

SIGNIFICANCE

- ❑ Earlier in the decade, most US adults perceived that electronic cigarettes (e-cigarettes) were less harmful than combustible cigarettes (cigarettes), a motivating reason why many tried e-cigarettes
- ❑ However, adults increasingly perceive e-cigarettes to be just as or more harmful than cigarettes.
- ❑ The purpose of this study was:
 1. To examine if adults report similar changes in absolute perceived harm of e-cigarettes use, independent of their perceived harm relative to cigarettes.
 2. To examine changes in perceptions by tobacco use, and their association with e-cigarettes quit intentions and attempts.

METHODS

- ❑ Adults with data in at least two waves of the PATH Study Waves 1-4 (W1-W4) were analyzed.
- ❑ Descriptive statistics and generalized estimating equations were used to describe change in:
 - Absolute perceived harm of e-cigarettes to one's health (W3 & W4)
 - Perceived harm relative to cigarettes (W1-W4)
- ❑ Changes were examined by tobacco use (all adults), and e-cigarette quit intentions and attempts (e-cigarette users only).
- ❑ Models adjusted for gender, age, race/ethnicity.
- ❑ Estimates were weighted to represent the US adult population, and variances were estimated using balanced repeat replication with Fay's adjustment of 0.3 to increase estimate stability.

Acknowledgments: Contributions by LMS were supported by supported by the Center for Research on Flavored Tobacco (CRoFT), a Tobacco Center of Regulatory Science (TCORS), funded by the US Food and Drug Administration and National Cancer Institute (U54CA238110). Contributions by OAW were supported in part by R37CA222002 from the National Cancer Institute. There are no conflicts of interest to disclose.

Harm Perceptions of E-cigarettes

- ❑ The proportion of adults (N=85,838) who perceived e-cigarettes to be as or more harmful than cigarettes significantly increased over time ($p < 0.001$; **Figure 1a & b**), as did those (N=44,834) perceiving e-cigarettes to be "at least somewhat harmful" to one's health (W3: 89.7%, W4: 91.3%; $p < 0.001$).

Ever Product Use Association with E-cigarettes Harm Perceptions

- ❑ Those who had ever used one or both products consistently were more likely to have lower harm perceptions compared to never users at corresponding waves.
 - Relative Harm of Users versus Never Users
 - E-cigarette users – aOR: 1.91; 95%CI: 1.61, 2.26
 - Cigarette users - aOR: 1.44 95%CI: 1.32, 1.57
 - Dual users - aOR: 2.14; 95%CI: 1.98, 2.31
 - Absolute Harm of Users versus Never Users
 - E-cigarette users - aOR: 2.74; 95%CI: 2.10, 3.58
 - Cigarette users - aOR: 1.21; 95%CI: 1.01, 1.46
 - Dual vs. never users - aOR: 4.31; 95%CI: 3.71, 5.00

Association of E-cigarette Harm Perception and Quit Intent and Attempts

- ❑ E-cigarette users with low absolute perceived harm were less likely to intend or attempt to quit, and those with low relative risk were generally less likely to quit at corresponding waves, compared to those with a high-risk perception (**Figure 2**).

