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Coffee and Cigarette Consumption and Perceived Effects in Recovering Alcoholics Participating in Alcoholics Anonymous in Nashville, TN

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Abstract

Background—Alcoholics Anonymous (AA) members represent an important and relatively understudied population for improving our understanding of alcohol dependence recovery since over one million Americans participate in the program. Further insight into coffee and cigarette use by these individuals is necessary given AA members' apparent widespread consumption and the recognized health consequences and psychopharmacological actions of these substances.

Methods—Volunteers were sought from all open-AA meetings in Nashville, TN during the summer of 2007 to complete a questionnaire (n=289, completion rate=94.1%) including timeline followback for coffee, cigarette, and alcohol consumption; the Alcoholics Anonymous Affiliation Scale; coffee consumption and effects questions; the Fagerstrom Test for Nicotine Dependence (FTND); and the Smoking Effects Questionnaire.

Results—Mean (\pm SD) age of onset of alcohol consumption was 15.4 \pm 4.2 years and mean lifetime alcohol consumption was 1026.0 \pm 772.8 kg ethanol. Median declared alcohol abstinence was 2.1 years (range: 0 days–41.1 years) and median lifetime AA attendance was 1000.0 meetings (range: 4–44209 meetings); average AA affiliation score was 7.6 \pm 1.5. Most (88.5%) individuals consumed coffee and approximately 33% of coffee consumers drank more than four cups per day (M=3.9 \pm 3.9). The most common self-reported reasons for coffee consumption and coffee-associated behavioral changes were related to stimulatory effects. More than half (56.9%) of individuals in AA smoked cigarettes. Of those who smoked, 78.7% consumed at least half a pack of cigarettes per day (M=21.8 \pm 12.3). Smokers' FTND scores were 5.8 \pm 2.4; over 60% of smokers were highly or very highly dependent. Reduced negative affect was the most important subjective effect of smoking.

Conclusions—A greater proportion of AA participants drink coffee and smoke cigarettes in larger per capita amounts than observed in general US populations. The effects of these products as described by AA participants suggest significant stimulation and negative affect reduction. Fundamental knowledge of the quantitative and qualitative aspects of coffee and cigarette

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consumption among AA members will enable future research to discern their impact on alcohol abstinence and recovery.

Keywords

Alcoholics Anonymous; coffee; cigarette; alcohol

INTRODUCTION

More than one million recovering alcoholics attend Alcoholics Anonymous (AA) meetings throughout the US (AA, 1998). Involvement in these meetings can effectively help recovering alcoholics remain abstinent (Emrick et al., 1993; Humphreys and Moos, 1996; Longabaugh et al., 1998; McKellar et al., 2003; Montgomery et al., 1995; Vaillant, 2003). While AA participants are notorious for their coffee drinking and cigarette smoking, these consummatory behaviors may have positive and negative effects on health and well-being. Coffee and cigarettes have significant psychoactive actions that must be considered in understanding recovery from alcohol dependence. As a first step in understanding their roles, coffee and cigarette consumption prevalences and the perceived motivations for their use must be addressed.

We are unaware of systematic attempts to determine the magnitude of coffee and cigarette consumption among AA members or in samples of alcoholics in long-term recovery. Concurrent coffee and cigarette consumption data are only available for a short-term inpatient treatment group in which coffee drinking and cigarette smoking were reasonably correlated. Non-smokers consumed 1.5 cups of coffee per day and smokers consumed 3.2 cups; individuals smoking <30 cigarettes per day consumed 2.2 cups while heavier smokers drank 4.0 cups per day (Aubin et al., 1999).

