Published in final edited form as:
Addict Behav. 2013 March ; 38(3): 1639–1642. doi:10.1016/j.addbeh.2012.09.016.

Targeting cessation: Understanding barriers and motivations to quitting among urban adult daily tobacco smokers☆

Lisa Rosenthal[a,*], **Amy Carroll-Scott**[a], **Valerie A. Earnshaw**[a], **Naa Sackey**[a], **Stephanie S. O'Malley**[b], **Alycia Santilli**[a], and **Jeannette R. Ickovics**[a]

[a] Yale University, School of Public Health, CARE: Community Alliance for Research and Engagement, 135 College Street, Suite 200, New Haven, CT 06510, USA

[b] Yale University, Department of Psychiatry, 300 George St., Suite 901, New Haven, CT 06511, USA

Abstract

Introduction—Many people continue to smoke tobacco products despite known negative health consequences, including increased risk of chronic disease and death. Disparities exist in rates of smoking and chronic disease, underscoring the importance of understanding the barriers and motivations to smoking cessation among vulnerable populations, such as socioeconomically disadvantaged people of color.

Methods—This study uses data from a cross-sectional randomized household survey conducted in six low-income neighborhoods in New Haven, Connecticut, USA (N = 1205). The objectives were to examine barriers and motivations to quitting smoking among daily tobacco smokers

☆All authors provided feedback on multiple versions of the manuscript and contributed to and have approved the final version of the manuscript.

* Corresponding author at: 135 College Street, Suite 200, New Haven, CT, USA 06510. Tel.: +1 203 737 4849; fax: +1 203 737 5239. lisa.rosenthal@yale.edu (L. Rosenthal). amy.carrollscott@yale.edu (A. Carroll-Scott), valerie.earnshaw@yale.edu (V.A. Earnshaw), naa.sackey@yale.edu (N. Sackey), stephanie.omalley@yale.edu (S.S. O'Malley), alycia.santilli@yale.edu (A. Santilli), jeannette.ickovics@yale.edu (J.R. Ickovics)..

Contributors (listed in order of authorship)

a. Lisa Rosenthal PhD (corresponding author), Post-Doctoral Associate, CARE: Community Alliance for Research and Engagement, Yale School of Public Health, conducted statistical analyses and literature searches, wrote the first draft of the manuscript, and incorporated all revisions from co-authors into the final version of the manuscript.

b. Amy Carroll-Scott PhD MPH, Associate Research Scientist, CARE: Community Alliance for Research and Engagement, Yale School of Public Health contributed to study design, sampling, measures development, and interpretation of results.

c. Valerie A. Earnshaw PhD, Post-Doctoral Fellow at the Yale Center for Interdisciplinary Research on AIDS, conducted statistical analyses and contributed to interpretation of results.

d. Naa Sackey MPH, Research Assistant at CARE: Community Alliance for Research and Engagement, Yale School of Public Health, conducted statistical analyses and contributed to interpretation of results.

e. Stephanie S. O'Malley PhD, Professor of Psychiatry and Director Transdisciplinary Tobacco Use Research Center, contributed to study design and measurement as well as interpretation of results.

f. Alycia Santilli MSW, Director of Operations and Neighborhood Initiatives, CARE: Community Alliance for Research and Engagement, Yale School of Public Health, contributed to study design and coordinated all data collection efforts.

g. Jeannette R. Ickovics PhD, Professor of Epidemiology and Public Health, Director of CARE: Community Alliance for Research and Engagement, Yale School of Public Health, is Principal Investigator, responsible for study conceptualization, design, funding and oversight.

Conflict of interest There is no known conflict of interest.

(31.6% of respondents) and sociodemographic differences in endorsement of barriers and motivations.

