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Descriptive and Injunctive Norms Related to E-Cigarettes

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Structured Summary

Introduction. E-cigarette use has rapidly increased in prevalence in the United States, and rates of use are even higher among military personnel compared to the general population. Descriptive and injunctive norms have previously been shown to impact tobacco use. However, little research has been done related to e-cigarette descriptive and injunctive norms, and no research has addressed e-cigarette norms among a military population.

Materials and Methods. From July, 2018 to February, 2019, twenty-two focus groups were conducted among Airmen, Military Training Leaders (MTL), and Technical Training Instructors (TTI) for a total of 164 participants. The focus groups aimed to gain insight related to military personnel experiences with tobacco during Technical Training, where they receive training for their specific jobs. Study procedures were approved by the Institutional Review Board of the 59th Medical Wing in San Antonio. After the focus groups were conducted, the interviews were transcribed and analyzed for themes related to descriptive and injunctive norms.

Results. Many interviewees mentioned the prevalence of e-cigarette use on base, either generally ("…a lot of people vape but that's kind of *the thing* nowadays") or with specific estimates of how many Airmen use ("Vaping, probably at least 60-70%"). However, injunctive norms were not commonly discussed, with only a couple of interviewees mentioning that e-cigarette use is the "cool" trend.

Conclusions. Descriptive norms were more commonly mentioned by Air Force personnel, which may indicate that injunctive norms are not as influential for e-cigarette use. Additionally, all estimates related to e-cigarette prevalence on base were higher than actual rates of use, showing an overestimation of use, which previous literature has shown increases likelihood of e-cigarette use. Future research should specifically ask about injunctive norms as well as determine if

descriptive and injunctive norms influence actual e-cigarette use behaviors among military personnel.

Introduction

Electronic cigarettes (e-cigarettes) have significantly increased in prevalence in recent years. Currently, approximately 7.6% of young adults (ages 18 to 24) in the United States report using an e-cigarette.[1] This rate of use is even higher among young adults presenting for military service (15.3%).[2] While e-cigarettes are often advertised as smoking cessation tools, recent studies have actually shown that e-cigarette use often precedes cigarette use and is associated with cigarette smoking onset[3,4] or actually makes it more difficult to quit smoking cigarettes.[5] Military personnel have historically been targeted by tobacco companies,[6,7,8,9,10] which has perpetuated a culture of tobacco use within the service. More recently, military members have been targeted by advertisements for e-cigarette products,[6] which creates concern that e-cigarette use may also become part of the culture.

Previous research has shown that the perception that other people engage in a behavior (descriptive norms), and the perception of other people approving of a behavior (injunctive norms)[11] are robustly associated with substance use.[12,13] Specifically, research has shown that both descriptive[14] and injunctive norms[15] are predictive of adolescent and young adult smoking behaviors. Specifically, adolescents with peers who smoke are more likely to smoke themselves,[16,17,18] although this association can change depending on the strength of the relationships between the adolescent and peer.[19] In addition, adolescents with friends who smoke are also more likely to have intentions to smoke, use cigarettes at an earlier age, experiment with cigarettes, and become regular smokers,[20] suggesting that these norms play a role in influencing smoking behaviors. Further, peer use of tobacco products among young adults has been shown to be associated with current and lifetime use for both cigarettes and smokeless tobacco.[21] Similar findings have been shown in a military sample, where non-smokers were more likely to initiate

cigarette smoking if their peers, roommates, or instructors smoked.[22,23] In fact, not knowing if one's military training instructor in Basic Military Training used tobacco was actually protective against Airmen re-initiating cigarette use the subsequent year.[23]

More recently there have been studies examining norms related to e-cigarette use. Related to descriptive norms, in a multi-country study in Europe, 81% of participants reported seeing an e-cigarette being used in public during the week.[24] Related to injunctive norms, 32% of participants in Europe reported that society approves of e-cigarette use.[24] This rate may be even higher among younger individuals, as another study found that perceived peer approval of e-cigarette use was 42% among youth ages 16 to 19 years.[25] In addition, descriptive norms appear to be exacerbated through media exposure, leading individuals to overestimate the use of e-cigarettes, which was associated with greater odds of e-cigarette use.[26]

To our knowledge, there are no studies specifically assessing e-cigarette descriptive and injunctive norms within the military. These may be particularly important concepts to explore among military members given that tobacco companies often target these individuals, which may contribute to the perception that e-cigarette use is normative, and subsequently impact their engagement with e-cigarette products. Thus, the current study is a qualitative analysis of focus groups held with members from the United States Air Force related to tobacco product use. The current study aimed to determine themes related to perceptions of e-cigarette use by others and perceived approval of e-cigarette use by others.

Methods

Participants and Recruitment

Twenty-two focus groups were conducted among Airmen (n = 83), Military Training Leaders (MTL, n = 48), and Technical Training Instructors (TTI, n =33), for a total of 164

participants, from July, 2018 to February, 2019. Separate focus groups were conducted for MTLs, TTIs, and Airmen. Airmen were grouped by tobacco use status and participated in separate focus groups (i.e., for non-users [*n* = 2], users [*n* = 7], and one mixed group). All groups conducted among MTLs (*n* = 7) and TTIs (*n* = 5) had both tobacco users and non-users. MTLs are the direct supervisors of Airmen, ensuring they are where they are supposed to be and dispensing disciplinary action. TTIs are responsible for teaching the specific skills required for specific career fields. While MTLs are always active duty, TTIs can be active duty or civilians.

