Conclusion

- A single-exposure to promotional materials minimally influences non-users' intentions to try and use selected e-vapor products associated with this specific brand.
- Future research should examine the link between how these intentions translate to actual behavior.

No conflict of interest