Results—The two most common barriers to quitting were perceiving it to be too difficult and not wanting to quit. Financial costs, social support, and social influence were themes endorsed highly across both barriers and motivations to quitting. Sociodemographic differences were found, such as women and Black participants being more likely to be interested in a free quitline or quit website; women and Latinos being more likely to be afraid of gaining weight; and women, participants with less education, and older participants being more likely to be concerned about the cost of cessation products.

Conclusions—Understanding barriers and motivations to quitting among disadvantaged populations is crucial. Financial issues, social support, and social norms should be targeted in promoting cessation among disadvantaged, urban populations. Programs, interventions, and policies can also use research about specific barriers and motivations for sociodemographic sub-groups to be tailored, targeted, and more effective.

Keywords

Barrier; Motivation; Quitting; Smoking; Sociodemographics

1. Introduction

Smoking tobacco products increases risk of chronic diseases and is responsible for over 440,000 deaths a year in the U.S. (King, Dube, Kaufmann, Shaw, & Pechacek, 2011). Yet, in 2010 approximately 19% of people in the U.S. smoked cigarettes, including 15% daily (King et al., 2011). While rates of smoking have decreased in the U.S. overall (up until 2007), disparities exist, with persistently higher rates in inner-city, disadvantaged communities, and among lower socioeconomic status individuals (based on income and education; Pleis, Ward, & Lucas, 2010). Smoking disparities contribute to health disparities, such as in chronic disease rates (Reid, Hammond, Boudreau, Fong, & Siahpush, 2010). High smoking and low quitting rates among disadvantaged populations (e.g., young, low-income, Black Americans) are concerning (Stillman et al., 2007). Prevalence of smoking in Black Americans and those living below the poverty line, for example, did not decline from 2005 to 2010 although it did for other groups in the U.S. (King et al., 2011). Research and interventions are not sufficiently addressing unique factors driving smoking and quitting among disadvantaged communities, where high rates of tobacco use continue and social norms may support smoking (Stillman et al., 2007).

Research on barriers and motivations to quitting helps inform more successful cessation interventions. In a study of socioeconomically diverse, mostly White adult smokers in Tennessee, the most commonly reported motivation to quitting was to improve their health, and common reported worries about quitting were stress and weight gain, highlighting the importance of intrapersonal (self-oriented) motivations and barriers (Guirguis et al., 2010). In a study of young, urban, Black Americans in Baltimore, Maryland, environmental factors were key barriers to quitting, including perceptions that everyone smokes, easy access to buying cigarettes in one's neighborhood, and exposure to cigarette marketing, highlighting the influence of social context and norms in high-prevalence areas (Smith et al., 2009; Stillman et al., 2007). Women are more likely than men to worry about gaining weight and not having effective social support as barriers to quitting, highlighting the importance of support (Rahmanian, Diaz, & Wewers, 2011; Torchalla, Okoli, Hemsing, & Greaves, 2011). In a study of smokers in Louisiana, men were more likely than women, and Black participants more likely than White participants, to believe smokers should quit on their own

without a program, highlighting challenges to gaining interest in cessation programs (Copeland et al., 2010).

There have been calls for further examination of sociodemographic differences in smoking, and quitting barriers and motivations, to help create interventions tailored for particular groups (McKee, O'Malley, Salovey, Krishnan-Sarin, & Mazure, 2005; Torchalla et al., 2011). Groups with higher smoking rates are least represented in cessation programs and have unique barriers to quitting that need to be better understood to tailor programs and policies and eliminate disparities (Copeland et al., 2010). The current investigation included urban, low-income, mostly Black and Latino adult daily smokers living in New Haven, Connecticut, a sample at increased risk of chronic disease and living in a high smoking prevalence area. Aims were to identify: (1) the most endorsed barriers and motivations to quitting; (2) sociodemographic differences in endorsement of barriers and motivations.

