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Light versus Heavy Smoking among African American Men and Women

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Abstract

The majority of smoking cessation research has focused on heavy smokers. African Americans (AA) are less likely than the general population to be heavy smokers. Thus, little is known about the smoking and psychosocial characteristics of lighter AA smokers. The present study compared the baseline demographic, smoking, and psychosocial characteristics of light (5-10 cigarettes per day; $n = 86$) and moderate to heavy (> 10 cigarettes per day; $n = 286$) AA smokers enrolled in a smoking cessation clinical trial. Results indicated no differences between groups on demographic variables. However, light smokers (LS) were less dependent on smoking, reported more previous quit attempts, and had higher self-efficacy to quit than moderate to heavy smokers (MHS). On a measure of withdrawal, LS reported less pre-quit craving and less difficulty concentrating than MHS. In addition, LS reported lower perceived stress, fewer symptoms of depression, and greater positive affect than AA MHS. These findings highlight important similarities and differences between AA LS and MHS, and have implications for the treatment of AA smokers.

Keywords

African American; Light smokers; Smoking; Nicotine Dependence

1. Introduction

Although the prevalence of smoking is comparable between African Americans (AA) and Caucasians (23.0% vs. 21.9% respectively; CDC, 2007), AA and Caucasian smokers differ in their patterns of smoking. Specifically, AA smokers have lower daily smoking rates (Caraballo et al., 1998; Hahn, Folsom, Sprafka, & Norsted, 1990; Harris, Zang, Anderson, & Wynder,

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1993; Kandel & Chen, 2000; Stellman et al., 2003), report more quit attempts in the past year (Royce, Hymowitz, Corbett, Hartwell, & Orlandi, 1993), and are more likely to smoke upon waking (Royce et al., 1993) than are Caucasians. AA are also less likely than Caucasians to be successful in their quit attempts, although smoking cessation rates are low for all smokers (CDC, 1993; Fiore et al., 1996; Hahn et al., 1990). In addition, there is some evidence that AAs and Caucasians may differ in the manner in which they smoke their cigarettes (e.g., smoking topography; Ahijevych & Gillespie, 1997; Ahijevych & Parsley, 1999).

Importantly, the negative health consequences attributable to smoking are greater for AAs than Caucasians (USDHHS, 1998). In particular, cardiovascular disease and cancer are more prevalent in AA than in Caucasian smokers (Crook et al., 2003; Flack, Ferdinand, & Nasser, 2003; Harris et al., 1993; Ries, Hankey, & Edwards, 1990), and cigarette smoking may play a major role in the disproportionately high incidence of stroke among AAs (CDC, 1998). Some research has suggested that the disproportionate impact of smoking on AAs may be explained, at least in part, by preference for mentholated, high tar cigarettes (Hahn et al., 1990; Kabat, Morabia, & Wynder, 1991; Royce et al., 1993; Sidney, Tekawa, & Friedman, 1989), slower metabolism of nicotine (Perez-Stable, Herrera, Jacob, & Benowitz, 1998), higher carbon monoxide and cotinine levels (Berlin, Radzius, Henningfield, & Moolchan, 2001; Caraballo et al., 1998; Clark, Gautam, & Gerson, 1996; Wagenknecht et al., 1990), and differences in smoking topography that lead to greater exposure to nicotine and smoke constituents (Ahijevych & Gillespie, 1997; Ahijevych & Parsley, 1999). These factors may contribute to greater negative health effects among AAs, despite lower daily smoking rates (Orleans, Strecher, Schowbach, Salmon, & Blackmon, 1989).

