Momentary Negative Moods and Being With Friends Precede Cigarette Use Among Korean American Emerging Adults

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ABSTRACT

Introduction: The objective of this study was to determine contextual antecedents to smoking among Korean American emerging adult (KAEA) smokers, using ecological momentary assessment. Based on extant theory and data documenting the importance of negative affect (NA) and social context, we examined the extent to which being with friends and NA independently and concomitantly were associated with the likelihood of subsequent smoking, over and beyond other known situational correlates of smoking.

Methods: Twenty-two KAEA daily smokers recorded their smoking events in real time and participated in short surveys implemented on mobile phones for 7 days. Individual, interpersonal, and situational contexts immediately preceding and during smoking events were examined in comparison to nonsmoking events using a within-subject modeling approach.

Results: Both NA and being with friends independently were correlated with increased likelihood of smoking. We also found an interaction showing that the effects of NA on smoking were significant only in presence of friends.

Conclusions: Unlike more established smokers, these younger smokers may be strongly influenced by peer contexts as well as unpleasant affect. The interaction between social contexts and NA highlights a potential window for intervention for the population of KAEA smokers.

INTRODUCTION

Emerging adulthood has been associated with an increased risk of smoking along with other substance use (Arnett, 2007), as this developmental stage is characterized by self-exploration, increased freedom, exposure to novel settings, and identity development. Korean American emerging adults (KAEA) face additional challenges as their living contexts are often immersed in a culture that generally condones smoking (Huh, Sami, Abramova, Spruitt-Metz, & Pentz, 2013; Kim, Son, & Nam, 2005) and where cigarette use is highly prevalent, especially among male adults (~37%; An, Cochran, Mays, & Nam, 2005). Because KAEA may experience culture-specific correlates of smoking unique from the general population and also represent a population at high risk for smoking, it is important to study this group. Although various theories postulate that culture permeates through multiple layers of one’s living contexts with respect to health-related behaviors (e.g., Howell & Hughes, 2009), the effects of social and intrapersonal contexts on cigarette use for KAEA smokers have not been systematically examined.

Some of the most prominent models of addiction highlight the importance of affective states as a key determinant of drug use (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004; Kassel, Stroud, & Paronis, 2003). In particular, negative affective states, either produced by nicotine withdrawal or other sources (e.g., stress), are believed to motivate smoking through affect modulatory properties and negative reinforcing effects (Baker et al., 2004). Indeed, relations between negative affect (NA) and smoking have been consistently reported in studies utilizing between-subject designs. Individuals with higher NA relative to other individuals in the overall distribution of NA levels tend to smoke more (Kassel et al., 2003). Furthermore, evidence suggests that smokers tend to report smoking more when they perceive higher levels of NA than their usual levels (Aronson, Almeida, Stawski, Klein, & Kozlowski, 2008).

Study designs only involving between-subject self-reports are fraught with recall biases; resulting data do not allow one
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to infer temporal ordering, causality, and rule out the possibility that extraneous variables that systematically differ across individuals confound NA-smoking associations. Ecological Momentary Assessment (EMA) is an alternative approach to obtain ecologically valid data while minimizing recall biases (Shiffman, Stone, & Hufford, 2008). Further, EMA allows for assessment of dynamic processes preceding and/or immediately following problem behaviors that occur repeatedly such as drug use, yielding empirical data highly relevant for testing existing theories (Shiffman et al., 2008). EMA studies can elucidate whether fluctuations in NA predict immediate subsequent changes in smoking behaviors within individuals. In this paradigm, participants serve as their own controls, diminishing between-person confounds that potentially plague between-person designs.

Importantly, the majority of work examining whether within-individual variation in NA is associated with ad lib smoking shows little relation (see Shiffman, 2009 for a review), leading some to hypothesize that “in the real world, momentary affect plays little role in prompting smoking” (Shiffman et al., 2002, p. 540). Whether this holds for KAEA whose smoking patterns might differ with potentially unique internal/external motivations to smoke a cigarette at a given moment remains to be seen. Furthermore, within-person (WP) analyses of momentary variation in NA and smoking lapse has demonstrated that NA’s relation to smoking was more robust when coupled with other moderating factors (e.g., self-efficacy, Shiffman, 2005). Hence, NA may interact with other contextual factors related to smoking, such that NA may exhibit robust relations to smoking only when coupled with certain contextual factors.

