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Short Communication

Dependence motives of young adult users of electronic nicotine delivery systems

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HIGHLIGHTS

- Motivational processes of nicotine dependence influence tobacco use behaviors.
- Tolerance and loss of control are associated with past 30-day vaping frequency.
- Tolerance, automaticity, and loss of control are associated with daily vaping frequency.
- Loss of control, craving, and tolerance are associated with lifetime ENDS quit attempt.
- The relationship between craving and lifetime ENDS quit attempt is stronger among males than females.

ARTICLE INFO

Keywords:

E-cigarettes
Dependence
Sex differences
Young adult
Motives

ABSTRACT

Introduction: Nicotine dependence contributes to changes in tobacco use among young adults. However, research examining salient dependence motives in young adult users of electronic nicotine delivery systems (ENDS) is limited. This study examined the association of dependence motives with ENDS use or lifetime quit attempt, and tests sex moderation in these relationships.

Methods: Young adults ($N = 304$; age 18–24) self-identifying as regular ENDS users and self-reporting vaping within a week of data collection completed an online survey. They reported demographics, past 30-day vaping and smoking days and frequency, and lifetime quit attempt. Dependence motives were measured with the 14-item Wisconsin Inventory for Smoking Dependency Motives. Backward-stepwise models regressed ENDS use behaviors or lifetime quit attempt onto dependence motives, and separately onto the interactions between motives and sex.

Results: Tolerance was positively associated with daily ENDS use frequency ($b = 0.34, p < .001$) past 30-day vaping days ($b = 1.50, p < .001$), and negatively associated with lifetime quit attempt ($OR = 0.58, p = .005$). Loss of control was negatively associated with daily ENDS use frequency ($b = -0.24, p < .001$) and past 30-day vaping days ($b = -1.48, p < .001$), and positively associated with lifetime quit attempt ($OR = 1.56, p = .002$). Craving was positively associated with lifetime quit attempt among males ($OR = 1.83, p = .006$) but not females ($OR = 0.84, p = .51$).

Conclusion: Tolerance and loss of control were uniquely associated with ENDS use behaviors across all analytic models, although effects for loss of control were counter-intuitive. Understanding the relationship between dependence motives and ENDS use behaviors or attempts to quit may provide targets for preventive interventions against increased or continued ENDS use.

1. Introduction

Electronic nicotine delivery systems (ENDS) are the most widespread nicotine products among U.S. young adults (18–25 years old;

USDHHS, 2016). In 2014, young adult ENDS use surpassed older adults, and use among youth surpassed combustible cigarettes (USDHHS, 2016). Repeated vaping of nicotine-containing e-liquid contributes to the development of dependence, particularly for users of later-

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Received 12 September 2018; Received in revised form 29 January 2019; Accepted 13 February 2019

Available online 15 February 2019

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generation ENDS products (Glasser et al., 2016). Although ENDS-only users, including young adults, are less likely than cigarette users to report cravings or subjective addiction (Liu, Wasserman, Kong, & Foulds, 2017), their dependence ratings are higher than nicotine-free e-juice users (Etter & Eissenberg, 2015), with the dependence ratings of young adults and middle-aged adults exceeding that of older adults (Liu et al., 2017).

Importantly, vaping can put young adults at higher risk of initiating other, more harmful, nicotine and tobacco products (USDHHS, 2016). Considerable evidence has demonstrated that ENDS use increases the risk that otherwise tobacco-naïve young adults initiate use of combustible tobacco, including cigarettes, hookah, and cigars (Barrington-Trimis et al., 2016; Leventhal et al., 2015; USDHHS, 2016). The explanation of this phenomenon, its mediators, and the relationship between ENDS and concurrent combustible tobacco use continues to be debated (Selya, Rose, Dierker, Hedeker, & Mermelstein, 2018; Soneji et al., 2017). Nevertheless, given the relationship between vaping and future combustible tobacco initiation, identifying factors associated with ENDS use and attempts to quit is essential for intervention efforts. To this end, this study examines the relationship between ENDS dependence motives, ENDS use, and lifetime ENDS quit attempt.

