Smoking Cessation Predictors in a Predominantly Hispanic Sample of Light and Intermittent Smokers

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Introduction

•Smoking is the leading cause of preventable death in the United States (Centers for Disease Control and Prevention [CDC], 2011).
•The majority of Hispanic smokers are light and intermittent smokers (LITS; ≤ 10 cigarettes per day [cpd] or nondaily smoking; Cooper, Rodríguez de Ybarra, Charter, & Blow, 2011; Rodriguez-Esquivel, Cooper, Blow & Resor, 2009).
•Additionally, studies have suggested that similar to heavier smokers, LITS also report much difficulty trying to quit (e.g., Reitzel et al., 2009; Tindle & Shiffman, 2011).
•According to the Transtheoretical Model (Prochaska & Velicer, 1997) interest and confidence in quitting smoking are essential in promoting smoking cessation.
•Studies have suggested that individuals who are more confident and motivated to quit benefit more from cessation interventions (Abrams et al., 2000; Armitage & Arden, 2008).
•Although few studies have examined cessation predictors among LITS (Gariti et al., 2009; Nollen et al., 2006), there are no known studies focusing on Hispanic LITS.
•Given the need to develop and test efficacious behavioral interventions for Hispanic LITS, it is important to assess potential cessation predictors given their clinical implications.

Aims and Hypotheses
•This study examined potential smoking cessation predictors in a predominantly Hispanic sample of LITS.
•It was hypothesized that interest and confidence in quitting, satisfaction with a cessation intervention, and intention to quit at baseline would predict cessation at a 3 month follow-up.

Methods

Participants
•One hundred eighty-three community LITS (aged ≥ 18) participated. The inclusion criteria was to self-report having smoked between 1 cigarette per month and up to 10 cigarettes per day (cpd).

Measures
•Demographic Information. Participants completed questions regarding typical sociodemographic information.
• A tobacco use history survey. Abstinence was defined as not having smoked in the past 30 days.
•Interest and confidence in quitting smoking were assessed by 2 items scored on a continuous scale (1-10) with higher numbers indicating greater interest and confidence.
•A Satisfaction survey assessed participants' satisfaction with the smoking intervention and their likelihood to quit smoking in the next week, month, or three months. Items were scored on a Likert-type scale from 1 (*not at all*) to 6 (*very much*).

Procedure
•LITS provided informed consent and completed paper and pencil measures. The data presented here are from a smoking cessation trial which included motivational enhancement, trigger management, and health education.
•After survey completion, LITS were randomized to receive either an immediate or delayed intervention (at the 3 month follow-up).
•Participants received a $15 gift card after they completed the survey (or after receiving the intervention).

Approach to Analyses
•Descriptive characteristics regarding demographics and smoking behavior were computed.
•3 logistic regressions assessing potential predictors of past 30-day abstinence at the 3 month follow-up were conducted.

Results

•The majority of participants were of Hispanic descent (85%) and female (51%) with a mean age of 32.8 years (*SD*=13.58; *Range*= 18-66) (Table 1). Only confidence to quit smoking was positively associated with past 30-day abstinence (see Table 2).

Table 1
Demographic characteristics

Ethnicity	n	%
Mexican American	94	50.8
Mexican National	37	20.0
Other Hispanic	23	12.4
White	14	7.6
Other ethnicity (e.g. African American, Asian American)	16	8.6
Educational level	n	%
Less than high school	21	11.4
High school diploma/GED or equivalent	47	25.4
College graduate (BA or BS) or graduate coursework	21	11.3
Self-reported categorical smoking status	n	%
I smoke daily and more than 10 cigarettes per day (cpd)	24	13.0
I smoke daily more than 5 cigarettes but less than 10 cpd	50	27.0
I smoke daily but less than 5 cpd	36	19.5
I smoke monthly but not weekly	20	10.8
Stage of change	n	%
Preparation	90	48.6
Contemplation	45	24.3
Precontemplation	46	24.9