Despite these known health disparities, relatively few studies have examined factors that influence tobacco dependence and cessation among AA smokers, even though such data could be utilized to develop more optimally targeted treatments. One important difference is that AA and other minority smokers, differ from Caucasian smokers in that a much higher proportion are light smokers (LS; i.e., ≤ 10 cigarettes per day; Kandel & Chen, 2000). Specifically, research has indicated that approximately 35-41% of AA smokers are LS, while 15-17% of Caucasian smokers smoke at this rate (e.g., Harris et al., 1993; Kabat et al., 1991; Okuyemi et al., 2004). To date, little is known about non-Caucasian LS. Initial research among LS has indicated that they are more successful at quitting than are heavier smokers (e.g., Cohen et al., 1989; Grandes, Cortada, Arrazola, & Laka, 2003). Lighter AA smokers have also been found to have more success in quitting (Allen, Pederson, & Leonard, 1998; Resnicow et al., 1997). AA LS are similar to AA moderate to heavy smokers (MHS) in the number of previous quit attempts and their willingness to enroll in a formal smoking cessation program (Okuyemi et al., 2004). However, AA LS may be more motivated to quit smoking and possess higher self-efficacy related to quitting than AA MHS (Okuyemi et al., 2004). In the only published randomized clinical trial focused exclusively on AA LS, Ahluwalia et al. (2006) showed that LS who received nicotine replacement and counseling were no more likely to remain abstinent than a similar group who received counseling and a placebo. The authors noted that this may have been due to poor adherence with the nicotine replacement dosing instructions and under dosing. It is also plausible that the participants' relatively low smoking rate (i.e., 7-8 cigarettes per day) may have corresponded to lower levels of physiological dependence, thus decreasing the need for, or efficacy of, nicotine replacement. Thus, a better understanding of the differences between lighter and heavier AA smokers is needed in order to develop more effective smoking cessation interventions that specifically target the needs of the full spectrum of AA smokers.

The purpose of the present study was to identify differences between lighter and heavier AA smokers, especially with respect to tobacco dependence, self-efficacy, and other psychosocial variables. Specifically, we expected that lighter AA smokers would report higher self-efficacy

and be less dependent on smoking as assessed by a comprehensive, multidimensional measure of tobacco dependence, when compared to moderate to heavy AA smokers.

2. Methods

Data for the current study were collected as part of a randomized clinical trial examining the efficacy of a culturally tailored, palmtop computer-delivered treatment for smoking cessation, designed specifically for AAs. Participants were randomly assigned to either a standard smoking cessation treatment that included the nicotine patch, culturally sensitive self-help materials, and individual counseling, or standard treatment in combination with the palmtop computer-delivered treatment. All data used in the present study were collected prior to quitting and treatment initiation.

2.1. Participants

Participants were recruited via local print advertisements. Individuals were eligible to participate if they were AA, between the ages of 21 and 65 years, had been smoking $\geq$ five cigarettes per day for $\geq$ 12 months, had an expired carbon monoxide (CO) level of $\geq$ eight parts per million, planned to quit smoking within the next two weeks, possessed a functioning home telephone number and a permanent home address, and were able to understand English at a sixth grade literacy level. Individuals were excluded from the study if they reported regular use of tobacco products other than cigarettes, were using pharmacological smoking cessation treatments other than the nicotine patches supplied by the study, reported that nicotine patch was medically contraindicated, or were pregnant or lactating. Participant recruitment and flow through the study protocol are reported elsewhere (see Kendzor et al., in press).

2.2. Measures

2.2.1. Demographic, anthropometric, and smoking characteristics—Demographic information included age, gender, marital status, education, employment status, income, insurance status, height, and weight. Smoking characteristics included daily smoking rate, years of smoking, age at first cigarette use, number of previous quit attempts lasting at least 24 hours, and use of mentholated cigarettes. Expired CO levels and salivary cotinine were measured to verify smoking status and to determine levels of smoking. Motivation to quit smoking, readiness to quit (i.e., Contemplation Ladder; Biener & Abrams, 1991), and confidence in ability to avoid smoking (i.e., Smoking Self-Efficacy Scale; Velicer, DiClemente, Rossi, & Prochaska, 1990) were also assessed.

2.2.2. Smoking dependence and withdrawal—The 68-item Wisconsin Inventory of Smoking Dependence Motives (WISDM-68; Piper et al., 2004) was used to assess level of tobacco dependence and motives for smoking. Smoking withdrawal during the previous 24 hours was measured with the Wisconsin Smoking Withdrawal Scale (WSWS; Welsch et al., 1999). The WSWS was administered prior to smoking cessation in the present study.

2.2.3. Psychosocial measures—The Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) was used as a measure of affect. The 4-item version of the Perceived Stress Scale was used to assess level of perceived stress during the past week (Cohen, Kamarck, & Mermelstein, 1983). The Center for Epidemiological Studies Depression Scale was used to measure depressive symptoms (CES-D). A score of $\geq$ 16 on the CES-D indicated clinically significant distress (Radloff, 1977). The Alcohol Quantity & Frequency Questionnaire measured daily alcohol consumption and number of binge drinking episodes in the past three months (Cahalan, 1973).