Previous research has demonstrated numerous beneficial effects related to coffee consumption and smoking cessation, many of which may mitigate adverse consequences of chronic alcohol consumption (Lieber, 1995). Coffee consumption may be protective against type II diabetes (van Dam et al., 2004), suicide (Kawachi et al., 1996; Klatsky et al., 1993), Alzheimer's Disease (Lindsay et al., 2002), and Parkinson's Disease (Ross et al., 2000). It is also protective against alcoholic cirrhosis (Klatsky and Armstrong, 1992; Klatsky et al., 2006; Vinson, 2006), chronic liver disease (Ruhl and Everhart, 2005), and hepatocellular carcinoma and perhaps other forms of gastrointestinal cancer (Bravi et al., 2007). Smoking cessation is important because smoking is associated with type II diabetes (Howard et al., 2004; Rimm et al., 1995); suicide and depression (Johnson et al., 2004; Miller et al., 2000; Schuckit, 1994; Wilcox et al., 2004); cardiovascular disease (Ambrose and Barua, 2004; Zakhari, 1997); and cancers including, but not limited to breast (Terry and Rohan, 2002), colorectal (Giovannucci, 2001), and lung (Hecht, 1999). Furthermore, mortality among individuals recovering from alcoholism and other non-nicotine addictions is more often related to smoking effects than to alcohol-related consequences (Hurt et al., 1996).

Drugs of abuse such as ethanol and nicotine act via independent processes to produce unique psychophysiological effects, but all produce a common pharmacologically mediated reward which can progress to repeated self-administration and addiction (Nestler, 2005). This repetitive use induces adaptations in the dopaminergic pathway of the ventral tegmental area (VTA) and nucleus accumbens (NAc) (Di Chiara, 2000; Kalivas and Volkow, 2005; Nestler, 2005). Both long-term potentiation and long-term depression have been demonstrated at glutamatergic synapses in the VTA and NAc as a consequence of drug administration, providing a mechanism for the long-term neuroadaptation observed in drug addicts and

explaining in part the out-of-control consumption and relapse patterns after periods of abstinence (Hyman, 2005; Kalivas and Volkow, 2005; Nestler, 2001; Thomas et al., 2000).

Caffeine is substantially less addictive than ethanol and nicotine because it does not induce similar effects in the VTA and NAc (Acquas et al., 2002; De Luca et al., 2007; Di Chiara, 1999; Goldman et al., 2005; Goldstein and Kalant, 1990; Nehlig and Boyet, 2000). Psychostimulatory effects of caffeine derive from adenosine antagonist activity causing dopamine release in the medial prefrontal cortex (Acquas et al., 2002; De Luca et al., 2007). Consequently, the stimulatory effects of caffeine might enable recovering alcoholics to trade ethanol for caffeine without activating the dopaminergic reward pathway or increasing risk for alcohol relapse (Acquas et al., 2002; De Luca et al., 2007; Lindskog et al., 2002).

In addition to caffeine, coffee contains chlorogenic acid quinides such as caffeoyl-1,5-quinides (including 4-caffeoyl-1,5-quinide (4-CQL) and 3,4-dicaffeoyl-1,5-quinide (DICAQ)) and feruloyl-1,5-quinides (3-feruloylquinide (3-FQL) and 4-feruloylquinide (4-FQL)) which are formed during the roasting process (Farah et al., 2006; Farah et al., 2005). Each of 4-CQL, DICAQ, 3-FQL, and 4-FQL bind the mu opioid receptor with varying affinities and 4-CQL reduces the anti-nociceptive effects of morphine (de Paulis et al., 2004; Swift, 1999), an action similar to that of opioid antagonists demonstrated to reduce alcohol craving and relapse in alcohol dependence (Swift, 1999). Furthermore, these chlorogenic acid quinides exhibit adenosine agonist actions (by inhibition of the adenosine transporter) which might augment synaptic adenosine, thereby opposing the effects of caffeine (de Paulis et al., 2002). Increased brain adenosine may have both anxiolytic and antidepressant actions (de Paulis and Martin, 2004; Fredholm et al., 1999), and may thus facilitate reduced alcohol intake (Mailliard and Diamond, 2004).

The psychopharmacological effects of coffee and tobacco, legal drugs consumed by recovering alcoholics, may influence the recovery process, potentially confounding the efficacy of recovery programs such as AA. Given the popularity of coffee and cigarettes in AA and the important psychopharmacological effects of their constituents, further study on consumption is warranted.

MATERIALS AND METHODS

Approval of this research was obtained from the Vanderbilt University Institutional Review Board Behavioral Sciences Committee and the Middle Tennessee AA central office in Nashville, TN. One of us (MSR) also met with the meeting chairperson before each meeting to request permission to attend the meeting and to request volunteers to complete the questionnaire.