2. Methods

2.1. Procedure

Data are from a health survey conducted in six low-income neighborhoods in New Haven, Connecticut in fall of 2009. The survey contained questions about various health topics, including diet and exercise, tobacco and alcohol use, and chronic disease. Trained interviewers from the community administered the survey in English and Spanish, and collected data via handheld computers. Households were randomly selected from a complete addresses list, and interviewers went door to door. Participants received a $10 grocery store voucher and were entered into a $500 raffle.

2.2. Measures

2.2.1. Sociodemographic characteristics and smoking—Participants reported gender, race/ethnicity, educational attainment, age, and whether they currently smoke tobacco products at all and daily (Duffany et al., 2011; World Health Organization, 2008; see Table 1).

2.2.2. Barriers and motivations to quitting—Smokers responded Yes or No to seven barriers and seven motivations to quitting (see Table 2). Participants could indicate another barrier and/or motivation. Barriers and motivations were based on the Community Interventions for Health survey (Duffany et al., 2011), capturing themes of intrapersonal, financial, social support, and social influence barriers, as well as financial, social support, social influence, and smoking cessation program (telephone quitline and website) motivations.

2.3. Participants

Surveys were conducted with 1205 adult participants (73% participation; 61% women; aged 18–65). Participants were racially/ethnically diverse (61% Black, 20% Latino, 12% White, 3% Multi-racial, 1% Asian/Pacific Islander, 1% American Indian/ Alaska Native, 1% refused). Fifty-six percent had a High School diploma/GED or less. Tobacco products were smoked sometimes by 35.9%, and daily by 31.6%. Analyses were restricted to Black, Latino, or White participants because of the small numbers for other groups and interest in testing race/ethnicity as a predictor (excluding 83, of which 9 identified as both Black and Latino). Because of interest in gender, education, and age as predictors, analyses included only those who answered those questions (excluding 10). We further restricted the sample to those reporting daily cigarette smoking because of the small number of non-daily smokers or those reporting other tobacco use (excluding 714 non-smokers and 48 non-daily smokers), leaving an analytic sample of 350. Table 1 contains sociodemographic characteristics.

Consistent with previous studies and national trends (Pleis et al., 2010), lower educational attainment predicted greater likelihood of daily smoking among the larger sample. There were no other differences between daily smokers and those excluded from analyses because of being non-smokers or non-daily smokers.

3. Results

3.1. Overall endorsement of barriers and motivations

First, we examined percentages of daily smokers endorsing each barrier and motivation (see Table 2). The most endorsed barriers were intrapersonal: “It is too difficult” and “I don't want to quit.” The most endorsed motivations were financial and social support: “Saving the money spent on tobacco products” and “A doctor who would provide support and encouragement.” Across barriers and motivations, items capturing themes of financial concerns (cost of tobacco products, medication and nicotine replacement products), social support (from doctors, friends, and family), and social norms (everyone one knows using tobacco, and not being able to smoke in many places) were highly endorsed. Twenty-six daily smokers listed other barriers, the most common being stress. Forty-five daily smokers listed other motivations, the most common being one's own health, and children/grandchildren.

3.2. Sociodemographic predictors of endorsing barriers and motivations

Second, we used logistic regression to test sociodemographic predictors of endorsement of each barrier and motivation (see Table 2), entering all four sociodemographic predictors simultaneously, to identify their unique associations. Below we report significant differences for each predictor.

3.2.1. Gender—Women were more likely to endorse “It is too difficult,” “I am afraid of gaining weight” (intrapersonal), and “I can't afford the medication or nicotine replacement products” (financial) as barriers. Women were more likely to endorse “Saving the money spent on tobacco products,” “Affordable medications or nicotine replacement products” (financial), “A doctor who would provide support and encouragement” (support), “Access to a toll free quit line,” and “Access to a free quit website” (cessation programs) as motivations.