2.3. Procedure

The study was approved by the institutional review board of The University of Texas M.D. Anderson Cancer Center. Informed consent was obtained from all participants.

2.4. Analytic plan

Participants were categorized as LS if they smoked 5-10 cigarettes per day and MHS if they smoked ≥ 11 cigarettes per day. The criteria for LS were chosen based on the criteria utilized with AA smokers in previous research (Ahluwalia et al., 2006; Okuyemi et al., 2004; Okuyemi et al., 2007; Webb & Carey, 2008). Moderate smokers (11-19 cigarettes per day; $n = 63$) were combined with heavy smokers (≥ 20 cigarettes per day; $n = 223$) because of the relatively small number of moderate smokers, as well as the similarity between these groups on nearly every measure utilized in the present study.

Chi-Square analyses were used to identify significant differences between LS and MHS on all categorical measures and Analyses of Variance (ANOVAs) were utilized to identify significant differences between LS and MHS on all continuous measures of demographics, anthropometrics, smoking characteristics, and psychosocial measures. A series of Analyses of Covariance (ANCOVAs) were subsequently conducted on the smoking and psychosocial measures with age, gender, education, and marital status included as covariates.

3. Results

3.1. Participant characteristics

A total of 374 AAs participated in the study, and 50% of the sample was female. The mean age of participants was 42.6 (SD = 9.7) years, and participants reported an average of 12.5 (SD = 1.7) years of education. Approximately 38% of participants reported that they were employed and 47% of participants reported that they had some form of insurance. Participants had a mean BMI of 29.6 (SD = 7.4), and 71% were overweight or obese. Participants smoked an average of 20.8 (SD = 12.2) cigarettes per day, and had been smoking for an average of 21.5 (SD = 10.7) years. Twenty-three percent of the sample was classified as LS ($n = 86$), and 77% were classified as MHS ($n = 286$). No significant differences were found between the LS and MHS on demographic or anthropometric characteristics including age, gender, marital status, education, employment status, income, insurance status, or BMI (Table 1).

3.2. Smoking characteristics

LS had lower CO levels, $F(1, 369) = 24.8, p < .01$, lower salivary cotinine levels, $F(1, 339) = 14.9, p < .01$, and were less likely to smoke within the first 30 minutes after waking, $\chi^2(1, 368) = 23.04, p < .01$ than MHS (Table 2). LS reported more lifetime quit attempts than MHS, $F(1, 365) = 4.6, p = .03$ (Table 2). Groups did not differ in the number of years that they had smoked, the age at which they had started smoking, their self-reported motivation to quit, or their readiness to quit smoking. Although the majority of each group reported smoking mentholated cigarettes, the LS were marginally more likely to smoke mentholated cigarettes than the MHS, $\chi^2(1, 364) = 3.35, p = .07$ (Table 2). An identical series of ANCOVAs were conducted controlling for age, gender, education, and marital status, and all findings remained the same.

3.3. Nicotine dependence

LS and MHS differed significantly on the total WISDM-68 tobacco dependence scale, as well as 11 of the 13 WISDM-68 subscales (Table 3). Specifically, LS scored lower than MHS on overall dependence, $F(1, 369) = 20.5, p < .01$, Affiliative Attachment, $F(1, 369) = 17.5, p < .01$, Automaticity, $F(1, 369) = 20.0, p < .01$, Loss of Control, $F(1, 369) = 23.2, p < .01$,

Behavioral Choice/Melioration, $F(1, 369) = 18.0, p < .01$, Cognitive Enhancement, $F(1, 369) = 9.4, p < .01$, Craving, $F(1, 369) = 16.8, p < .01$, Cue Exposure/Associative Processes, $F(1, 369) = 13.0, p < .01$, Negative Reinforcement, $F(1, 369) = 15.8, p < .01$, Positive Reinforcement, $F(1, 369) = 11.2, p < .01$, Taste/Sensory Processes, $F(1, 369) = 10.4, p = .01$, and Tolerance, $F(1, 369) = 35.1, p < .01$. No differences between groups were found on the Social and Environmental Goads or Weight Control subscales. An identical series of ANCOVAs were conducted controlling for age, gender, education, and marital status, and all findings remained the same.