Subjects

Ninety-four different open (to the public)-AA meetings occurred in Nashville, TN during the summer of 2007. These meetings were differentiated by group name, location, time of meeting, and occurrence on a weekday or the weekend. Meetings were sampled in a random order and attended once. Fourteen of the meetings chose not to permit recruitment of participants for the study and five lacked sufficient attendance for meetings to occur. Seventy-five meetings allowed the recruitment of participants for research, and a total of 307 participants volunteered.

Subjects were required to be at least 18 years old, identify themselves as recovering alcoholics, and attend AA. One volunteer was excluded from participating due to age. Participants were allowed to complete only one questionnaire even if they attended multiple meetings at which it was administered. Participants were offered a \$5 grocery store gift card

as compensation for the time required to participate. The questionnaire took approximately 45 minutes to complete.

Demographics

Sex, age, marital status, ethnicity, income, employment status, religion, endorsed importance of religion, education, urban/rural status, and state of residence were used to characterize subjects. These variables were used to evaluate national drinking patterns in Midanik et al. (Midanik and Clark, 1994); the original variable “region” was changed to “state of residence” since it was assumed nearly all participants were Tennesseans.

Timeline Followback (TLFB)

TLFB is a valid and reliable measure of alcohol and smoking consumption (Brown et al., 1998; Lewis-Esquerre et al., 2005; Sobell and Sobell, 1992; Sobell et al., 2001) and was adapted to measure coffee consumption as well. TLFB was divided into two sections. The first TLFB section assessed current (past three months) coffee and cigarette consumption levels by requesting daily consumption averages on a per week basis. A calendar of the preceding three months, with all major holidays marked, was included with the TLFB section for reference. Consumption values did not differentiate caffeinated from decaffeinated coffee and one cup of coffee was defined as six ounces.

The second TLFB section measured lifelong alcohol, tobacco, and coffee consumption in five year intervals starting at age 11 (Sobell and Sobell, 1992). Subjects were asked at what age they started consuming beer, wine, liquor, tobacco, and coffee. For individuals who indicated having started consuming any substance before age 11, the age used for analytical purposes was ten years old since it was assumed that regular alcohol use and alcohol dependence starts early in the second decade of life (Anthony and Echeagaray-Wagner, 2000; Jernigan, 2005). Participants were also asked for the date which they last consumed alcohol. Subjects provided their daily average consumption during each interval. Coffee and tobacco consumption were assumed constant over each interval; subjects were instructed to note the extent of any alcohol abstinence periods during an interval. Subjects' current alcohol abstinence duration was calculated by subtracting the date of their last drink from their survey administration date.

Alcoholics Anonymous Affiliation Scale (AAAS)

The AAAS is a nine question, nine point scale designed to assess a range of AA experiences indicative of strength of affiliation (Humphreys et al., 1998). Affiliation designations were: 0.00 – none, 0.25–3.00 – slight, 3.25–6.00 – moderate, and 6.25–9.00 – strong affiliation. Participants were also asked when they started attending meetings.

Coffee Consumption and Effects

Coffee consumption and perceived effects of consumption were measured using a questionnaire originally designed to measure the amount, frequency, reasons for consumption, and effects of coffee in a housewife population (Goldstein and Kaizer, 1969; Goldstein et al., 1969). It is logical that these variables should be similar between males and females so we found it acceptable to use this questionnaire; the word “husband” was changed to “spouse” in one question to make it appropriate for both sexes.

Fagerstrom Test for Nicotine Dependence (FTND)

The FTND, derived from the Fagerstrom Tolerance Questionnaire (Fagerstrom, 1978), was administered to measure nicotine dependence levels in current smokers (Heatherton et al.,

1991). FTND is scored on a ten-point scale with dependence defined as very low (0–2 points), low, medium (5 points), high, and very high (8–10 points).

Smoking Effects Questionnaire (SEQ)

The 33 question SEQ assessed subjects' personal beliefs regarding the effects of smoking (Rohsenow et al., 2003). Perceived negatives included negative physical effects, negative psychosocial effects, and future health concerns; positives included reduced negative affect, stimulation, positive social effects, and weight control. Scoring utilized a four-point Likert scale with 0 – false, 1 – true and hardly important at all, 2 – true and moderately important, and 3 – true and very important (Rohsenow et al., 2003). Importance scores consisted of the average value for each response within a subscale. Frequency scores were tallies of “true” responses within each subscale (Rohsenow et al., 2003).

