

INTRODUCTION

- The FDA is considering mandating a nicotine dose ceiling for cigarettes while promoting the use of non-combustible alternatives, such as electronic cigarettes (e-cigs; FDA, 7/28/2017).
- Electronic cigarettes may have reduced risks to users compared to combustible cigarettes.
- This study models a situation where cigarettes are only available in very low nicotine content (VLNC; 0.4 mg/ml), but one in which e-cigs are available in high and low doses (mg/ml).
- We evaluated the impact of e-cig dose, flavor, and cigarette flavor preference on study e-cig use and satisfaction among cigarette smokers. We hypothesized that:
 - 1) E-cig flavors that were similar to preferred cigarette flavor would result in an increase of vaping and satisfaction compared to other e-cig flavors.
 - 2) High-dose e-cigs would result in an increase of vaping and satisfaction than low-dose e-cigs.

METHODS

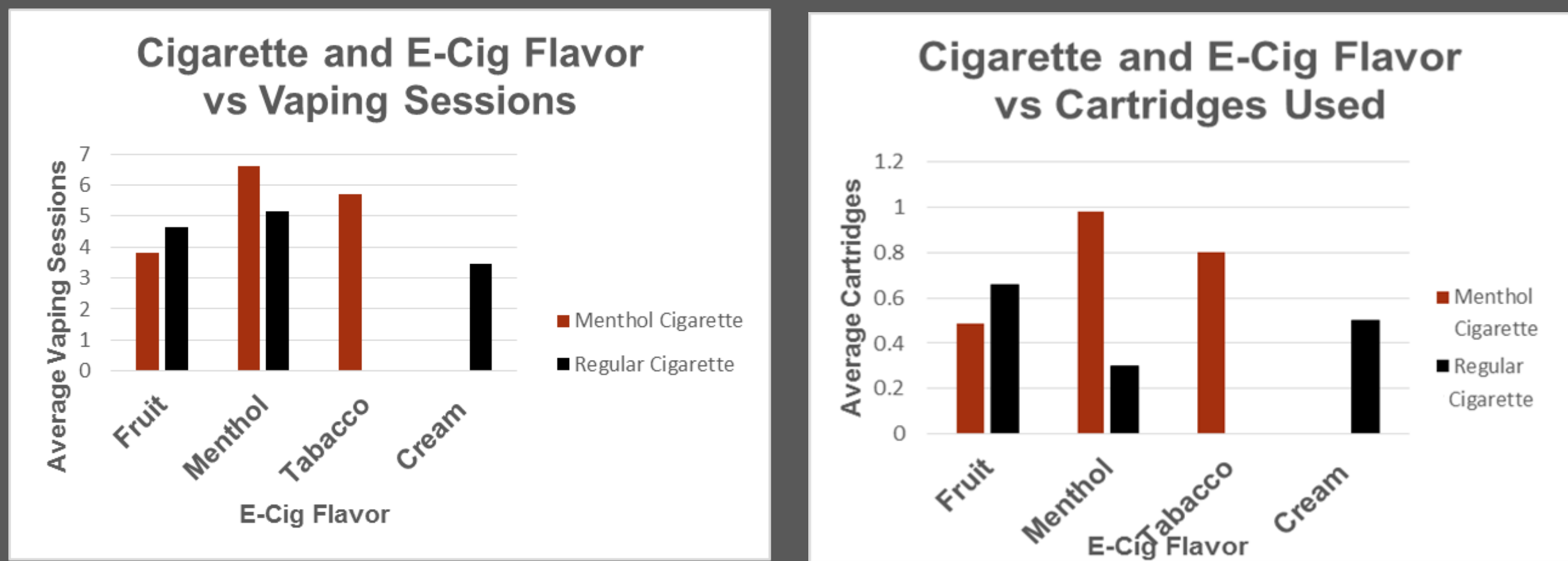
- Participants:** These pilot data were collected from the first 20 of 160 participants in Project DUEL (PIs: Dr. Paul Cinciripini and Dr. Jason Robinson). Both daily and non-daily adult smokers were recruited from the community.
- Design:** These participants were given study cigarettes with a very low dose of nicotine (0.04 mg/ml nicotine) and an e-cigs of both high (36 mg/ml) or low (8 mg/ml) nicotine dose in tobacco, menthol, fruit, and cream flavor. A within-subjects design was used to expose each participant to the low- and high-dose e-cig for 3 weeks each in a counterbalanced fashion.
- Measurements:** The amount of e-cig cartridges used and number of vaping sessions were recorded. Single-item questions were used to measure e-cig satisfaction, craving, award, sensation, and aversion.