3.4. Smoking withdrawal

LS scored significantly lower than MHS on the WSWC Concentration Difficulty, $F(1, 370) = 6.2, p = .01$, and Craving scales, $F(1, 370) = 7.7, p < .01$, prior to smoking cessation (Table 3). No differences were found between groups on the WSWC Anger, Anxiety, Hunger, Sadness, Sleep Problems, or Negative Affect scales (Table 3). All relationships remained unchanged after controlling for age, gender, education, and marital status.

3.5. Self-efficacy

On the Smoking Self-efficacy Scale, LS were significantly more confident than MHS about their overall ability to maintain abstinence from smoking, $F(1, 370) = 13.0, p < .01$, as well as in Positive Affect/Social situations, $F(1, 370) = 9.8, p < .01$, Negative Affect situations, $F(1, 370) = 10.2, p < .01$, and Habitual/Craving situations, $F(1, 370) = 9.0, p < .01$ (Table 3). Analyses adjusted for covariates yielded similar findings.

3.6. Psychosocial measures

LS scored significantly higher than MHS on the PANAS Positive Affect scale, $F(1, 370) = 4.7, p = .03$ and scored lower than MHS on the CES-D scale, $F(1, 369) = 4.6, p = .03$ (Table 3). In addition, lower scores among LS than MHS on the PANAS Negative Affect scale approached significance, $F(1, 370) = 3.3, p = .07$ (Table 3). Lower scores among LS than MHS on the Perceived Stress Scale approached significance, $F(1, 370) = 3.6, p = .06$ (Table 3). No significant between-groups differences were found in average daily alcohol consumption or number of binge drinking episodes. Controlling for age, gender, education, and marital status, revealed significant differences between groups on the Perceived Stress Scale, $F(1, 362) = 4.2, p = .04$. All other relationships remained unchanged.

4. Discussion

The present study is among the first to investigate the demographic, smoking, and psychosocial characteristics of LS versus MHS in an entirely AA sample. Compared to AA MHS, AA LS were less tobacco dependent when assessed using a comprehensive, multidimensional measure of dependence (Piper et al., 2004). Specifically, LS reported less dependence on smoking than did MHS on the total scale and on all subscales of the WISDM-68, with the exception of Social and Environmental Goads and Weight Control. With respect to withdrawal symptoms, AA LS reported less difficulty concentrating and less craving prior to smoking cessation than MHS, which is also suggestive of lower dependence on tobacco. In addition, LS reported lower levels of perceived stress, fewer symptoms of depression, more positive affect, and greater self-efficacy related to smoking cessation than MHS. Taken together, all of these differences should positively influence smoking cessation among LS given the fact that LS displayed equivalent motivation to quit when compared to MHS.

The lower levels of tobacco dependence found among AA LS in the present study are consistent with previous findings of low dependence among low-rate smokers or “chippers” (Reitzel et al., in press; Shiffman, Kassel, Paty, Gnys, & Zettler-Segal, 1994; Shiffman & Paty, 2006). It

is notable that LS scored lower than MHS on 11 of the 13 subscales of the WISDM-68, but did not differ in their endorsement of Social and Environmental Goads as a motivation for smoking. A nearly identical pattern of results was found in a recent study that compared light and moderate/heavy Latino smokers on the WISDM-68 (Reitzel et al., in press). In that study, Latino light smokers differed from Latino moderate and heavy smokers on 12 of the 13 subscales, but not on Social and Environmental Goads. Consistent with these findings, other studies have reported that social situations were linked with smoking among “chippers” (Shiffman et al., 1994; Shiffman & Paty, 2006). These findings suggest that while many aspects of dependence appear less pronounced among LS, dependence on smoking in response to environmental and social cues such as being around smokers or having friends and family members who smoke may be equally prominent among LS when compared to MHS.

LS reported less craving and less difficulty concentrating than MHS prior to quitting, providing further evidence of relatively low physiological dependence on tobacco (Okuyemi et al., 2002). Findings from other studies indicate that withdrawal symptoms may require less attention in cessation treatments that target AA LS, and may help to explain recent findings that AA LS may receive little benefit from the use of nicotine replacement therapy (Ahluwalia, McNagny, & Clark, 1998; Ahluwalia et al., 2006). However, data reported in the current study reflect baseline levels of withdrawal, prior to smoking cessation. These data may not accurately reflect differences between LS and MHS on withdrawal during a quit attempt. However, if AA LS are less affected by withdrawal, culturally appropriate behavioral interventions that focus on helping individuals cope with specific smoking motivations rather than withdrawal per se, such as smoking in social situations, could potentially be more effective for this sizable group of AA smokers.