One approach to conceptualizing dependence is viewing dependence as comprising various motivational processes, whose degree of presence indicates the severity of dependence (Smith et al., 2010). Dependence motives include behaviorally conditioned sequelae (e.g. craving), physiological adaptation (e.g. tolerance), and other processes that reinforce use (e.g. emotional enhancement). The primary aim of this study was to examine the associations between dependence motives for ENDS and ENDS use or lifetime ENDS quit attempt in young adult ENDS-only and combustible cigarette dual users. A secondary aim was to examine whether sex moderated the relationships between motives and use or quit attempt such that certain motives were either more salient or non-significant predictors of ENDS use for men or women. Prior research demonstrates that non-daily versus daily smokers have lighter daily smoking patterns and are characterized by sex differences such that non-daily smoking women report lower levels of dependence motives than their male counterparts (Allen, Scheuermann, Nollen, Hatsukami, & Ahluwalia, 2016). As young adult ENDS users may share nicotine intake patterns with non-daily cigarette smokers, we hypothesized these sex differences would be replicated and extended these findings by examining the moderating influence of sex on the relationship between motives, ENDS use, and attempts to quit.

2. Methods

Participants ($N = 304$; M age = 22.4; 38.2% female; 62.8% White) completed an Amazon Mechanical Turk (MTurk) survey. Although MTurk participants are consistent in representativeness and attention to other online panel vendors (Buhrmester, Kwang, & Gosling, 2011), concerns about data integrity excluded non-US workers (Smith, Roster, Golden, & Albaum, 2016). Consistent with prior experiences with data integrity using MTurk participants, we over-enrolled ($N = 400$) participants to yield a usable sample of ~300 participants following planned exclusions of participants who failed attention checks and provided inconsistent ages. MTurk responders were directed to a Qualtrics survey where screening, consent, and data collection were completed. Inclusion criteria were self-identifying as regular ENDS users (“Are you a regular user of electronic cigarettes or nicotine vaporizers?”) and using ENDS in the week before data collection. Data collection occurred during July 2015.

2.1. Measures

Demographics included sex, age, and race/ethnicity (Asian, Black, Other, and White - reference group). Single items assessed e-liquid concentration (0–25 + mg/ml); device generation (participants selected

either one or both images from a visual array, containing a) first generation ENDS products; or b) second and third generation products, respectively); past 30-day vaping days (ranging from 0 to 30); past 30-day and retrospective (i.e. one year prior to data collection) daily ENDS use frequency (ranging from ‘less than once/week’ to ‘10+ times/day’, as well as ‘I didn’t use e-cigarettes or nicotine vaporizers 12 months ago’ for retrospective use); and at least one lifetime attempt to quit ENDS (“Have you ever attempted to stop using e-cigarettes or nicotine vaporizers?”; ‘Yes’ or ‘No’). We computed past 30-day cigarettes per day (CPD) from two items querying past 30-day smoking days and average number of cigarettes smoked on those days (i.e., [# days ranging 0–30 x avg. cigarettes on smoking days]/30). Dependence motives were measured with an adapted 14-item Brief Wisconsin Inventory of Smoking Dependence Motives (WISDM; Smith et al., 2010) querying ENDS (e.g. “E-cigarettes/Nicotine Vaporizers control me”). The WISDM-14 assesses individuals’ dependence motives for ENDS use. It measures seven domains: four ‘primary’ syndromal dependence criteria (automaticity, loss of control, tolerance, and craving; Piper et al., 2008) and three theoretically relevant and empirically-supported dimensions (taste, cognitive enhancement, and affective enhancement). Responses were on 7-point Likert scales; subscale scores averaged related items. Subscale correlations ranged from $r = 0.27$ (taste/tolerance) to $r = 0.82$ (tolerance/craving) with a median of $r = 0.67$. We found the measure to be internally consistent (Cronbach’s $\alpha = 0.94$) with reliable subscales (Spearman-Brown reliabilities from 0.77 for taste to 0.90 for loss of control) and good fit to the underlying theoretical model ($\chi^2(77) = 710.2$, $p = .095$, RMSEA = 0.029, SRMR = 0.018, CFI = 0.996, TLI = 0.993).

2.2. Analyses

We aimed to identify the most salient dependence motives associated with ENDS use and lifetime ENDS quit attempt. We conducted backward stepwise linear and logistic regression analyses, regressing past 30-day vaping days, daily ENDS use frequency, and presence of a lifetime ENDS quit attempt onto dependence motives. The backwards stepwise algorithm removed non-influential motives from the full initial models while controlling for retrospective ENDS use frequency. The Akaike information criterion (AIC) informed final model selection, terminating the backwards stepwise procedure when removal of any remaining regression term worsened AIC. Thus, non-significant motives were retained if their removal yielded worse AIC. To examine sex differences in these relationships, we created interaction terms between dependence motives and sex in separate backward stepwise regressions. Analyses produced only nested models. We compared model fit for models including versus excluding sex effects for each outcome and report sex effects only where interactions significantly improved fit. As females in the sample were more likely to be White and Black and less likely to be Asian or other race than males, all analyses controlled for race. Analyses also controlled for past 30-day CPD to account for the influence of combustible cigarettes. Analyses were conducted using R 3.4.1. Regression coefficients are unstandardized.