The social environment is one such contextual factor that could relate to smoking and interact with NA. Shiffman et al. (2002) reported that older, more established smokers were more likely to smoke when alone compared to when engaging with others, but such interactions related to decreased probability of smoking were reported as “business-related” (e.g., conversations with co-workers). This suggests that if social situations are positively associated with smoking, it is likely to be present in younger populations. Shiffman et al. (2002) also found that other people smoking in the vicinity increased the odds of smoking. Using similar methods, however, Otsuki (2009) found that Asian American college student smokers were more likely to smoke when with peers than when alone; but this relationship was salient only for those who reported lower perceived social connectedness (Otsuki, 2009). To our knowledge, Otsuki (2009) is the only study specifically targeting young Asian subgroups that employed EMA methodology. These findings, coupled with prior qualitative research in KAEA smokers (Huh et al., 2013), suggest that social factors may be particularly salient determinants of smoking for KAEAs. KAEA smokers, for instance, tend to perceive smoking in front of elderly family members to be culturally inappropriate. In contrast, shared “smoke breaks” among friends (irrespective of one’s own desire to smoke) are considered appropriate that promote social bonding (Huh et al., 2013). Given such social meanings attached to cigarette smoking in this population, smoking might be perceived as a way to enhance moods or affects collectively.

Thus, the objective of this study was to use EMA to obtain micro-level, empirical data on ecological contexts of smoking and to examine relevant contextual variables (i.e., affect and social environments) as antecedents to smoking among KAEA using a within-participant design. Based on our previous qualitative investigation (Huh et al., 2013) and the findings by Otsuki (2009), we hypothesized that social contexts (i.e., being with friends immediately prior to and during a prompt) would be associated with increased likelihood of smoking during that prompt for KAEA smokers. We also examined the link between NA states and smoking. Further, because of the potential for interactions between NA and contextual factors (Shiffman, 2005), we examined the interactive effects of social contexts and NA on smoking. Finally, we also examined other contextual variables previously linked to smoking in non-KAEA samples (Shiffman, 2009), including positive affect (PA), cigarette craving, perceived stress, and days of the week.

METHODS

Participants

Twenty-six KAEA smokers were recruited through social media and word of mouth. When candidate participants contacted our research lab, they were screened for study eligibility. The eligibility criteria were Korean/Korean American, 18–24 years of age, currently smoke 4+ cigarettes/day, and have smoked daily for longer than one year. The criterion for the number of cigarettes smoked/day was set at four to include novice, light smokers and to yield a sufficient number of daily observations of smoking. Two individuals were not eligible: one due to the location of his residence and another due to age criteria. One participant did not complete the study because of technical difficulties with EMA application and another dropped out midway through participation. Detailed characteristics of the final sample are provided in Table 1.

Device

The custom platform used for this project, ActiPal (MEI Ltd.), required the Android operating system. The participants who owned iPhones (50%, n = 11) were provided with project phones (Motorola Defy and Samsung Galaxy Exhibit).

Procedure

The data collection began in July 2012 and continued through April 2013. At an initial visit, research assistants obtained informed consents and provided a brief training on how to download and navigate the mobile app. Thereafter, the participants carried smartphones with a customized mobile app for seven consecutive days (8:00 a.m. to 11:59 p.m.) and responded

**Table 1. Descriptive of Demographic and Smoking Characteristics of Sample (N = 22)**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female, n (%)</td>
<td>7 (31.82)</td>
</tr>
<tr>
<td>Employment status, n (%)</td>
<td></td>
</tr>
<tr>
<td>Full-time student</td>
<td>9 (40.91)</td>
</tr>
<tr>
<td>Employed</td>
<td>10 (45.46)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3 (13.63)</td>
</tr>
<tr>
<td>Age (years), M (SD)</td>
<td>21.23 (1.77)</td>
</tr>
<tr>
<td>Years smoked, M (SD)</td>
<td>5.46 (1.79)</td>
</tr>
<tr>
<td>Cigarettes smoked/day, M (SD)</td>
<td>9.27 (4.74)</td>
</tr>
</tbody>
</table>
to signal- and event-contingent prompts emitted by the app. At each “random” (nonsmoking, signal-contingent) prompt (five times a day), a survey was administered. The participating sample also initiated event-contingent surveys each time they were about to smoke a cigarette by touching a customized “widget” button on the smartphones. All study procedures were approved by the University Institutional Review Board.

