

# Impact of e-liquid packaging on vaping product perceptions among youth in England, Canada, and the United States: a randomised online experiment

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## Abstract

**Introduction:** Vaping is not risk-free but can help those who smoke to reduce harm to health and stop smoking. However, packaging of vaping products, including e-liquids, appeals to youth and might facilitate vaping among nicotine-naïve people. Standardised packaging of vaping products could moderate the appeal of vaping among youth. This study assessed how youth interest in trying and perceived health harms of using e-liquids are associated with branded or standardised (white or olive) e-liquid packaging with different nicotine levels displayed.

**Methods:** A between-subject experiment with 3 packaging and 2 nicotine level conditions included youth (n=13801) aged 16 to 19 from England, Canada and the United States as a part of a cross-sectional online survey in August-September 2021. Participants' interest in trying and perceived harm of e-liquids were analysed using logistic and multinomial regressions adjusted for age, sex, race/ethnicity, country, vaping and smoking status.

**Results:** Compared with branded e-liquid packs, more youth reported no interest in trying e-liquids in white (aOR=1.48, 95% CI=1.34-1.64) or olive (aOR=1.62, 95% CI: 1.47-1.80) standardised packs. Compared with branded e-liquid packs, more youth inaccurately perceived e-liquids in white (aOR=1.22, 95% CI: 1.11-1.34) or olive (aOR=1.29, 95% CI: 1.18-1.41) standardised packs as equally or more harmful than smoking. E-liquid nicotine levels displayed on packs were not associated with youth interest in trying or harm perceptions of using e-liquids.

**Conclusion:** Among 16- to 19-year-old youth from England, Canada and the US, standardised packaging of e-liquids was associated with lower interest in trying and higher health risk perceptions.

**Implications:** Branded packaging of vaping products appeals to youth and might prompt nicotine use among those who had never smoked. This study suggests that restricting branding elements on e-liquid packaging is associated with youth lower interest in trying e-liquids and higher misperceptions that vaping is equally or more harmful than smoking. Standardised packaging might reduce appeal of vaping among youth, but its potential to discourage vaping for harm reduction should also be considered.

## Recommended Citation

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