Statistical Analysis

Statistical summaries and analysis were performed using SPSS Version 15.0 (SPSS, Inc., Chicago, IL) and STATA Version 9.2 (StataCorp, College Station, TX). Descriptive summaries consisted of frequency distributions for the nominal and ordinal variables. The Wilson method was used to calculate confidence intervals for proportions (percentages). This method is neither strongly dependent on the value of the proportion nor on sample size; it also does not allow lower limits to be negative (Agresti and Coull, 1998). Mean, standard deviation ($M \pm SD$), and percentile-based summaries (median, inter-quartile range (IQR)) were assessed in cases of severely skewed continuous variable distributions (e.g., consumption, length of time in AA, etc.). Bias-corrected bootstrapped confidence intervals were generated for continuous variables. Because there was no ‘non-AA’ control group included in this study, comparisons of consumption levels obtained from the sample in this study to other published summaries of consumption were done via the use of confidence intervals (Pagano and Gauvreau, 2000). Associations between continuous variables were made using Spearman Rho correlations, between nominal or ordinal variables via cross-tabular summaries and Chi-Square Tests of Independence. The maximum alpha level for tests of statistical significance was set at 0.05.

RESULTS

Demographics

Two hundred eighty-nine (163 males, 126 females) volunteers completed the questionnaire (completion rate: 94.1%). The average age of participants was 45.1 ± 12.1 years (range: 20–82 years). Complete demographic data is presented in Table 1.

Alcohol consumption

Individuals reported that mean age of onset of consumption of any alcoholic beverage was 15.4 ± 4.2 years. The mean age (years) of drinking onset for specific beverages were 16.0 ± 4.7 , 17.5 ± 5.2 , and 19.4 ± 7.3 for beer, liquor, and wine, respectively. Average lifetime total alcohol consumption is summarized in Table 2. Alcohol consumption was positively associated with age ($r=0.279$, $p<0.001$).

Length of abstinence, AA attendance, and AA affiliation

Summaries of length of sobriety, duration of time in AA, and AA affiliation are presented in Table 2. Almost one-third (32.2%) of subjects had less than six months abstinence and 23.9% had more than ten years. Nearly half (48.5%) reported AA involvement durations of more than ten years (<6 months: 9.6%; 6–12 months: 2.3%; 1–5 years: 20.4%; 5–10 years: 19.2%). Median meeting attendance in the past year and lifetime were 150.0 (IQR=60.0–

290.5) and 1000.0 (IQR=300.0–2000.0), respectively. Positive associations existed between AA affiliation and age ($r=0.257$, $p<0.001$), length of sobriety ($r=0.569$, $p<0.001$), and time in AA ($r=0.326$, $p<0.001$).

Coffee Consumption

Coffee consumption initiation, among those ever indicating regular consumption ($n=268$), was 19.10 ± 6.50 years. Two hundred fifty-five of 288 (88.5%, 95% C.I.=84.3–91.7%) respondents indicated current consumption, a statistically significantly higher rate than the 57% of US adults who consume coffee daily, the 67% who consume it weekly, and the 81% who have consumed it in the past year ($p<0.01$) (NCA, 2007); we are unaware of any reports of consumption rates specifically for Nashville or Tennessee. Of current regular consumers, 35.3% drank 1–2 cups per day, 31.7% drank 3–4 cups, and 32.9% drank more than 4 cups per day ($M=3.9$, 95% C.I.=3.5–4.4, $SD=3.9$, Median=3.0, IQR=2–5 cups per day), statistically significantly greater quantities than the 3.3 cups per day consumed by the typical US coffee drinker ($p<0.05$) (NCA, 2007). Most regular coffee drinkers (94.8%) reported consuming either before or during breakfast, 40.2% between breakfast and lunch, 14.1% with lunch, 34.9% between lunch and dinner, and 38.2% with or after dinner.