Through a customized dashboard, our research assistants monitored participants’ responses throughout the observation period and communicated with the participants via text messages to ensure high compliance. Participants restarted their seven-day regimen if their response rates fell significantly below 80% compliance rate or if they failed to log at least four smoking events during two consecutive days. The minimum of four smoking events was selected to yield a comparable number of daily observations as the nonsmoking events (i.e., random prompts). In fact, 59.1% (n = 11) of participants restarted the seven-day regimen; multiple restarts were allowed (n = 5). The most common reason was that they have left the project mobile phone at home.

**Study Design**

As in prior work (Paty, Kassel, & Shiffman, 1992; Piasecki, Trela, Hedeker, & Mermelstein, 2013; Shiffman et al., 2002), a nonevent experimental, matched-pair, case-crossover design was used in which whether the prompt was event-contingent (smoking) or signal-contingent (random) was used as the primary outcome in the analytic models. At each prompt, affect, perceived stress, and craving, experienced within the 15 min preceding the prompt, and other concurrent contextual variables (e.g., Who are you with?) were assessed.

**Measures**

**Affect**

Adapted items from the Positive Affect Negative Affect Scale were used; response options ranged from “not at all” to “extremely” (Cronk & Piasecki, 2010). Three items (enthusiastic, proud, interested) loaded on the PA subscale; six items (scared, upset, distressed, anxious, sad, irritable) loaded on the NA subscale.

**Perceived Stress**

Four items were used to assess levels of perceived stress that were school-, work-, interpersonal-, and financial-related stress (Cronk & Piasecki, 2010), with response options ranging from “not at all” to “extremely.” All three items loaded on a single factor.

**Cigarette Craving**

Three items adapted from Wisconsin Smoking Withdrawal Scale were used to measure the levels of craving for cigarettes (Cronk & Piasecki, 2010); response options were from “not at all” to “extremely.” All three items loaded on a single factor.

**Other Contextual and Environmental Measures**

At each prompt, participants also reported concurrent food/substance consumption in the past hour, the company (alone/with family vs. friends) in the past 15 min and current location (home, restaurant/bar), and whether smoking was allowed and people were smoking nearby.

To reduce participant burden, a random subset of the NA subscale (three items) and the Perceived Stress and Cigarette Craving scales (two items each) were administered at each prompt; all other questions were asked at each prompts. Daily averages of the items were calculated and factor analyses were conducted using these daily average scores ignoring nested data structure. Based on the factor analyses results, mean score across items belonging to a subscale was assigned as mood and state score; Cronbach’s α’s calculated disregarding the nested data structure ranged from .65 to .87. Cronbach’s α’s calculated for each day (Shrout & Lane, 2013) are also provided in Table 2.

**Statistical Analysis**

Descriptive statistics for sample characteristics were conducted with individual participant as the unit of analysis (Level 2), all other descriptive statistics using prompts as the unit of analysis (Level 1). To assess the extent to which compliance rates were influenced by covariates, generalized linear mixed models (GLMMs) were used with responded entry (=1) as the outcome and other concurrent contextual variables as predictors, generalized linear mixed models (GLMMs) were used with responded entry (=1) as the outcome and other concurrent contextual variables as predictors. Proc GLIMMIX was used in SAS V9.2.

Equation 1:

\[
\text{Level-1: } P(y_{ij}|x) = e^{[\beta_0 + \beta_1 x_1 + \cdots + \beta_p x_p]}
\]

\[
\text{Level 2: } \beta_0 = \gamma_0 + \gamma_0 Z_x + \cdots + \gamma_0 u_0.
\]

\[
\vdots
\]

\[
\beta_0 = \gamma_0.
\]

where \(P(y_{ij}|x)\) is the likelihood of smoking given a set of predictors, \(t\) counts the repeated measures, and \(i\) counts the individual. \(X\) represents the Level-1 predictors; \(k\) counts the Level-1 predictors. \(Z\) represents Level-2 predictors; \(j\) counts the Level-2 predictors. \(u_0\) represents random effects for intercepts. Given the binary outcome, residual variance is assumed to be \(\pi^2/3\) (Hall et al., 2001).

