References

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Vaping Perceptions and Academic Engagement Among College Students
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Introduction
Electronic nicotine delivery systems (ENDS) use in the U.S. has dramatically increased in recent years (Caraballo et al., 2016). Despite the rapidly increasing use of ENDS, it appears that general public health awareness is lacking. One study examining perceptions of ENDS demonstrated that adolescents and young adults not only report them as less harmful, but even as a healthy alternative to combustible cigarettes (Wagoner et al., 2016). While it appears that the general public perceives ENDS as a safe alternative to smoking, research on the potential health risks is still premature. Aside from nicotine, research also suggests that there may be potential risks associated with the toxins contained within many ENDS products (Glasser et al., 2017). Yet despite the most current research, acceptable attitudes towards vaping and inaccurate perceptions about vaping appear to be surprisingly high among the general public (Wagoner et al., 2016). Examining students seeking higher education may help determine whether acceptable attitudes and perceptions of vaping are due to inaccurate information encountered through self-regulated learning or simply a lack of awareness.

Study Aims & Hypothesis
• The current study seeks to evaluate perceptions about ENDS and vaping among a population of college students.
• We hypothesize that acceptable attitudes and perceptions of vaping are associated with vaping perceptions, r = -0.009, p = 0.84, N = 577.

Method
A total of 577 participants completed an online survey. The mean age was 23.2 years (SD = 3.1 years). Among these 65% were female. The sample was 85.6% White, 2.4% Asian, 1.9% Black, 0.3% American Indian or Alaska Native, 0.3% Native Hawaiian or Pacific Islander, 3.8% Other, and 5.5% Two or more. Two participants did not select an option.

Measures
Vaping Perceptions and Attitudes
Assessed with 3 items adapted from the federal Population Assessment of Tobacco and Health instrument (PATH; United States Department of Health and Human Services, 2016). For example, students were asked to rate their agreement (on a 7 point Likert scale 1 = strongly disagree; 7 = strongly agree) with statements such as “It is safer for you to vape than for you to smoke” (α = 0.79).

Academic Engagement
Assessed with 14 items adapted from Greene’s (2015) cognitive engagement scale as well as 10 of our own questions asking for details about GPA, involvement in extracurricular activities, etc. Students rated their agreement on a 7 point scale to comments such as “I ask questions when I don’t understand something in my readings or during lectures” (α = 0.79).

Results
Interestingly, students tended to hold a very neutral attitude towards vaping. The analysis showed that 66.2% of students fell within one SD of the mean (Mean = 3.6; SD = 1.45), indicating fairly neutral responses (see Figure 1). Another notable finding was that 54% of the students reported knowing someone who vapes (see Figure 2), and of those, 35% reported that the people they know who vape have mentioned that they aren’t vaping nicotine (see Figure 3). We did find a mean of 3.6 (SD = 1.45), indicating that students “somewhat disagree” on the vaping perceptions scale, which was a combination of the items “it is safer for you to vape than for you to smoke”, “it is safer for you to be around someone who vapes than someone who smokes”, and “vaping helps people to quit smoking cigarettes”. We also found a mean of 4.6 (SD = 0.83) on the academic engagement scale, indicating that students had somewhat higher academically engaged behaviors.

Discussion
Although we did not observe a significant correlation with vaping attitudes and students’ academic engagement, these data are still meaningful when trying to understand the perceptions, attitudes, and beliefs among a highly educated population about a new substance. Several key outcomes stand out:

• The lack of variation in the results may simply be because of the overall neutrality of the sample for both academic engagement levels as well as vaping perceptions.

The neutrality of vaping attitudes is somewhat perplexing when considering that 99.8% of the participants were Latter Day Saints (LDS), and follow a strict health code which prohibits all forms of smoking and tobacco use. One possible explanation for this unexpected neutrality is that students were simply unaware and uninformed on the subject of vaping. This finding would be consistent with the findings of Wagoner et al. (2016), which suggested a general lack of awareness in young adults. This is disconcerting because it may suggest that young adults are susceptible to inaccurate claims and false advertising which are abundant throughout social media (Kavuluru & Sábbir, 2016; Clark et al., 2016). This may also be problematic because the federal drug administration (FDA) currently does not regulate e-cigs, and as a result, their manufacturing, marketing, and sale is not subject to the rules that apply to traditional cigarettes.

• The report or belief of not consuming nicotine while vaping among those who do vape is concerning for several reasons:

  1. Studies have found that many “nicotine free” e-juice or e-liquids contain trace amounts of nicotine (Goniewicz, 2015). This is problematic because nicotine is an addictive substance and previous findings of Schweitzer et al. (2015) demonstrate that nicotine is harmful independent of any other substance in cigarettes or e-cig vapors.

• Some people may be vaping with others and not know what is loaded into their vaporizers.

• Individuals may be using other substances such as marijuana or dabbing.

Without FDA regulation, there is a possibility of people being exposed to nicotine without a knowledge of it. The young adult population may be particularly vulnerable to being misinformed on vaping, as they are often introduced to vaping through their peers.

• Another notable characteristic of the findings in this study is that 54% of the participants indicated that they know someone who vapes. This further demonstrates the rapidly increasing popularity of vaping demonstrated in previous research (Ratoff, 2015; Caraballo et al., 2014).

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FIGURE 1. VAPE PERCEPTIONS

FIGURE 2. VAPE PREVALENCE

FIGURE 3. VAPE KNOWLEDGE

Percentage of Students

Have These People Mentioned They Aren’t Vaping Nicotine?

Yes

No

Don’t Know/Not Sure

Percentage of Students

Do You Know Anyone Who Vapes?

Yes

No

I Don’t Know

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