3. Results

Descriptive statistics for demographics, smoking, vaping device and frequency of use, and dependence motives are shown in Table 1. Males (vs. females) were more likely to report an ENDS quit attempt. Males also reported higher WISDM scores, comprising stronger automaticity, cognitive enhancement, loss of control, and tolerance motives for ENDS use. However, the multiple comparisons that yielded these group differences urge caution in their interpretation. No other significant sex differences were observed.

Table 1
Descriptive statistics for demographic, vaping behavior, and dependence motives.

| Variables | Total sample (N = 304) ^a | | Males (N = 187) | | Females (N = 116) | |
|--|-------------------------------------|------|-----------------|------|-------------------|------|
| Age; M (SD) | 22.4 (1.52) | | 22.5 (1.49) | | 22.2 (1.57); ns | |
| Hispanic or Latino (%) | 18.4 | | 21.9 | | 12.9 | |
| χ^2 | | | | | 3.27; ns | |
| Race | | | | | | |
| White (%) | 62.8 | | 58.8 | | 69.0 | |
| Asian (%) | 21.7 | | 27.3 | | 12.9 | |
| Black (%) | 5.9 | | 3.7 | | 9.5 | |
| Other (%) | 9.6 | | 10.2 | | 8.7 | |
| χ^2 | | | | | 15.19** | |
| ENDS use frequency ^b | | | | | | |
| None (%) | Current | Past | Current | Past | Current | Past |
| < 1 ×/week (%) | – | 7.2 | – | 5.3 | – | 10.3 |
| 1–2 ×/week (%) | 1.6 | 8.6 | 1.6 | 8.0 | 1.7 | 9.5 |
| 3–4 ×/week (%) | 9.9 | 12.2 | 8.6 | 9.6 | 12.1 | 16.4 |
| 5–6 ×/week (%) | 11.5 | 9.2 | 10.7 | 10.2 | 12.9 | 7.8 |
| 7–9 ×/week (%) | 10.5 | 7.6 | 11.2 | 8.6 | 9.5 | 6.0 |
| 1–3 ×/day (%) | 18.1 | 16.8 | 20.9 | 19.3 | 13.8 | 12.9 |
| 4–6 ×/day (%) | 19.1 | 14.5 | 20.3 | 16.0 | 17.2 | 12.1 |
| 7–9 ×/day (%) | 6.9 | 7.6 | 6.4 | 9.1 | 7.8 | 5.2 |
| 10+ ×/day (%) | 22.4 | 15.8 | 20.3 | 13.9 | 25.0 | 18.1 |
| χ^2 | | | | | 4.63; ns | |
| Past 30-day vaping days; M (SD) | 21.6 (9.2) | | 21.9 (9.0) | | 21.2 (9.5); ns | |
| ENDS quit attempt (%) | 37.5 | | 43.9 | | 27.6 | |
| χ^2 | | | | | 7.39** | |
| 1st generation device only (%) | 46.5 | | 44.9 | | 49.1 | |
| 1st + 2nd or 3rd generation device (%) | 19.8 | | 36.9 | | 28.4 | |
| 2nd or 3rd generation device only (%) | 33.7 | | 18.2 | | 36.9 | |
| χ^2 | | | | | 2.44; ns | |
| E-liquid concentration; M (SD) | 9.37 (5.78) | | 9.48 (5.72) | | 9.19 (5.91); ns | |
| Smoking (%) | 53.1 | | 55.1 | | 50.0; ns | |
| Past 30-day CPD; M (SD) | 2.43 (5.60) | | 2.64 (6.20) | | 2.10 (4.46); ns | |
| WISDM total; M (SD) | 4.13 (1.41) | | 4.31 (1.36) | | 3.85 (1.46)** | |
| Aff. enhancement; M (SD) | 4.45 (1.69) | | 4.59 (1.58) | | 4.24 (1.85); ns | |
| Automaticity; M (SD) | 4.04 (1.79) | | 4.23 (1.80) | | 3.73 (1.75)* | |
| Cog. enhancement; M (SD) | 4.28 (1.79) | | 4.50 (1.66) | | 3.92 (1.93)** | |
| Craving; M (SD) | 4.02 (1.79) | | 4.17 (1.70) | | 3.78 (1.92); ns | |
| Loss of control; M (SD) | 3.19 (1.90) | | 3.48 (1.87) | | 2.72 (1.89)** | |
| Taste; M (SD) | 5.16 (1.41) | | 5.11 (1.36) | | 5.23 (1.50); ns | |
| Tolerance; M (SD) | 3.81 (1.82) | | 4.07 (1.76) | | 3.38 (1.84)** | |