RESULTS

Hypothesis 1: E-cig flavors that were similar to preferred cigarette flavor would result in an increase of vaping and satisfaction compared to other e-cig flavors.

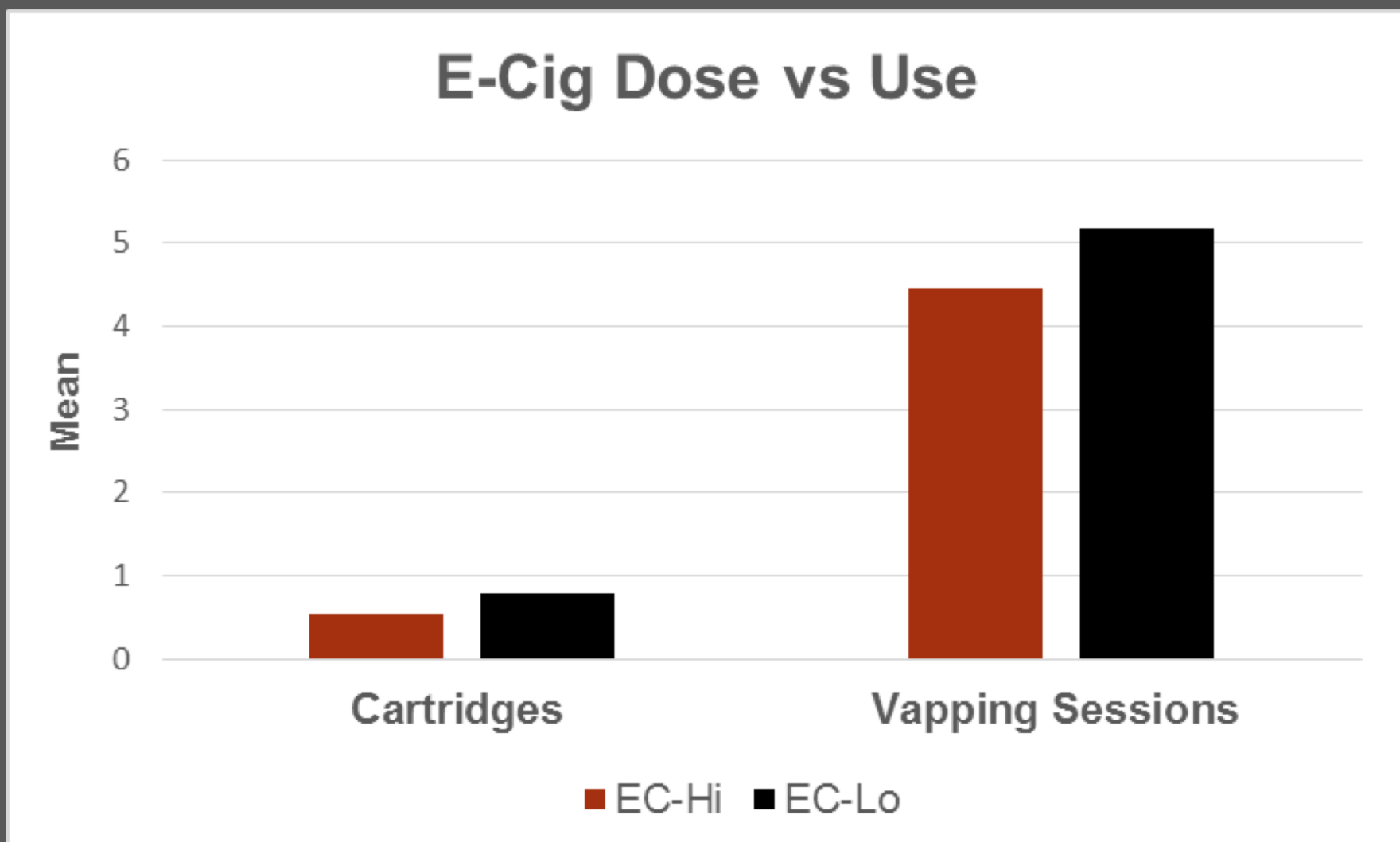
E-Cig Flavor	Menthol	Regular
Fruit	4	6
Menthol	5	1
Tobacco	1	1
Cream	0	2

Menthol cigarette and e-cig users reported more vaping sessions on average and used more e-cig cartridges than all other groups. There were not enough participants to conclude if regular cigarette users that vape tobacco flavor vape more. Menthol cig users seemed to prefer menthol and fruit e-cigs, while regular cig users preferred only fruit e-cigs.