As expected, cotinine levels were higher in MHS than in LS. Additionally, cotinine levels were higher in AA LS than would be expected based on number of cigarettes smoked per day. Elevated cotinine levels have been found in previous studies of AA LS (e.g., Ahluwalia et al., 2006; Wagenknecht et al., 1990). Further, studies which have reported the cotinine levels of both AA and Caucasian smokers have consistently indicated that AA smokers tend to have higher levels than Caucasian smokers for similar numbers of cigarettes smoked (e.g., Clark et al., 1996; Wagenknecht et al., 1990). Some research has suggested that the use of mentholated cigarettes in combination with the slower rate of nicotine metabolism among AAs may be partially responsible for these elevated cotinine levels (Perez-Stable et al., 1998). To date, the consequences of elevated levels of cotinine remain unclear, although some researchers have suggested that cotinine levels may be an indicator of nicotine dependence and a harbinger for smoking-related health consequences (Wagenknecht and colleagues, 1990).

Several psychosocial differences between LS and MHS were found in the present study. LS possessed greater overall self-efficacy in their ability to quit smoking than MHS, and positive affect was greater among LS than MHS. Self-efficacy is a strong predictor of smoking cessation across numerous studies (see Fiore et al., 2000), and there is initial evidence that greater positive affect may be associated with an increased probability of successfully quitting (Doran et al., 2006). AA LS also had less perceived stress than MHS after controlling for demographic characteristics, and fewer symptoms of depression. Both reduced stress and depressive symptoms have a beneficial impact on smoking cessation (Cinciripini et al., 2003; Manning, Catley, Harris, Mayo, & Ahluwalia, 2005; Wetter et al., 1999). Although a previous study found that non-treatment seeking AA LS were more motivated to quit than MHS (Okuyemi et al., 2004), LS and MHS were similarly motivated to quit in the present study. It is plausible that treatment-seeking LS and MHS may be equally motivated to quit, while LS who are not actively seeking treatment may be more motivated to quit than their MHS counterparts.

The current study has both strengths and limitations. Most importantly, the study was one of the first to compare LS and MHS in a sample composed entirely of AAs. In addition, we utilized a comprehensive measure of tobacco dependence, which provided detailed information about tobacco dependence across numerous dimensions. Limitations include the cross-sectional design, which limited conclusions about causality and only allowed for the examination of relationships at one point in time (i.e., at baseline prior to quitting or initiating smoking cessation treatment). Whether the factors favoring cessation among LS relative to MHS translate into greater success at quitting can be determined once the final study outcomes are known. Finally, a treatment seeking sample of AA smokers was utilized, and therefore, may not be representative of AA smokers in the general population.

The findings of the present study have important implications for smoking cessation treatment in AAs. Overall, LS display characteristics (e.g., lower dependence, higher self-efficacy, greater positive affect, lower stress, lower depression) that should positively influence cessation outcomes, and that may be compatible with brief, low-intensity cessation interventions. Unfortunately, little is known about which specific treatments are effective for LS or AA smokers in general (Okuyemi et al., 2002). Therefore, studies are needed to examine the efficacy of behavioral and pharmacological treatments that have been utilized in heavier smokers and whether such treatments can be improved by modifying them to better fit the factors underlying cessation among LS. Studies have indicated that culturally specific cessation interventions, treatments delivered in a variety of settings (e.g., church, community, clinic), and those involving media such as television or radio each show promise for use with AA smokers (Lawrence, Graber, Mills, Meissner, & Warnecke, 2003; Pederson, Ahluwalia, Harris, & McGrady, 2000). Given the high proportion of light AA smokers, the development of effective cessation interventions that target AA LS may contribute to the elimination of tobacco-related health disparities.

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Table 1

Participant Demographics

Variable	LS (n = 86)	MHS (n = 286)	p-value
Age [*]	42.0 (10.9)	42.7 (9.3)	.54
Gender (% female) [†]	54.7	49.0	.35
Married or living with partner (%) [†]	23.8	20.4	.51
Education (years) [*]	12.5 (1.7)	12.5 (1.7)	.98
Employed (% employed) [†]	33.7	39.6	.34
Income < 20 000 (%) [†]	67.2	64.8	.72
Insured (% yes) [†]	50.0	45.7	.49
Body Mass Index [*]	29.5 (7.3)	29.4 (7.4)	.87

Note: LS = 5-10 CPD; MHS = $\geq$ 11 CPD

* Analysis of Variance (ANOVA) was utilized to test for differences between groups.