3.2.2. Race/ethnicity—Race/ethnicity predicted endorsing “I don't know how” (intrapersonal) as a barrier, with Latinos most and Whites least likely to endorse it. Race/ethnicity predicted endorsing “I am afraid of gaining weight” (intrapersonal) as a barrier, with Latinos most and Blacks least likely to endorse it. Race/ethnicity predicted endorsing “Access to a toll free quit line” and “Access to a free quit website” (cessation programs) as motivations, with Blacks most and Whites least likely to endorse both.

3.2.3. Education—Participants with a high school diploma/GED or less were more likely to endorse “I can't afford the medication or nicotine replacement products” (financial) as a barrier. Participants with a high school diploma/GED or less were more likely to endorse “I am not able to smoke in many places now” (social influence) as a motivation.

3.2.4. Age—Age was positively associated with endorsing “I am afraid of gaining weight” (intrapersonal) and “I can't afford the medication or nicotine replacement products” (financial) as barriers. Age was negatively associated with endorsing “Everyone I know uses tobacco” (social influence) as a barrier. Age was negatively associated with endorsing “Saving the money spent on tobacco products” (financial) as a motivation.

3.2.5. Subset analyses—We conducted the same analyses, excluding the 219 participants endorsing "I don't want to quit" as a barrier, to test whether findings differed if the sample was restricted to those not opposed to quitting. Most results were the same as with the full sample of daily smokers, although several effects previously significant became marginal ($p \leq .10$) with the reduced power (see Table 2). Additionally, gender no longer predicted "Saving the money on tobacco products" as a motivation, but became a significant predictor of "Support and encouragement from friends and family" as a motivation, with greater endorsement by women.

4. Discussion

Findings replicate and extend past work examining barriers and motivations to quitting, while focusing on a socioeconomically disadvantaged, urban, mostly Black and Latino sample of adults at increased risk of chronic disease and living in a high smoking prevalence area. Smoking rates in the sample were double the national average, demonstrating that current interventions have been less successful in reaching socioeconomically disadvantaged communities.

First, consistent with past research, findings suggest financial issues and stress should be a focus for programs aimed at facilitating smoking cessation in low-income populations (Siahpush, Yong, Borland, Reid, & Hammond, 2009). Supplementing the cost of or providing free medication and nicotine replacement products is critical, especially for smokers without health insurance; free provision or reimbursement for these products increases quitting attempts and abstinence (Cummings et al., 2006; Kaper, Wagena, Willemsen, & van Schayck, 2005). Second, social support is important for everyone when wanting to quit, but for individuals in neighborhood contexts of high smoking rates, social support for quitting may be particularly lacking and social norms likely support smoking. Programs that increase social support from health care providers, friends, and family could be effective and fill a need. Third, consistent with past research, social norms emerged as important (Stillman et al., 2007). Interventions aimed at changing community norms may be important to reducing smoking rates in high-prevalence areas.

There were also differences in barriers and motivations by sociodemographic characteristics that should be addressed to tailor interventions. Cessation interventions addressing intrapersonal and financial concerns, social support, or using a quitline or website may be more useful for targeting women smokers. Interventions addressing intrapersonal concerns may be more useful for targeting Latino smokers, and interventions using a quitline or website may be more useful for targeting Black smokers. Black participants were more likely than Latino and White participants to be interested in a free quitline or website, in contrast to past work finding Black smokers to be less interested than White smokers in cessation programs generally (e.g., Copeland et al., 2010), but consistent with a California study finding Black smokers to be more likely to use specifically a quitline than White smokers (Zhu et al., 2011). Interventions addressing financial and social influence concerns may be more useful for targeting individuals with less education. Interventions addressing intrapersonal and financial concerns may be more useful for targeting older smokers, and interventions addressing social norms may be more useful for targeting younger smokers.

An important limitation is that the measures of barriers and motivations included only seven items for each. Stress was a common self-reported barrier, and one's own health and children/grandchildren were common self-reported motivations to quitting. If these and potentially other items had been included in the measures, we may have found a slightly different pattern of results. Also, although the focus on an at-risk, urban population is a strength, we were not able to make statistical comparisons to more advantaged or non-urban

samples; thus, we cannot draw conclusions from these data about differences in barriers and motivations to quitting between these types of populations.