Continuous participant characteristics	*M*	*SD*	*Median*	Range
Cigarettes per day on average (daily smokers)	5.08	3.96	4.00	0-20
Age of smoking initiation	16.86	4.38	16.00	7-43
Interest and confidence in quitting smoking	*M*	*SD*	*Median*	Scoring
Interest in quitting smoking	6.94	2.91	7.25	1-10
Confidence to quit smoking	7.26	8.00	2.86	1-10
Satisfaction with smoking cessation intervention	*M*	*SD*	*Median*	Scoring
Overall satisfaction with tobacco services offered by staff	5.65	.87	6.00	1-6
Satisfaction with advice given to quit smoking by staff	5.66	.87	6.00	1-6
Likelihood of quitting smoking	*M*	*SD*	*Median*	Scoring
Likelihood of quit smoking in the next week?	4.36	1.62	5	1-6
Likelihood of quitting smoking in the next month?	4.81	1.52	5.00	1-6
Likelihood of quitting smoking in the next three months?	5.04	1.36	6.00	1-6

Table 2
Logistic regression predicting past 30-day abstinence at 3 month follow-up

	B	*OR*	95% CI Lower	95% CI Upper
Interest in quitting smoking	-.08	.92	.74	1.14
***Confidence in quitting smoking**	**-.31**	**.74**	**.56**	**.96**
Constant	3.88	48.27		
Model: χ^2 (2) = 6.77, *p< .05*, *Nagelkerke* R^2= .17				

Logistic regression predicting past 30-day abstinence at 3 month follow-up

	B	*OR*	95% CI Lower	95% CI Upper
Overall satisfaction with the tobacco services offered by program staff	-18.19	.00	.00	n/a
Satisfaction with the advice given to quit smoking by program staff	-.37	.69	.07	7.25
Constant	112.13	4.96		
Model: χ^2 (2) = 4.39, *ns*, *Nagelkerke* R^2= .11				

Logistic regression predicting past 30-day abstinence at 3 month follow-up

	B	*OR*	95% CI Lower	95% CI Upper
Likelihood of quitting smoking in the next week	-.19	.83	.36	1.92
Likelihood of quitting smoking in the next month	-.03	.97	.21	4.49
Likelihood of quitting smoking in the next three months	-.89	.41	.09	1.79
How much did this program influence your thoughts about quitting smoking?	.80	2.23	.83	6.02
Constant	2.30	9.99		
Model: χ^2 (4) = 6.55, *ns*, *Nagelkerke* R^2= .17; Note: * **Bold** indicates *p* < .05				

Discussion

•Inconsistent with hypotheses interest in quitting, intention to quit, and satisfaction with the intervention were not significantly associated with past 30-day abstinence.
•Although the association between intentions and behavior is modest, it has been previously documented (Webb & Sheeran, 2006).
•Since high ratings for satisfaction and intention to quit were observed, a ceiling effect may partially explain this finding.
•Consistent with hypotheses, confidence in quitting at baseline predicted abstinence.
•It may be that confidence in quitting is a construct more proximally related to self-efficacy, which has also been found to be related to intentions and behavior change (Bandura, 2001).
•Finally, it may be useful to incorporate additional frameworks like the Theory of Planned Behavior (Ajzen, 1991) or Social Cognitive Theory (Bandura, 1986) in order to model more accurately the relationship between intentions, confidence (i.e., self-efficacy), and behavior (i.e., smoking cessation).

Study Limitations
•Results from this study may not generalize to other ethnic groups. Additionally, longer longitudinal assessments (e.g., 6 months) might have allowed for a more accurate temporal examination of volitional and behavioral constructs.

Conclusion and Future Directions
•Confidence to quit smoking at baseline was significantly associated with smoking abstinence at the 3 month follow-up.
•Given that studies (e.g., Armitage & Arden, 2008) suggest that confident and motivated to quit individuals benefit more from cessation interventions, future interventions may focus on bolstering confidence to quit as one method to increase abstinence rates.

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