Note: ENDS = electronic nicotine delivery systems; CPD = Cigarettes Per Day; Cog = cognitive; Aff = Affective; WISDM = Wisconsin Inventory of Smoking Dependence Motives. 'None' represents no ENDS use one year prior to data collection. 'Other' race includes 'American Indian/Alaskan Native,' 'Native Hawaiian/Pacific Islander,' and those who selected more than one race. ns = non-significant.

* = $p < .05$; ** = $p < .01$.

^a The full sample includes data from one participant who self-identified as transgender.

^b Data are shown for current and past (i.e. one year prior to current assessment) ENDS use frequency.

3.1. Past 30-day vaping days

Including sex interactions did not significantly improve the model's ability to predict past 30-day vaping days ($\Delta R^2 = .078$, $\Delta df = 7$, $F = 1.90$, $p = .070$). Tolerance ($b = 1.50$, $SE = 0.44$, $p < .001$) and loss of control ($b = -1.48$, $SE = 0.36$, $p < .001$) were related to number of vaping days in the past month and were retained in the model. Higher tolerance predicted more vaping days, whereas greater loss of control predicted fewer vaping days. Cognitive enhancement was retained but non-significant ($b = 0.52$, $SE = 0.64$, $p = .13$). Past ENDS use frequency was associated with more past 30-day vaping days ($b = 1.23$, $SE = 0.21$, $p < .001$). Identifying as Asian ($b = -4.68$, $SE = 1.18$, $p < .001$) or Black ($b = -3.83$, $SE = 1.93$, $p = .047$) versus White was associated with fewer past 30-days number of days vaped; identifying as other race was non-significant ($b = -2.89$, $SE = 1.59$, $p = .07$). The effect of smoking was non-significant ($b = -0.03$, $SE = 0.08$, $p = .72$). As the two significant motives were strongly correlated with each other ($r = 0.73$), we conducted bivariate analyses regressing past 30-day vaping days onto each motive. Higher tolerance was still positively associated with vaping ($b = 1.34$, $SE = 0.28$, $p < .001$) in bivariate analyses but the relationship between vaping days and loss of control was non-significant ($b = -0.04$, $SE = 0.28$, $p = .879$).

3.2. Daily ENDS use frequency

Including sex interactions did not significantly improve the model's ability to predict daily ENDS use frequency ($\Delta R^2 = .09$, $\Delta df = 3$, $F = 1.51$, $p = .21$). Higher tolerance ($b = 0.34$, $SE = 0.09$, $p < .001$) and automaticity ($b = 0.16$, $SE = 0.07$, $p = .028$) were related to higher daily ENDS use frequency. Greater loss of control ($b = -0.24$, $SE = 0.07$, $p < .001$) was related to lower daily ENDS use frequency. Craving was retained but non-significant ($b = -0.13$, $SE = 0.09$, $p = .14$). Past daily ENDS use frequency was associated with higher current daily ENDS use frequency ($b = 0.40$, $SE = 0.04$, $p < .001$). Identifying as Asian ($b = -1.07$, $SE = 0.22$, $p < .001$) or Black ($b = -0.84$, $SE = 0.36$, $p = .022$) versus White was associated with lower daily ENDS use frequency; identifying as other race was non-significant ($b = -0.01$, $SE = 0.29$, $p = .96$). The effect of smoking was non-significant ($b = -0.03$, $SE = 0.02$, $p = .07$). The three significant motives were highly correlated ($r = 0.63-0.74$). Again, the loss of control was non-significant ($b = 0.10$, $SE = 0.06$, $p = .105$) in bivariate analyses; the other two motives continued to be positively associated with the outcome ($b = 0.41$, $SE = 0.06$, $p < .001$ for tolerance; $b = 0.31$, $SE = 0.06$, $p < .001$ for automaticity).

