LIGHT SMOKING PATTERNS AMONG STUDENTS ENROLLED IN A BRIEF SMOKING CESSATION INTERVENTION

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Abstract

Light smoking is a unique pattern of smoking behavior that has been found to be especially prevalent in young adults (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004) and Hispanics (DeBernardo et al., 1999). Smoking inclusion criteria was between one cigarette a month to 10 cigarettes per day. This study examined the smoking patterns of 142 students enrolled in a brief smoking cessation intervention at a university health center. Participants provided demographic information and completed the Smoking Stage of Change measure and a 7 day timeline follow back assessing which days of the week participants smoked, and the length of time they smoked each day. ANOVA with a repeated measures factor of day of the week and between measures factors of gender, ethnicity (Mexican National, Hispanic, or Non-Hispanic White), and baseline stage of change (Precontemplation, Contemplation, Preparation) was employed. Results indicated that only day of the week was a significant predictor of amount smoked per day such that increased levels of smoking occurred on Fridays and Saturdays. These results indicate aspects of weekend smoking may be more salient influences of light smoking than demographics and stage of change.

Introduction

Light smoking and Addiction

- Light smoking is a growing trend in the United States, especially among college students (Lenz, 2004) and Hispanics (DeBernardo et al., 1999).
- Due to the sporadic nature of light smoking, the urge to smoke may be considerably lower compared with that of heavier smokers (Sargent, Mott, & Stevens, 1998; Shiffman & Paty, 2006)
- As such, light smokers are not as likely to experience tolerance and withdrawal symptoms (Soresi et al., 2005; Shiffman et al., 1994).

Demographics

- Young adults between the ages of 18 and 25 exhibit the highest rates of tobacco product consumption in comparison to other age groups (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004).
- In addition, previous studies have linked Hispanics with higher rates of light smoking (DeBernardo et al., 1999).

Smoking Settings

- Lenz (2004) suggests that lack of signs of addiction, smoking while drinking, and stress are among the most salient factors affecting young adults' smoking behavior.
- Light smokers appear to be particularly susceptible to smoking during the weekend (Murphy-Hoefer, Alder, & Higbee, 2004), and during social events such as bar- and restaurant-frequenting (Shiffman & Paty, 2006).

Mood and Affect

- Light smoking participants have been found to smoke when their mood is higher (Shiffman et al.,1994), which may run counter to mood findings in more frequent smokers who smoke more when they are depressed or experiencing stress (Patton et al., 1996; Zhu, Sun, Billings, Choi, & Malarcher, 1999).

Aims and Hypotheses

- The current study aimed to identify patterns of light smoking, correlates of light smoking with the Transtheoretical Model's stages of change, and demographic associations for the purpose of developing better smoking cessation interventions.
- Amount smoked per day was hypothesized to be differentiated by:
  1. The day of the week (with weekends having higher means).
  2. Gender and ethnicity (Hispanic vs. Non-Hispanic White), with Hispanics evidencing higher rates of light smoking than Non-Hispanic Whites.
  3. Transtheoretical Model Stage of Change, with amount smoked per day inversely associated with reported stage of change (Precontemplation, Contemplation, Preparation).

Method

Participants

- College students (*N*=147) participated in a brief intervention targeting light smoking (1 cigarette per month up to 10 cigarettes per day).
- Participants (87% Hispanic) were recruited proactively and via campus advertisement.

Procedure

- Data were collected from a larger ongoing intervention study conducted at the campus Health Center.
- Demographic surveys and smoking related questionnaires were administered to assess light smoking patterns prior to a brief light smoking intervention at the University of Texas in El Paso.

Measures

- The CPRC Smoking: Stages of Change (Short Form) (DiClemente et al., 1991) to assess readiness to quit along a continuum of stage constructs. This categorical measure has been reasonably employed with both adolescent and adult smokers (Aveyard, Lancashire, Almond, & Cheng, 2002; Carlson, Taenzer, Koopman, & Casebeer, 2003; Pallonen, 1998).
- Seven-day Timeline Recall assessing number of cigarettes smoked on each of the previous 7 days.