**Table 2. Overall and Daily Reliability of Study Measures**

<table>
<thead>
<tr>
<th></th>
<th>(M (SD))</th>
<th>Overall Cronbach’s α</th>
<th>Daily Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive affect</td>
<td>0.65 (1.02)</td>
<td>.65</td>
<td>.56–.78</td>
</tr>
<tr>
<td>Negative affect</td>
<td>0.49 (0.83)</td>
<td>.78</td>
<td>.69–.86</td>
</tr>
<tr>
<td>Perceived stress</td>
<td>0.77 (0.99)</td>
<td>.73</td>
<td>.75–.93</td>
</tr>
<tr>
<td>Cigarette craving</td>
<td>0.97 (1.05)</td>
<td>.87</td>
<td>.86–.98</td>
</tr>
</tbody>
</table>
Cigarette use among KAEAs

RESULTS

Descriptive Statistics: Sample and Individual Prompts

Demographic and smoking characteristics of the sample are described in Table 1. Of the total 1,317 prompts initiated by the system, 1,291 time-stamped entries (98.03%) were made by the participants. Approximately half of the total initiated entries (738 prompts; 56.04%) were event-contingent (i.e., smoking-related).

Compliance Rates

For both smoking and random events, participants were prompted 62.14 times on average (SD = 11.36, range = 45–91) across the seven days of assessment. The compliance rates were high (M = 92.36%, SD = 11.35%), ranging from 63.89% to 100.00%; in fact, 45.45% (n = 10) showed 100% compliance rates. The compliance rates were calculated only for random prompts because we could not reliably establish denominators for event-contingent prompts, as the total number of smoking events per day (either via self-reports or objective measures) was not available for this study. The compliance rates were not related to the number of cigarettes smoked daily (p = .53), the number of years smoking (p = .95), age (p = .98), or gender (p = .43), or overall average affective/inner-state measures (r < ps < .81).

The total number of reported smoking events for all participants ranged from 88 to 114 across seven days of the week (M = 102.57, SD = 7.81), with the most smoking events reported on Mondays and the fewest on Sundays. The mean number of reported smoking events was 33.55 per participants across seven days (equivalent to an average of 4.79 cigarettes/day) and showed substantial variability between participants (SD = 9.82, range = 14.0–54.0).

Descriptive Contexts of Smoking

Social Context

Almost half of the smoking occasions (45.22%) were reported when being with friends; in comparison, participants reported being with friends only a third of the random prompts (29.66%). More than one third of the smoking events (36.02%) were reported when others were smoking.

Other Contextual Factors

Smoking was most frequently reported occurring at home (33.70%), followed by dormitory (29.20%). Most smoking events (81.64%) occurred when/where smoking was permitted, among which 72.24% of the responses were indoor locations (dorm/home); 16.13% of smoking events occurred where smoking was not allowed. A small proportion of smoking events (3.30%) occurred where smoking ban status was unknown to participants. Meal/snack consumption was most frequently reported within the hour preceding a smoking occasion (23.44%), followed by coffee (14.09%). The most smoking events took place on Monday (15.88%) and the fewest on Sunday (12.26%).

Preliminary Analyses of Bivariate Effects of Contextual Variables on Smoking

All contextual variables were partitioned into two scores, one indicating between-person (BP) variation (i.e., individual mean deviation from grand mean) and WP-variation (i.e., deviation from one’s own mean at a given prompt, Curran & Bauer, 2011). The WP variation of the main binary predictor, being with friends, was indicated by whether a participant had been with friends (=1) or not (=0) in the 15 min prior to a prompt. The BP-variation of being with friends was calculated using the grand mean-centering methods (i.e., overall mean proportion). Corresponding partitioned scores were simultaneously entered into GLMM to assess the effects of time-varying covariates on the log odds of smoking. First, the bivariate association between individual context variable and smoking was examined with a separate model for each predictor. Neither WP-PA (β = −.09, p = .26) nor BP-PA (β = −.11, p = .41) was associated with smoking. WP-NA was significantly positively related to smoking (β = .16, p = .04) but not BP-NA (β = .004, p = .99). Neither WP-perceived stress (β = −.12, p = .92) nor BP-perceived stress (β = .01, p = .30) was related to smoking. WP-cigarette craving significantly was related to smoking (β = .16, p = .02), but BP-cigarette craving was not (β = −.02, p = .84). Being with friends in the prior 15 min (WP) was significantly related to smoking at that occasion (β = .71, p < .001). In contrast, those who reported being with friends more frequently (BP) did not differ in the likelihood of smoking from those who less frequently reported being with friends (β = −.43, p = .39).