[†] Chi-Square analysis was utilized to test for differences between groups.

Table 2

Smoking Characteristics

Variable	LS (n = 86)	MHS (n = 286)	p-value (unadjusted)
Cigarettes per day	9.0 (1.7)	24.3 (11.8)	<.01
Years smoking	20.4 (10.4)	21.9 (10.8)	.25
Carbon monoxide (ppm)	15.5 (8.3)	22.9 (13.0)	<.01
Cotinine (ng/ml)	260.6 (178.4)	352.5 (185.6)	<.01
Age at first cigarette	19.0 (6.2)	18.2 (5.7)	.27
Smoking within first 30 minutes (%) [†]	71.9	90.2	<.01
Mentholated cigarette (% yes) [†]	88.1	79.2	.07
Number of previous quit attempts	4.5 (3.3)	3.7 (3.0)	.03
Motivation to quit	4.4 (0.6)	4.4 (0.7)	.63
Contemplation Ladder	7.6 (2.5)	7.3 (3.0)	.42

Note: LS = 5-10 CPD; MHS = ≥ 11 CPD; ppm = parts per million

[†]
p values based on the chi-square statistic.

Table 3
Comparison of Light and Heavy Smokers on Psychosocial Questionnaires

Variable	LS (n = 86)	MHS (n = 286)	p-value (unadjusted)
WISDM-68			
Affiliative Attachment	3.1 (1.8)	4.0 (1.9)	<.01
Automaticity	3.9 (1.7)	4.8 (1.6)	<.01
Loss of Control	4.0 (1.7)	5.0 (1.5)	<.01
Behavioral Choice/Melioration	3.1 (1.5)	4.0 (1.7)	<.01
Cognitive Enhancement	3.4 (1.8)	4.1 (1.8)	<.01
Craving	4.5 (1.7)	5.3 (1.5)	<.01
Cue Exposure	4.3 (1.4)	4.9 (1.4)	<.01
Positive Reinforcement	3.7 (1.5)	4.4 (1.7)	<.01
Negative Reinforcement	4.1 (1.6)	4.8 (1.6)	<.01
Social/Environmental Goads	4.3 (2.0)	4.5 (2.1)	.52
Taste and Sensory Processes	4.3 (1.5)	4.9 (1.6)	<.01
Tolerance	4.4 (1.6)	5.4 (1.4)	<.01
Weight Control	3.3 (1.7)	3.4 (1.8)	.59
Total	50.3 (17.1)	59.5 (16.3)	<.01
Wisconsin Smoking Withdrawal Scale			
Anger	1.9 (1.0)	1.9 (1.1)	.92
Anxiety	2.0 (0.7)	2.1 (1.0)	.23
Concentration Difficulty	1.4 (0.8)	1.7 (0.9)	.01
Craving	2.4 (0.8)	2.7 (0.7)	<.01
Hunger	2.3 (0.7)	2.2 (0.8)	.79
Sadness	1.6 (0.7)	1.7 (0.9)	.28
Sleep Problems	2.0 (0.9)	2.1 (1.0)	.12
Smoking: Self-Efficacy Scale			
Positive Affect/Social	9.1 (2.3)	8.1 (2.7)	<.01
Negative Affect	8.3 (2.8)	7.2 (2.9)	<.01
Habitual/Craving	9.5 (2.1)	8.6 (2.7)	<.01
Total	27.0 (5.7)	23.9 (7.4)	<.01
Positive and Negative Affect Scale			
Positive Affect	34.3 (8.4)	32.0 (8.7)	.03
Negative Affect	18.8 (6.9)	20.8 (9.3)	.07
CES-D	14.4 (9.7)	17.5 (12.2)	.03
Perceived Stress Scale	5.8 (2.6)	6.5 (3.3)	.06
Alcoholic drinks/day	1.2 (1.6)	1.4 (3.1)	.46
Binges in past 3 months	3.0 (5.8)	2.2 (5.9)	.30

Note: LS = 5-10 CPD; MHS = ≥ 11 CPD; WISDM-68 = Wisconsin Inventory of Smoking Dependence Motives; CES-D = Center for Epidemiological Studies Depression Scale