At the time of the study, participants were located at one of five major Technical Training bases. Airmen were recruited during their final week of Technical Training. MTL and TTI volunteers were recruited by the Senior MTL at each base. Participants had to be at least 18 years of age. The final sample was comprised of 77.4% males, 24.4% females, and 28% were non-tobacco users.

Focus Group Procedures

To understand the tobacco experience for Airmen during Technical Training, the focus group questions targeted the following domains: personal experience with tobacco, facilitators of tobacco use on base, barriers to tobacco use on base, and strategies to reduce tobacco use among Technical Trainees. It is important to note that this paper focuses specifically on data related to descriptive and injunctive norms.

Focus groups were conducted in pairs by five trained non-military researchers in a private room without leadership personnel present in order to promote an open and safe environment. Each focus group contained one moderator and at least one note-taker. Participants were provided with an informational consent letter and verbally consented to participate. Focus groups

ranged from 4 to 11 participants and took on average 45 minutes to complete. Participants were provided with food during the focus group. Responses were anonymous and audio-recorded.

Data Analysis

Transcripts of focus groups were transcribed by Datagain. Transcripts were checked by researchers before coding. A hybrid deductive-inductive approach was used to code transcripts. Two trained research staff members coded each transcript. Coders met to resolve discrepancies and came to agreement. If an agreement could not be reached, a third coder was brought in to resolve discrepancies. The research team used nVivo (v12) software to manage the coding process. A codebook was developed, and themes and quotes related to descriptive and injunctive norms were examined.

Results

Descriptive Norms

Many individuals taking part in the focus groups described their beliefs related to how many people use e-cigarettes (sometimes referred to as “vaping”). Many people referred to the number of people using e-cigarettes generally, but all conveyed a high prevalence of vaping among the trainees. For example, one Airman stated, “I think vaping and tech school are very much a trend together. Everyone that I heard coming out of tech school was like, ‘Oh, yeah, when you go into tech school, you'll come out vaping.’ It's just what everyone does." Another Airman compared e-cigarette use to cigarette smoking, saying, “It’s a pretty small group of people that actually smoke cigarettes, and a lot of people vape but that’s kind of *the thing* nowadays.”

MTLs and TTIs also had perceptions of e-cigarette use on base. In an MTL group, one individual noted how common finding e-cigarette contraband was: “I think it’s pretty popular.

We’re always catching them with vapes or the juices or whatever in their rooms.” Another TTI noted that e-cigarette prevalence may be a product of being underage for alcohol consumption, and that using e-cigarettes may be a replacement: “And the majority can't drink. So it's [smoking] something else that they do. But here, lately, I think it's more vaping. Vaping has taken over.”

Other individuals specified the percentage of individuals that they believed used e-cigarettes, with some variability in their estimates. One Airman said, “I'd say maybe 60 to 70 percent.” Another Airman in the same group had another estimate: “I would say 75 percent.” Still other Airmen in the same group said, “A hundred [percent]” simultaneously.

MTLs and TTIs also had ideas about the percentage of Airmen who used e-cigarettes One MTI stated, “Vaping, probably at least 60-70%. It seems like all the time.” Another MTL noted the prevalence of e-cigarettes based on inspection, saying, “We just did a health and wellness inspection this morning. I don’t know how many…a ton of vapes. A ton of them…Like 80%, yeah. 90%. Not a whole lot of cigarettes.” TTIs provided lower estimates, with one saying, “Like 30%” and another saying “30%. Maybe 40%.”

Injunctive Norms

Surprisingly, there were no statements that directly discussed perceived approval of using e-cigarettes in any of the focus groups. While there were many statements related to perception that others use e-cigarette products, the closest statement related to approval of use was about how using e-cigarettes is a trend to be “cool.” One MTL said, “And I feel like that’s exactly the same for Airmen, so right now, the trend may not be cigarettes or dip, but it’s the vaping. And it’s to be cool.” Another MTL noted, “Vaping is the new cool thing.”

Discussion

Descriptive and injunctive norms have been shown to be important influencers when it comes to substance use. The current study aimed to determine themes related to perceptions of e-cigarette use by others and perceived approval of e-cigarette use by others. Results indicated that descriptive norms were frequently mentioned, with the perception of e-cigarette prevalence to be often quite high, while injunctive norms were infrequently mentioned. It remains to be seen what the impact of descriptive norms compared to injunctive norms play in influencing e-cigarette behavior. Future research that directly asks about perceived approval by others may help to better untangle the impacts of injunctive norms.

Another important note is that the percentage estimates provided related to how many Airmen the participants believe use e-cigarettes were varied. Some estimated that prevalence of e-cigarette use was high, while others estimated lower, indicating a lack of concurrence related to how many Airmen use e-cigarettes. Additionally, all provided estimates were substantially higher than actual prevalence rates (15.3%)[2] indicating that military personnel perceive that more people are using e-cigarettes than there actually are. This is important given past findings that overestimation of e-cigarette use is associated with increased likelihood for actual e-cigarette use.[26]

Strengths and Limitations

Limitations of the study include that we were not able to assess if descriptive and injunctive norm beliefs were associated with actual e-cigarette use behaviors. However, the current study provides insight related to beliefs related to e-cigarette norms and can inform future research assessing the impact of normative beliefs on e-cigarette behaviors.

Conclusions

Descriptive norms were more pervasive within the focus groups compared to injunctive norms. All estimates related to prevalence of use of e-cigarettes among Airmen were much higher than actual prevalence rates, which may contribute to increased use. Additionally, although there was hardly mention of approval from others, e-cigarette use was viewed as the "cool" trend. Further research is needed to better target injunctive norm beliefs, as well as determine if normative beliefs influence actual e-cigarette use behaviors.

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