We must continue studying barriers and motivations to quitting in socioeconomically disadvantaged, high-prevalence communities. These findings and similar studies can help create tailored and targeted interventions for vulnerable populations that are at increased risk but underrepresented in existing smoking cessation interventions.

Acknowledgments

Research was conducted in affiliation with Community Interventions for Health, Oxford Health Alliance, Oxford England.

Role of funding sources

No funders had any direct input on the study design, collection, analysis, or interpretation of data, writing the manuscript, and the decision to submit the manuscript for publication.

a. The Patrick and Catherine Weldon Donaghue Medical Research Foundation provided funding for the research project and staff, with a focus the community health needs assessment surveys.

b. Kresge Foundation, Emerging and Promising Practices provided funding for the research project and staff, with a focus on planned program interventions.

c. CTSA grant number UL1 RR024139 from the National Center for Research Resources provided infrastructure support for CARE from 2006-2011.

d. The Aetna Foundation provided support for data analyses and Dr. Rosenthal's effort.

References

Copeland AL, Businelle MS, Stewart DW, Patterson SM, Rash CJ, Carney CE. Identifying barriers to entering smoking cessation treatment among socioeconomically disadvantaged smokers. Journal of Smoking Cessation. 2010; 5:164–171. http://dx.doi.org/10.1375/jsc.5.2.164.

Cummings KM, Hyland A, Fix B, Bauer U, Celestino P, Carlin-Menter S, et al. Free nicotine patch giveaway program 12-month follow-up of participants. American Journal of Preventive Medicine. 2006; 31:181–184. http://dx.doi.org/10.1186/1471-2458-10-181. [PubMed: 16829336]

Duffany KO, Finegood DT, Matthews D, McKee M, Naraya KMV, Puska P, et al. Community Interventions for Health (CIH): A novel approach to tackling the worldwide epidemic of chronic diseases. CVD Prevention and Control. 2011; 6:47–56. http://dx.doi.org/10.1016/j.cvdpc.2011.02.00.

Guirguis AB, Ray SM, Zingone MM, Airee A, Franks AS, Keenum AJ. Smoking cessation: Barriers to success and readiness to change. Tennessee Medicine. 2010; 103:45–49. [PubMed: 21138107]

Kaper J, Wagena EJ, Willemsen MC, van Schayck CP. Reimbursement for smoking cessation treatment may double the abstinence rate: Results of a randomized trial. Addiction. 2005; 100:1012–1020. http://dx.doi.org/10.1111/j.1360-0443.2005.01097.x. [PubMed: 15955017]

King B, Dube S, Kaufmann R, Shaw L, Pechacek T. Vital signs: Current smoking among adults aged ≥ 18 Years – United States 2005–2010. Morbidity and Mortality Weekly Report. 2011; 60:1207–1212. [PubMed: 21900875]

McKee SA, O'Malley SS, Salovey P, Krishnan-Sarin S, Mazure CM. Perceived risks and benefits of smoking cessation: Gender-specific predictors of motivation and treatment outcome. Addictive Behaviors. 2005; 30:423–435. http://dx.doi.org/10.1016/j.addbeh.2004.05.027. [PubMed: 15718060]

Pleis JR, Ward BW, Lucas JW. Summary health statistics for U.S. adults: National Health Interview Survey, 2009. National Center for Health Statistics: Vital Health Statistics. 2010; 10(249)

Rahmanian SD, Diaz PT, Wewers ME. Tobacco use and cessation among women: Research and treatment-related issues. Journal of Women's Health. 2011; 20:349–357. http://dx.doi.org/10.1089/jwh.2010.2173.