RESULTS

Figure 1a: Perception of e-cigarette harm compared to cigarettes

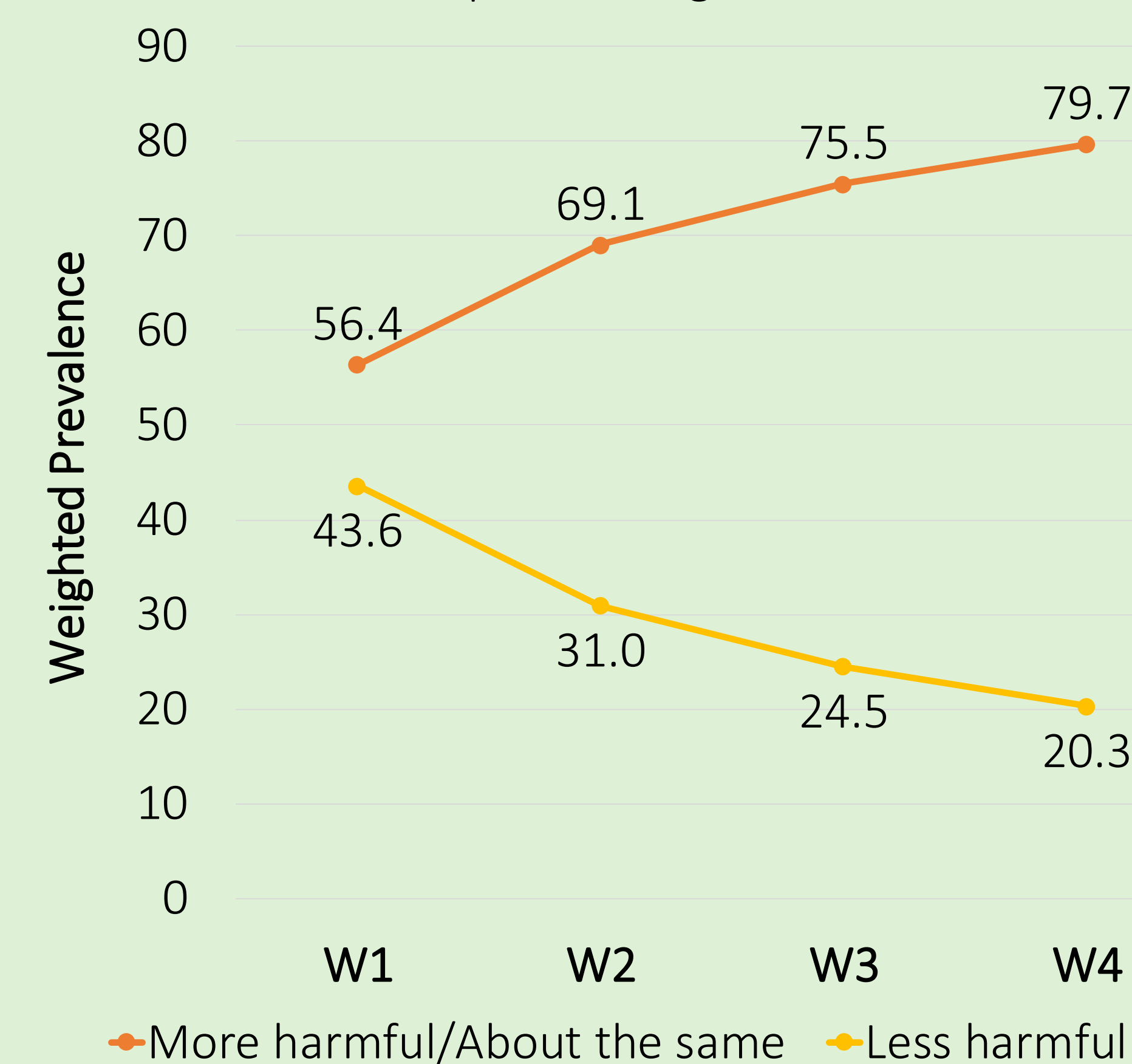


Figure 1b: Prevalence of adults who perceived e-cigarettes to be as or more harmful than cigarettes according to ever use