Table 2
Parameter estimates for logistic regression predicting presence of quit attempt.

| Parameter | Est | SE | z value | p value | 95% CI | | |
|--------------------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
| | | | | | Lower | OR | Upper |
| Intercept | −2.28 | 0.76 | − | − | − | − | − |
| Race (ref: White) | | | | | | | |
| Asian | 0.82 | 0.35 | 2.32 | 0.020 | 1.14 | 2.28 | 4.59 |
| Black | 0.56 | 0.56 | 1.01 | 0.314 | 0.56 | 1.75 | 5.13 |
| Other | 0.44 | 0.47 | 0.94 | 0.348 | 0.31 | 1.55 | 3.86 |
| Past ENDS use frequency | −0.03 | 0.07 | −0.51 | 0.609 | 0.85 | 0.97 | 1.10 |
| Past 30-day CPD | 0.03 | 0.03 | 1.21 | 0.228 | 0.98 | 1.03 | 1.09 |
| Gender (ref: male) | 1.48 | 1.12 | 1.31 | 0.187 | 0.47 | 4.38 | 39.53 |
| WISDM motives (retained) | | | | | | | |
| Tolerance | −0.54 | 0.19 | −2.79 | 0.005 | 0.39 | 0.58 | 0.84 |
| Tolerance × sex | 0.55 | 0.32 | 1.74 | 0.081 | 0.93 | 1.74 | 3.26 |
| Loss of control | 0.44 | 0.15 | 3.03 | 0.002 | 1.18 | 1.56 | 2.11 |
| Loss of control × sex | −0.36 | 0.24 | −1.54 | 0.123 | 0.44 | 0.69 | 1.11 |
| Craving | 0.61 | 0.22 | 2.74 | 0.006 | 1.20 | 1.83 | 2.87 |
| Craving × sex | −0.78 | 0.35 | −2.27 | 0.023 | 0.23 | 0.46 | 0.89 |
| Taste | 0.04 | 0.15 | 0.28 | 0.780 | 0.77 | 1.04 | 1.40 |
| Taste × sex | −0.47 | 0.25 | −1.87 | 0.061 | 0.38 | 0.63 | 1.02 |
| Affective enhancement | −0.28 | 0.21 | −1.34 | 0.181 | 0.51 | 0.76 | 1.14 |
| Aff. enhancement × sex | 0.60 | 0.31 | 1.92 | 0.055 | 1.00 | 1.83 | 3.47 |
| Cognitive enhancement | 0.21 | 0.14 | 1.54 | 0.124 | 0.95 | 1.23 | 1.62 |

Note: ENDS = electronic nicotine delivery systems; CPD = Cigarettes Per Day; Cog = cognitive; Aff = Affective; WISDM = Wisconsin Inventory of Smoking Dependence Motives. Reference group was White (male, where applicable). ‘Other’ race includes ‘American Indian/Alaskan Native,’ ‘Native Hawaiian/Pacific Islander,’ and those who selected more than one race. Bolded effects are significant at $p < .05$.

3.3. Quit attempt

Including sex interactions significantly improved the model's ability to predict lifetime ENDS quit attempt ($\Delta\text{Dev} = 19.31$, $\Delta\text{df} = 9$, $p(\chi^2) = 0.023$). Results from the final logistic model are presented in Table 2. Reporting greater loss of control and craving were related to higher odds of also reporting a lifetime quit attempt, while tolerance was negatively associated. Taste, cognitive enhancement, and affective enhancement were retained but non-significant. Sex only moderated the effect of craving, such that for females, craving was more weakly associated with past quit attempt than males. While the simple main effect of craving for males was significant and positive (OR = 1.83, 95% CI:1.20–2.87, $p = .006$), the simple main effect for females was non-significant (OR = 0.84, 95% CI:0.48–1.42, $p = .51$). Past ENDS use frequency was not associated with lifetime quit attempt. The main effect of sex was non-significant. Asian versus White participants were more likely to report a quit attempt; effects of identifying as Black or Other race were non-significant. The effect of smoking was non-significant. The three significant motives were highly correlated ($r = 0.69$ – 0.82). Bivariate analyses found that greater loss of control (OR = 1.49, 95% CI:1.30–1.70, $p < .001$), craving (OR = 1.29, 95% CI:1.13–1.48), and tolerance (OR = 1.28, 95% CI:1.12–1.49, $p < .001$) were each related to higher odds of lifetime quit attempt.