Coffee effects

Coffee was most commonly consumed because “It helps wake you up” (76.6%) and least commonly consumed because “It makes you want to go back to sleep” (1.2%). Thirty-three non-coffee drinkers provided reasons for not drinking coffee, the commonest being a taste disliking (33.3%). Table 3 provides all reasons for consuming and not consuming coffee. Table 4 lists behavioral changes and frequencies associated with and without coffee consumption. The most frequent change reported with consumption was becoming more alert (87.3%) and the least frequent was becoming sluggish (2.1%). Without coffee, 67.8% reported feeling half awake while 7.8% become more active.

Cigarette Consumption

One hundred sixty-four of 288 respondents (56.9%, 95% C.I.= 51.2–62.5%) currently smoked, a substantially higher rate than the 26.9% of individuals 12 and older who have smoked in the past month in Davidson County, which includes Nashville ($p<0.05$) (SAMHSA, 2007); cigarette consumption rates for Nashville exactly matching our study’s age cohort are unavailable. On the other hand, the consumption rate for the respondents in our study was lower than the 80–95% previously reported for alcoholics ($p<0.05$) (Patten et al., 1996). On average, individuals (including those who have since quit) began smoking at 16.7 ± 5.9 (range: 10–48.5) years old. Of current smokers 21.3% reported smoking less than ½ pack per day, 44.5% smoked ½–1 pack per day, and 34.1% smoked more than a pack per day ($M=21.8$, 95% C.I.=20.0–23.7, $SD=12.3$, Median=20.0, IQR=14.5–30.0 cigarettes per day).

Nicotine Dependence

One hundred fifty-four of the 164 current smokers completed the FTND. The average score was 5.8 ± 2.4 (range: 0–10). Slightly more than a quarter (26.6%) had low or very low dependence, 11.0% had medium, 39.6% had high, and 22.7% had very high nicotine dependence.

Smoking Effects

Current smokers ($N=154$) reported reduction of negative affect as the most important effect of smoking, deemed moderately to very important ($M=2.2$). Weight control was least

important ($M=1.1$). All other effects were rated between hardly and moderately important and are shown in Table 5.

Combined coffee and cigarette consumption

The 124 non-smokers in this sample reported consuming an average of 2.8 cups of coffee per day (95% C.I.=2.4–3.3 cups per day); all smokers ($N=164$) reported consuming an average 4.0 cups per day (95% C.I.=3.2–5.1 cups per day). Smokers consumed statistically significantly more coffee than non-smokers ($p=0.015$).

DISCUSSION

Although readily observed, the current research is to our knowledge the first to carefully examine and show that coffee and cigarettes are consumed by such a great proportion of AA participants and in large per capita amounts. Previous epidemiologic research has shown that coffee consumption may protect against many disorders, including those such as liver disease and suicide which frequently complicate chronic alcohol dependence. Conversely, smoking cessation has significant long-term health benefits. Considering the prevalence of coffee drinking and cigarette smoking in AA, the quantities consumed, and the perceived psychoactive actions of these agents, investigating the relationships between these consummatory behaviors and alcohol abstinence will be an important next step.

Participants in our study started consuming alcohol at ages consistent with previous reports of adolescent drinking (Anthony and Echeagaray-Wagner, 2000; Jernigan, 2005); their lifetime ethanol consumption was also comparable to previously reported data from a Nashville sample (Parks et al., 2002). This suggests that the questionnaire used in this study yielded comparable data and the present sample is representative of recovering alcoholics in our region and likely beyond.

As expected, since coffee and alcohol consumption are positively correlated (Istvan and Matarazzo, 1984; Klesges et al., 1994), coffee consumption rates and quantities in recovering alcoholics exceeded those of the general population. The most frequent reasons for drinking coffee in our sample were related to instrumental (stimulatory) effects of coffee, and are possibly caffeine-induced (Lindskog et al., 2002; Robelin and Rogers, 1998). Given that nearly our entire sample consumed coffee near breakfast, these subjective effects are compatible with a role as an “eye-opening” beverage. Whether the psychopharmacologic underpinnings of these effects of coffee are related to alcohol abstinence and long-term recovery needs to be determined, especially since caffeine is considered by some to have dependence liability (Juliano and Griffiths, 2004).