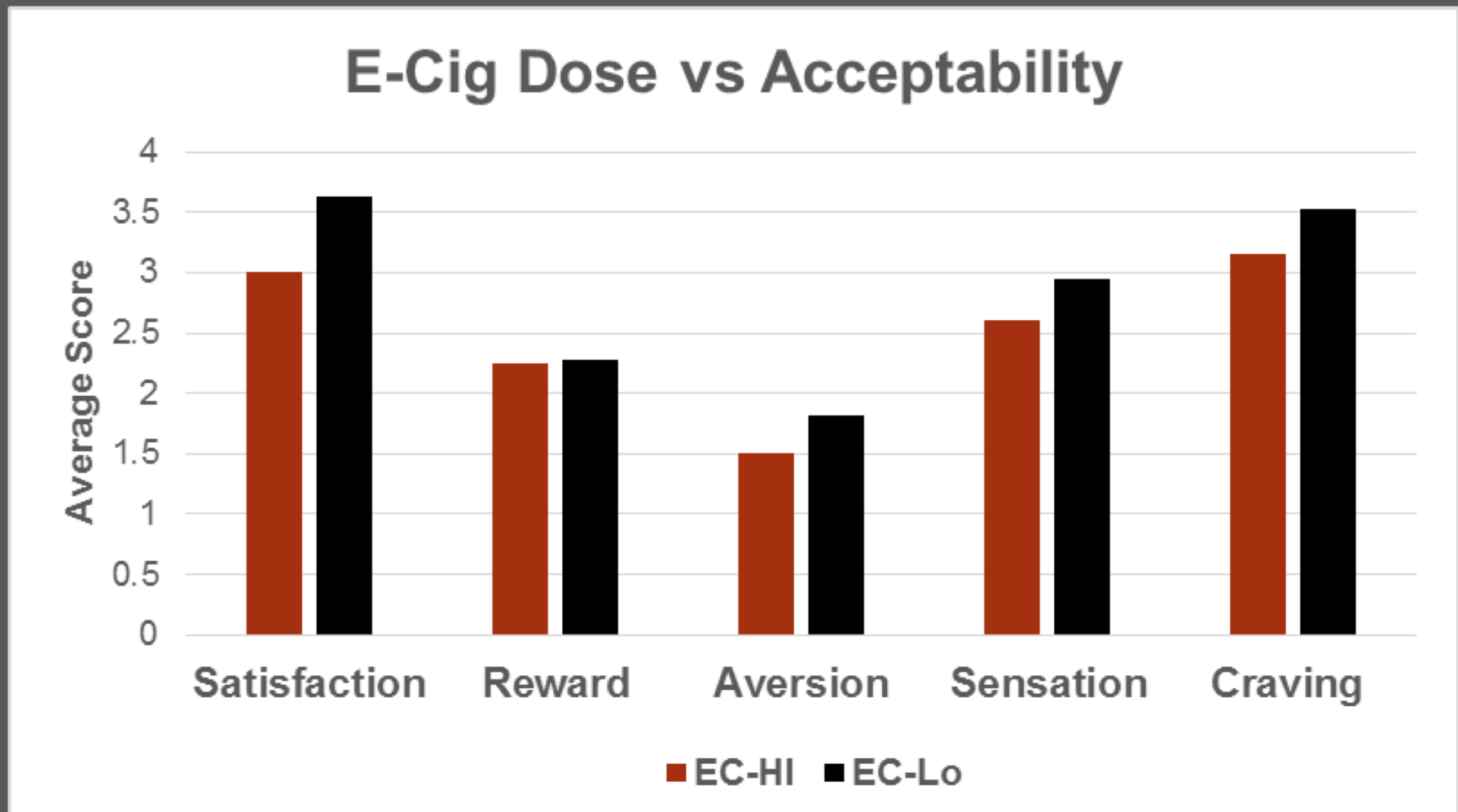


Hypothesis 2: High-dose e-cigs would result in an increase of vaping and satisfaction than low-dose e-cigs.

Low dose e-cigs resulted in more vaping sessions on average and more e-cig cartridges used.



Low-dose e-cigs were rated higher on satisfaction, sensation, and craving, but was also rated higher on aversion, compared to high-dose e-cigs.



CONCLUSIONS

- 1) Cigarette flavor preference influence e-cig preference and satisfaction. Menthol users appeared to prefer and use more menthol e-cigs.
- 2) Low-dose e-cigs were used more often.
- 3) Low-dose e-cigs, although rated as more satisfying, producing a better sensation, and reducing more craving, were scored higher on aversiveness than the high-dose e-cigs.
- 4) Dose of e-cigs influences acceptability and use.
- 5) The FDA should consider the impact of e-cig nicotine dose and flavors as part of any e-cig product regulations.

ACKNOWLEDGEMENTS

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