4. Discussion

Tolerance and loss of control were associated with ENDS use across all models. Tolerance was associated with greater daily ENDS use frequency and past 30-day vaping days - consistent with models of dependent use. Paradoxically, loss of control was associated with fewer past 30-day vaping days and less frequent daily ENDS use in multivariate analyses. Perceived loss of control among ENDS users may attenuate as stable patterns of use manifest. Additionally, habituation to ENDS use patterns may temper experiences of loss of control among young adults who vape more heavily. Other changes in an ENDS user's vaping behaviors (mastery with vaping and device modification, increased knowledge and control over e-liquid selection, or self-titration of craving through regular intermittent use) may strengthen perceived behavioral control. In contrast with multivariate analyses, bivariate

analyses found no relationship between loss of control and either past 30-day vaping days or daily ENDS use frequency. Given the high correlation between dependence constructs, this pattern of findings suggests statistical suppression - that loss of control influences these ENDS behaviors through different pathways (i.e., negative direct influence in multivariate models where shared variance from dependence more broadly is suppressed by the inclusion of other motives; versus bivariate models where shared variance remains and the influence is non-significant). Future research should seek to clarify the relationship between loss of control and ENDS use behaviors using rich longitudinal or experience sampling approaches.

Craving and loss of control were linked to increased odds of making a quit attempt. It is possible that ENDS users may increase their use following a failed quit attempt, resulting in a greater feeling of loss of control and heavier craving over time. Conversely, it is also possible that conscious awareness of loss of control and increased craving may serve as internal indicators that a young adult is becoming addicted to vaping. Such cognitions may result in plans- or attempts- to quit vaping. Given the cross-sectional design of the current study, prospective longitudinal studies are needed to elucidate the directionality of these effects. While our findings are thus limited to identifying motives associated with lifetime quit attempt, future research could examine the cognitive and behavioral consequences of failed quit attempts and their relationship with ENDS dependence to better understand how these experiences affect vaping longitudinally.

This study replicated prior findings from Allen et al. (2016) regarding sex differences wherein men report higher dependence motives. We extended these findings by examining sex differences in relationships between dependence motives and ENDS use. Our findings revealed only one significant difference: the relationship between craving and quit attempt was significant among males, but not females.

These findings should be interpreted in light of several limitations. First, using online panel data may reduce the representativeness of the sample. However, the sample was diverse with respect to race, ethnicity, and gender. Second, although the WISDM is established and the dependence motives queried by the WISDM-14 assess key nicotine dependence processes, this adapted measure is not fully validated. We provided information on internal consistency, subscale reliability, and model fit herein, but a full validation is warranted and forthcoming.

Third, the backwards stepwise statistical approach is atheoretical and exploratory. As such, these results should inform future a-priori hypothesis generation and study findings need to be replicated in other samples, recruited with a variety of methodologies. Finally, the current study did not collect fine-grained information on device characteristics such as battery type, wattage, temperature, and flavor. While acute device and e-liquid characteristics may partially drive ENDS use, future research should continue examining the role that nicotine dependence plays as a maintenance factor for ENDS. Similarly, future research should focus on evaluating the role that novel ENDS dependence motives (McQueen, Tower, & Sumner, 2011) identified in emerging qualitative research play as maintenance factors.

4.1. Conclusion

This study identifies salient dependence motives associated with various ENDS use behaviors. We also replicated prior sex effects wherein males report higher tobacco use and dependence motives. One important future direction is elucidating the relationship between loss of control, craving, and ENDS use and attempts to quit. Understanding the relationship between dependence motives and ENDS use and attempts to quit would inform etiological models of dependence and provide targets for preventative interventions. More research is needed to determine the robustness of the findings and elucidate the relationship between ENDS dependence motives and use.

Role of funding source

This study was supported by grant P50DA036128 (PI: Eriksen). The funding sources had no influence on the study design, data collection, analysis and interpretation of data, writing of the report, and the decision to submit the article for publication. Dr. Sokolovsky is a post-doctoral research fellow at the training programs supported by grants T32 DA016184 (PI: Rohsenow).

Contributors

All authors contributed to the collection, analysis, and interpretation of the data and to the writing of the present submission. All authors approve of the final manuscript included with this submission.

Conflict of interest

There authors have no conflicts of interest to declare.

Declarations of interest

None.

Funding

This study was supported by the National Institutes of Health [grant numbers P50DA036128, T32DA016184].

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