Cigarette and alcohol consumption are positively correlated (Istvan and Matarazzo, 1984), so it was not surprising that more recovering alcoholics smoked as compared to the Nashville population (SAMHSA, 2007). Interestingly, a substantially smaller proportion of the present sample smoked cigarettes (56.9%) than the 80–95% previously reported for alcoholics (Patten et al., 1996), suggesting that the positive correlation between smoking and alcohol consumption is altered during abstinence and long-term sobriety in alcoholics. Specifically, this finding supports the hypothesis that recovering alcoholics in AA may quit or diminish smoking while remaining abstinent from alcohol, though this relationship may be unique to subjects in long-term abstinence (Aubin et al., 1999). In spite of this apparent lower rate of smoking, all of the investigated positive effects associated with smoking were of some importance to smokers and more than 70% of smokers were at least moderately nicotine dependent. Any attempts to promote smoking cessation in current smokers must overcome these obstacles (Asher et al., 2003).

The limitations of our study center on inherent obstacles associated with working with AA participants and with cross-sectional research, however none affected our ability to thoroughly describe the Nashville AA members' consumption patterns and draw potentially important conclusions which require further study. To yield a sufficiently large and representative sample for statistical analyses and generalizability of results, volunteers were requested rather than randomly selected in each AA meeting. Consequently, our sample likely consists of volunteers who are more active and involved participants in AA (Bebbington, 1976). Nevertheless, if consummatory behaviors were simply associated with AA involvement, this selection bias cannot completely explain why coffee and cigarette consumptions were dissociated in our sample, namely relatively increased and decreased, respectively, compared to other reports in the literature. Due to the anonymous nature of AA and because many participants attended multiple meetings, we could not reliably determine the proportion of AA attendees who did not volunteer nor to describe these nonparticipants demographically, except that the AA meetings that provided the source for our sample averaged an estimated 19.4 ± 12.4 (total 1540) attendees. The only alcoholism-related variable obtained in this study was AA attendance; we did not document concurrent or previous inpatient or outpatient treatments, conduct a psychiatric evaluation, or formally assign DSM IV diagnoses. The relationship between psychiatric diagnoses and consummatory behaviors represent potentially interesting further research.

Coffee was measured in total cups consumed (the typical unit used in epidemiologic studies) without standardizing strength of brew (Grobbee et al., 1990; Willett et al., 1996). A potential limitation is that we did not distinguish caffeinated from decaffeinated coffee; however, many of the effects of coffee consumption on health previously published have been found to be related to coffee whether caffeinated or not. Therefore, we do not believe that our not obtaining caffeination information detracts from these findings as this would have required considerably more effort and resources than we had available.

Care must be taken when interpreting findings from cross-sectional surveys, particularly interpretations having to do with "time". We are aware that it is impossible to tease out cohort effects (e.g., age and/or generational effects) from passage of time effects in cross-sectional designs. Nevertheless, prior to doing more resource intensive prospective longitudinal studies, important variables of interest must be clearly delineated. Cross-sectional surveys, such as this one, serve a valuable role in that developing research process.

Our research may be the first to provide quantitative and qualitative data regarding coffee and cigarette consumption by AA members and recovering alcoholics with long-term abstinence. Given the results of this study, a logical next step will be to elucidate the consequences and underlying pharmacology of coffee and cigarette consumption on alcohol abstinence in recovering alcoholics. With more than a million recovering alcoholics participating in AA, the majority of whom are affected by coffee and cigarettes, this and future research can have a significant impact on the effectiveness of addiction treatment and the health of those suffering from alcoholism.