Statistical Analyses

- Repeated measures ANOVAs were used to test the following predictors of cigarettes smoked per day (cpd):
  - Between participant factors: 1) gender, 2) ethnicity (Hispanic vs. Non-Hispanic White), and 3) Stage of Change (SOC: Precontemplation, Contemplation, and Preparation).
  - Within participant factor was the timeline follow-back estimate of average cpd within a 1 week span.

Results

- A significant main effect was found for the **Day of the week**, $\lambda = .81$, F (6, 141) = 5.42, $p < .001$, $\eta^2 = 0.19$) in cpd. (See Table 1 and Figure 1)
- Light smokers reported smoking significantly more cigarettes on **Fridays** and **Saturdays** than on other days of the week (See Table 2).
- Gender, ethnicity, and SOC, as well as the full-factorial interaction terms did not add additional explanation to the observed variance in cpd (all p's > 0.10).

Table 1: Mean Cigarettes Per Day (CPD)

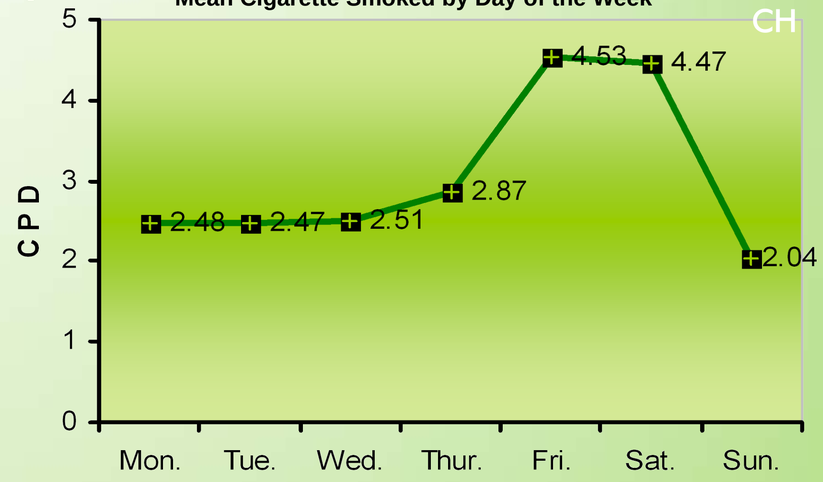
Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Mean	2.48	2.47	2.51	2.87	4.53	4.47	2.04
SE	0.40	0.43	0.41	0.45	0.60	0.62	0.45
95% CI	(1.68, 3.28)	(1.62, 3.31)	(1.69, 3.33)	(1.98, 3.75)	(3.35, 5.71)	(3.24, 5.69)	(1.17, 2.92)

Table 2: Corrected Group Differences by Day in Mean CPD

Mon = Tues	Tues = Wed	Wed = Thur	Thurs < Fri	Fri = Sat	Sat > Sun
Mon = Wed	Tues = Thur	Wed < Fri	Thurs = Sat	Fri > Sun	
Mon = Thur	Tues < Fri	Wed < Sat	Thurs = Sun		
Mon < Fri	Tues < Sat	Wed = Sun			
Mon < Sat	Tues = Sun				
Mon = Sun					

Note: Differences are significant at $p<0.05$

Figure 1:



Discussion

- Light smokers in the current sample consumed roughly 2-3 cigarettes daily, with a significant increase on Fridays and Saturdays.
- In line with prior research, results demonstrate greater light smoking susceptibility on weekends (Murphy-Hoefer et al., 2004).
- Overall, findings also suggest lower salience of factors such as readiness to quit smoking and demographic variables in observed weekly patterns of light smoking.
- Instead, more situational influences to higher weekend smoking likely exist.
- Greater weekend smoking may be not only social in nature (e.g., Shiffman & Paty, 2006), but also related to higher mood in light smokers (Shiffman et al.,1994) rather than to lower mood-a trend more often encountered in heavier smokers (e.g., Patton et al., 1996; Zhu et al., 1999).
- Future directions entail:
  - Situational assessments of light smoking including mood, affect, and social group associations to weekend smoking as well as to asymptotic weekday smoking.
  - The possibility that light smokers may use smoking as a communication tool of present affect (Nichter, Nichter, & Carkoglu, 2007).

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