Primary Analyses

Primary Predictors

The final models included significant mood/state variables and other relevant contextual Level-2 (gender, years smoked, number of cigarette smoked per day) and Level-1 (time in study, days of the week) variables as simultaneous covariates (see Table 3). Controlling for all other predictors, when a participant was in more negative mood relative to his/her mean, there was a significantly greater probability of smoking (Model 1, γ20 = .19, p = .03). Likewise, being with friends was significantly related to smoking (Model 1, γ30 = .55, p < .001). Subsequently, the interaction between WP-NA and WP-being with friends was tested (Model 2, see Table 3). The effects of WP-NA on the likelihood of smoking were significantly moderated by whether one was around friends at a given moment. When not around friends, higher WP-NA than his/her average level of negative mood was not related to smoking (γ20a = .01, p = .918). In contrast, when with friends, higher WP-NA significantly was associated with increased likelihood of smoking (γ20a = .71, p = .001, see Figure 1 for the interaction plot represented in probability). When not around friends, the slope for WP-NA was not significant (adjusted probability difference across range of WP-NA: .21 vs. .21); when around friends, the significant positive effect of WP-NA on smoking was pronounced (the adjusted probability difference across range of WP-NA: .28 vs. .36). Notably, BP-NA was not related to the probability of smoking (p = .25); thus, those with higher mean NA did not differ from those with lower mean NA with respect to the probability of smoking. When random effects for WP-NA were included, the deviance did not significantly decrease (χ2(2) = 2.19, p > .05), suggesting that the model without the random effects for WP-NA was more parsimonious (i.e., modeling individual slopes for WP-NA was not necessary).

Other Covariates

WP-cigarette craving failed to reach significant levels in the final model (p = .08). Additionally, when people around were
smoking and when smoking was permitted were significantly related to smoking ($\gamma_{60} = .58$, $p < .001$, $\gamma_{70} = 1.28$, $p < .001$, respectively). On average, participants were more likely to smoke on all other weekdays relative to Sunday ($p < .04$). Gender, the number of years of smoking, or the number of cigarettes smoked/day was not related to smoking.

**DISCUSSION**

Our study revealed a unique set of contextual cues associated with cigarette use for KAEA smokers. As hypothesized, being with friends was a salient context associated with smoking. This finding corroborates those reported by Otsuki (2009).
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as well as our own (Huh et al., 2013). We extend prior work by documenting that this relation was incremental variance accounted for by other known factors. Hence, for KAEAs, it may be the social act of being in the presence of friends per se that is linked to smoking, and not solely that friends who might be smoking in their immediate environment and serve as nonsocial smoking-related cues (e.g., sight/smell of cigarettes) triggering their own smoking. Although smoking behaviors of the friends were not directly measured in this study, participants reported being around others smoking only for 56.10% of the prompts when they were with friends. Past research has documented strong peer influence on tobacco use among Korean American youths as they may share the cultural values that emphasize interdependent self (hence, greater perceived pressure to conform) over individual concerns (Hong, Lee, 2011; Kim et al., 2005).

The relationship between being with friends and smoking may also be influenced by cultural perceptions of smoking. The identity-based motivation model (Oyserman, Fryberg, & Yoder, 2007) emphasizes that scripts and norms associated with social identities influence individuals’ health-related behaviors. Individuals are likely to engage in behaviors that they perceive to be congruent with their social or ethnic identity. It is possible that the influence of perceived cultural norms on smoking may be heightened in the presence of friends. Indeed, our participants reported being with their Korean friends for a majority of smoking prompts (83.99%) that have taken part with friends. However, this could not be formally tested in our final models because the response option of friend’s ethnicity was omitted in the surveys for random prompts.