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Table 1

Description of the sample of participants

Characteristic	%	Characteristic	%
Gender (N=289)			
Male	56.4	Catholic	14.2
Female	43.6	Jewish	1.7
Marital status (N=288)			
Married	24.7	Liberal Protestant	13.2
Separated	6.9	Conservative Protestant	40.6
Divorced	36.5	Other	23.2
Widowed	2.1	None	6.9
Never Married			
	29.9	Very	43.9
Racial/ethnic background (N=289)			
White	88.9	Somewhat	31.4
African-American	6.9	Not really	13.2
Hispanic	1.4	Not at all	11.5
Other	2.8	Education level (N=288)	
Income relative to US median (N=287)			
Same or above	36.2	Less than high school	4.9
Below	63.8	High school graduate	15.3
Employment status (N=289)			
Work full-time	53.6	Some college	41.0
Work part-time	10.4	College graduate	37.5
Retired	8.7	Other	1.4
Homemaker	5.9	City size/type (N=283)	
Other	21.5	Metro with > 50,000	87.3
State of residence (N=284)			
		Metro with < 50,000	6.4
		Non-metro	6.4
		Tennessee	
		Tennessee	98.2
		Non-Tennessee	1.8

Table 2
Summaries of alcohol consumption, sobriety, Alcoholics Anonymous (AA) duration and affiliation

	N	Mean	SD	Min	25 th Pctl	Median	75 th Pctl	Max
Drinks	256	75,440.4	56,825.8	1526.2	35,739.7	61,402.7	105,694.1	474,845.8
Ethanol (kg)	256	1026.0	772.8	20.8	486.1	835.1	1437.4	6457.9
Sobriety (yrs)	289	6.2	8.4	0.0	0.3	2.1	9.6	41.1
AA Duration (yrs)	289	11.4	9.2	0.0	3.2	9.7	18.1	41.1
AA Affiliation*	281	7.6	1.5	0.5	7.3	8.3	8.8	9.0

* Possible range of AA Affiliation scores is 0 – 9.

Table 3

Reasons for consuming or not consuming coffee *

Reasons for Consuming (N=244)	%	Reasons for Not Consuming (N=33)	%
Helps you wake up	76.6	Dislike taste	33.3
Gets you going in the morning	74.2	Makes you nervous, shaky, jittery	21.2
Gives you energy	73.4	Physical symptoms	15.2
You enjoy it	71.3	Never habituated	6.1
Like the taste	65.2	Prefer other beverage	3.0
Simulates you	60.7	Other	36.4
It is a habit	59.0		
Gives you a "lift"	58.2		
Feel the need for it	41.8		
Gives you a feeling of well-being	29.5		
Calms your nerves	14.3		
Makes you relax	12.3		
Because your spouse drinks it	4.9		
Slows you down	2.5		
Makes you want to go back to sleep	1.2		
Other	7.8		

* More than one choice may have been selected. Therefore the percentages do not sum to 100.

Table 4

Self-reported behavioral changes with and without coffee consumption *

Behavioral Changes with Consumption (N=244)	%	Behavioral Changes without Consumption (N=244)	%
Are more alert	87.3	Feel half awake	67.8
You "perk up"	87.2	Become sleepy	60.3
Are more active	75.7	Become irritable	55.0
Work more efficiently	71.6	Get a headache	50.4
Are less irritable	42.0	Become lethargic	46.7
Are more relaxed	32.1	Unable to work effectively	41.7
Become nervous	23.5	Become restless	26.9
Work less efficiently	7.0	Become nervous	23.6
You get drowsy	4.1	Be more alert	10.7
You become sluggish	2.1	Be more energetic	9.5
Other	7.4	Be more active	7.8
		Other	3.3

* More than one choice may have been selected. Therefore the percentages do not sum to 100.

Table 5

Number of negative and positive effects of smoking and their importance (N=154)

Negative Effects	Importance[*] (M ± SD)	Frequency^{**} (M ± SD)
Negative physical effects	1.8 ± 0.8	3.9 ± 1.2
Negative psychosocial effects	1.4 ± 0.9	3.2 ± 1.8
Health Concerns	1.7 ± 1.0	3.0 ± 1.4
Positive Effects	Importance[*] (M ± SD)	Frequency^{**} (M ± SD)
Reduced negative affect	2.2 ± 0.8	4.6 ± 0.9
Stimulation	1.2 ± 0.9	3.1 ± 1.7
Positive social effects	1.3 ± 0.9	3.4 ± 1.6
Weight control	1.1 ± 0.9	2.1 ± 1.6

* Possible range of importance scores is 0–3.

** Possible range of frequency scores is 0–5 for negative physical effects, negative psychosocial effects, reduced negative affect, stimulation, and positive social effects and 0–4 for health concerns and weight control.