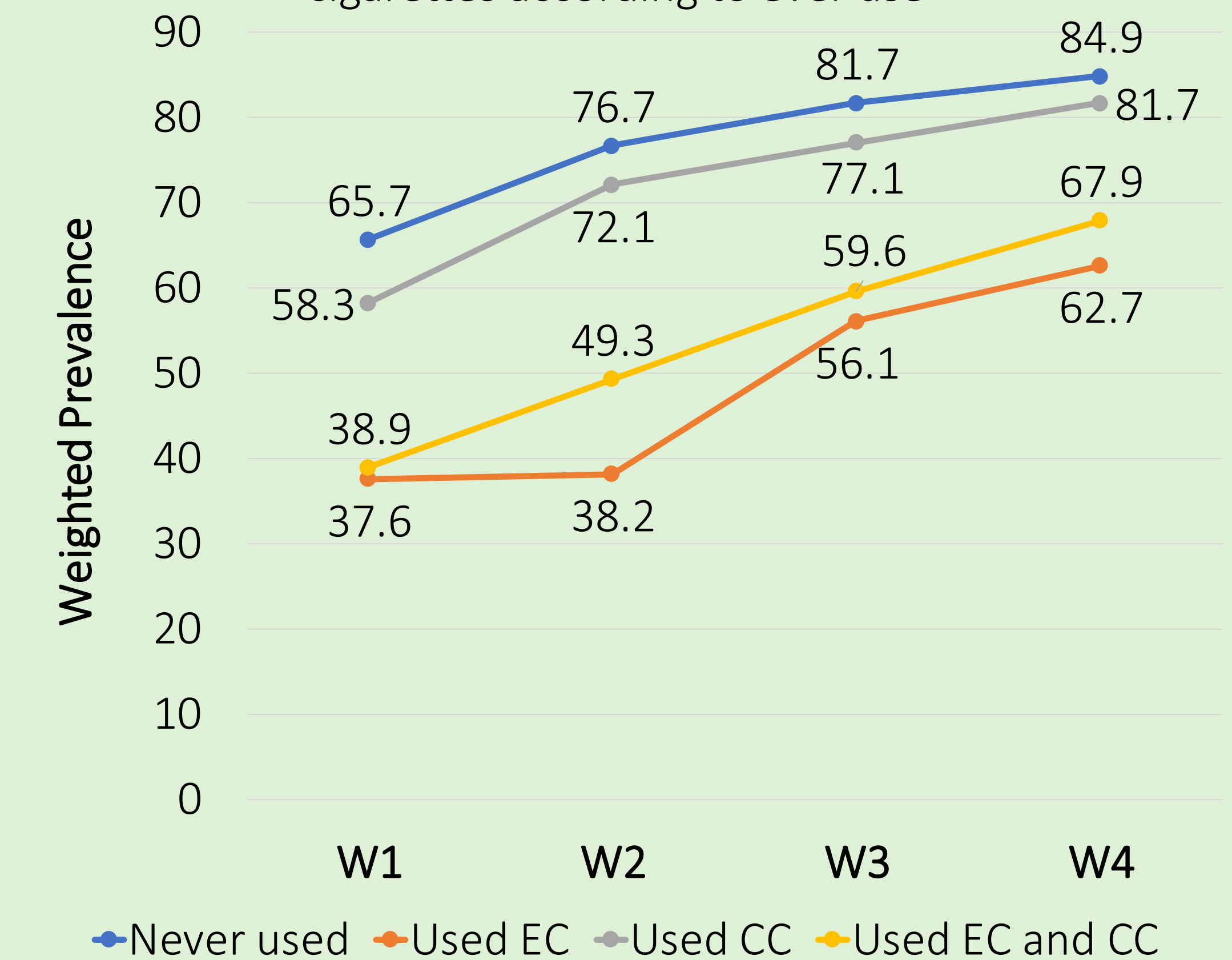
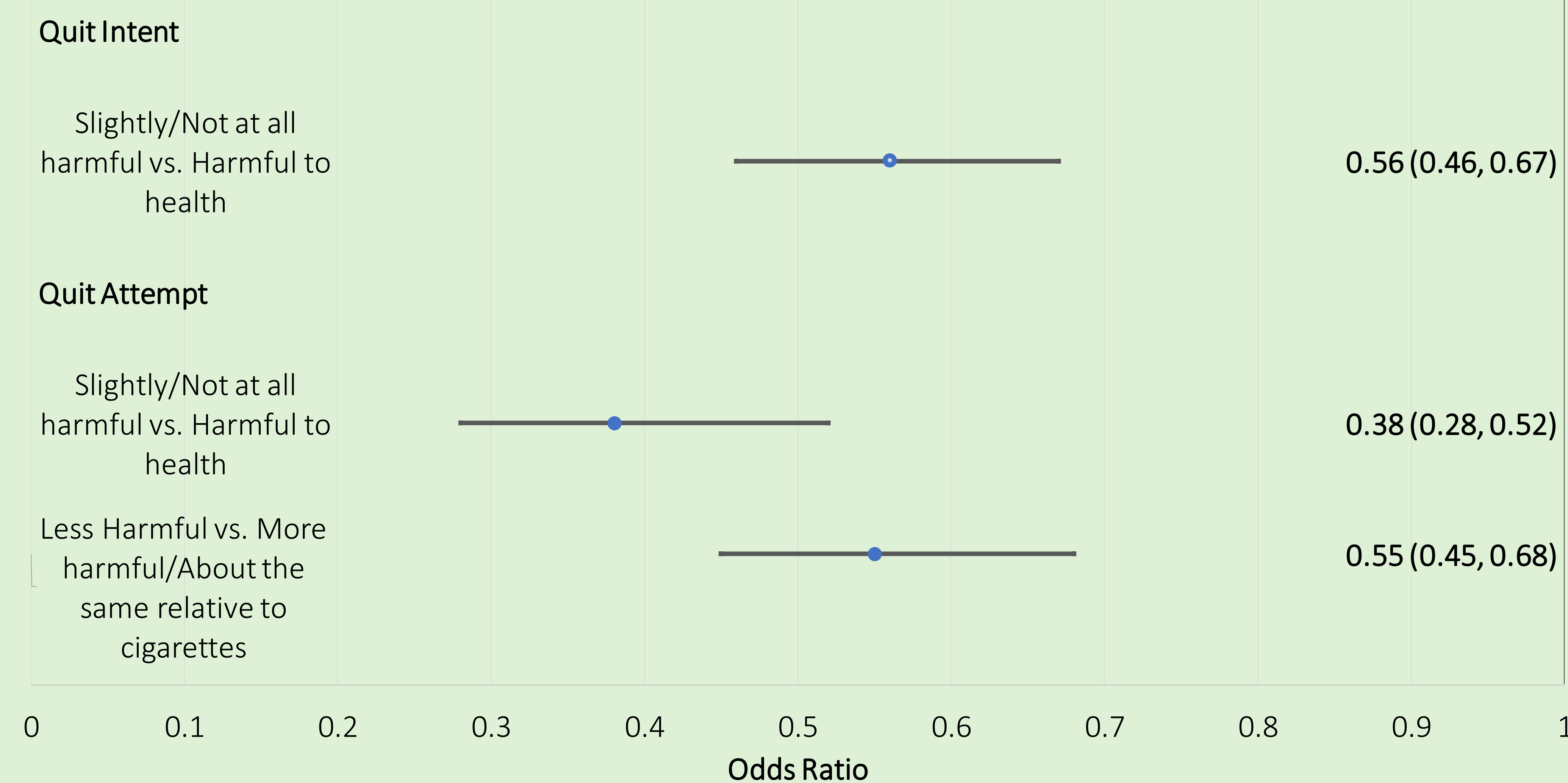


Figure 2: Association of e-cigarette harm perceptions with e-cigarette user quit intent and attempt



CONCLUSIONS

- ❑ Consistent with other research, we found that absolute e-cigarette harm perceptions increased from 2013-2017. However, these more harmful views were more likely to be observed among the PATH All-Waves participants who were never e-cigarette or cigarette users.
- ❑ The risk perception of e-cigarettes appears to be associated with e-cigarette users' intention and attempts to quit.
- ❑ E-cigarette harm perceptions may continue to change over time given increased regulatory and educational efforts, publicized health risks, and media coverage of the life events, such as the COVID-19 pandemic.
- ❑ Continuing to monitor the absolute and relative harm perceptions of e-cigarettes are important for message development in quit vaping and other educational campaigns.