Furthermore, we found that participants were more likely to smoke when experiencing higher levels of NA than their usual levels. These effects were apparent over and above variance accounted for by other internal states commonly associated with smoking, including craving, PA, and perceive stress, suggesting a unique role of NA linked to smoking among KAEAs. These findings are in contrary to those reported by Shiffman et al. (2002) who found little support for affective relations to smoking. However, the sample in Shiffman et al. (2002) included more established, older smokers who were predominantly Caucasian and preparing to be in a cessation trial. Some have suggested that the link between smoking, stress, and NA changes across the smoker career or stages (Kassel et al., 2003; Piasecki et al., 2013). Although levels of nicotine dependence were unavailable for this study, the distribution of the number of cigarettes smoked/day was negatively skewed, with 59.10% of the sample reporting fewer than 10, ranging from 4.5 to 20. Hence, smoking may be more affect-dependent for younger, less-dependent smokers (Etter, Duc, & Perneger, 1999).

Notably, the increased odds of smoking when experiencing negative moods were observed when participants were with their friends, but not when alone or with family. This might indicate smoking as socially acceptable way to relieve perceived negative mood for these young Korean Americans in their social contexts. Similar findings have been reported for alcohol use in relation to peers’ behaviors (Nakashima & Wong, 2000). Korean American youths whose friends encouraged them “to get drunk” were more likely to misuse alcohol than those who did not have such friends. This likelihood was higher among Korean Americans compared with their Caucasian peers (Nakashima & Wong, 2000). Intervention strategies aiming at discouraging such collective behaviors and perhaps replacing these social habits with more healthful medium should be entertained.

Although WP-variation in NA and being with friends was related to likelihood of smoking, BP-variation in these factors was not. This pattern highlights the importance of using EMA designs that model WP-variation, as these important internal and external contexts may influence smoking in KAEAs in a different fashion when considered at the WP-level rather than the BP-level. It is possible that BP-variation in these two factors may be confounded with other factors that systematically differ across individuals and could covary with affective experience and social activity, obscuring how NA and social context motivate smoking in the moment. With intensive longitudinal data, inconsistent BP versus WP effects have been often reported in prior work (Bolger & Laurenceau, 2013).

Regarding other contextual factors, the effects of cigarette craving became marginal, after controlling for NA, social contexts, and other covariates. This could be due to a moderate correlation between WP-cigarette craving and WP-NA ($r = .30$, $p < .001$). Furthermore, we found that PA was not a significant predictor of smoking, consistent with Shiffman et al. (2002); neither was perceived stress. Not surprisingly, less smoking restriction/ban and being around other smokers were associated with increased likelihood of smoking.

LIMITATIONS, STRENGTHS, AND CONCLUSIONS

Due to a small sample size, this study lacked statistical power to detect the relationship between smoking and BP-variation in contexts. Also, due to the study eligibility criteria, the findings may not be generalizable to other ethnic or age groups. As the study lacked a comparison cultural/ethnic group, we also cannot determine whether the unique findings are due to the specific age group (i.e., the findings may be replicated for EA smokers of other cultural backgrounds). Omitting the contextual variables for random prompts such as concurrent consumption of meals and caffeinated drinks did not permit us to examine the relative effects of such variables on smoking. Also, we were unable to formally test whether smoking events lead to increased PA and/or decreased NA because (a) we did not assess affects/inner-states after smoking (e.g., Hedeker, Merenstein, Berbaum, & Campbell, 2009) and (b) the time lags between smoking events and subsequent random prompts were not consistent across occasions and individuals. Nonetheless, to the best of our knowledge, this is the first study to investigate the effects of micro-level contexts among KAEA who face increased risk of smoking. Future research utilizing time-lagged/within-subject designs are needed to clarify the causal mechanisms of contextual factors and smoking in KAEAs.

The empirical support based on a within-subject study design contributes to the sparse literature for this unique population at high risk for smoking initiation. Our research efforts to disentangle what is considered uniquely cultural” or “universal” warrant further investigation focusing on both micro- and macro-levels of contexts surrounding cigarette use. Nonetheless, this study suggests the importance of incorporating both social and affective factors for interventions for KAEA smokers who might be smoking at lower levels, as even lower levels of smoking can adversely impact health.
outcomes (Bjartveit & Tverdal, 2005). Our findings suggest that social settings that facilitate alternative strategies to help KAEAs cope with NA are warranted. Interventions that capitalize on these dual contexts (e.g., momentary interventions targeting NA, in conjunction with social contexts) might be useful for promoting smoking reduction, cessation, and prevention to diminish risk for nicotine dependence later in adulthood.

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DECLARATION OF INTERESTS

None declared.

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