Reid JL, Hammond D, Boudreau C, Fong GT, Siahpush M. Socioeconomic disparities in quit intentions, quit attempts, and smoking abstinence among smokers in four western countries: Findings from the International Tobacco Control Four Country Survey. Nicotine & Tobacco Research. 2010; 12:S20–S33. http://dx.doi.org/10.1093/ntr/ntq051. [PubMed: 20889477]

Siahpush M, Yong H-H, Borland R, Reid JL, Hammond D. Smokers with financial stress are more likely to want to quit but less likely to try or succeed: Findings from the International Tobacco Control (ITC) Four Country Survey. Addiction. 2009; 104:1382–1390. http://dx.doi.org/10.1111/j.1360-0443.2009.02599.x. [PubMed: 19438837]

Smith KC, Bone L, Clay EA, Owings K, Thames S, Stillman F. Partnering with education and job training programs for sustainable tobacco control among Baltimore African American young adults. Progress in Community Health Partnerships: Research, Education, and Action. 2009; 3:9–17.

Stillman FA, Bone L, Avila-Tang E, Smith K, Yancey N, Street C, et al. Barriers to smoking cessation in inner-city African American young adults. American Journal of Public Health. 2007; 97:1405–1408. http://dx.doi.org/10.2105/AJPH.2006,101659. [PubMed: 17600247]

Torchalla I, Okoli CTC, Hemsing N, Greaves L. Gender differences in smoking behaviour and cessation. Journal of Smoking Cessation. 2011; 6:9–16. http://dx.doi.org/10.1375/jsc.6.1.9.

World Health Organization. WHO STEPS Surveillance Manual. Geneva, Switzerland: 2008. Available from: www.who.int/ncd_surveillance/en/stepsinstrumentcore_exp_v1.4.pdf

Zhu S-H, Gardiner P, Cummins S, Anderson C, Wong S, Cowling D, et al. Quitline utilization rates of African-American and White smokers: The California experience. American Journal of Public Health. 2011; 25:S51–S58.

HIGHLIGHTS

- ▶ Examines barriers and motivations to quit smoking in high prevalence urban sample.
- ▶ The smoking rate in the sample was almost double the national average.
- ▶ Intrapersonal, financial, social support, and social influence concerns are key.
- ▶ Gender, race, education, and age differences exist in barriers and motivations.
- ▶ Findings can be used to tailor cessation programs to particular groups.

Table 1

Sociodemographic Characteristics of Daily Smokers in Final Analytic Sample (N = 350), Community Interventions for Health, New Haven, CT, 2009.

Race, % (*n*)	
Black	66.0% (231)
Latino	20.9% (73)
White	13.1% (46)
Gender, % (*n*)	
Female	57.7% (202)
Male	42.3% (148)
Education, % (*n*)	
H.S. diploma/GED or less	66.3% (232)
Some college or more	33.7% (118)
Age, mean (standard deviation)	39.87 (12.8)
Average number cigarettes smoked per day, mean (standard deviation)	10.15 (7.28)

Table 2

Percentages and Results of Logistic Regression Analyses with Daily Tobacco Smokers (N = 350) Testing Sociodemographic Predictors of Endorsement of Barriers and Motivations to Quitting, Community Interventions for Health, New Haven, CT, 2009.

	Gender (female) OR (95% CI)	Race/ethnicity (3 categories) Wald Stat, *df* = 2	Education (H.S. diploma/GED or less) OR (95% CI)	Age (continuous in years) OR (95% CI)
Barriers (% Responded Yes)				
Intrapersonal Barriers				
I don't want to quit. (37.4%)	0.87 (0.57–1.36)	2.53	1.32 (0.82–2.12)	0.99 (0.98–1.01)
It is too difficult. (57.7%)	2.34 (1.50–3.64) **a	3.08	1.14 (0.72–1.82)	1.00 (0.98–1.02)
I don't know how. (24.9%)	1.26 (0.75–2.10)	11.70 **	1.14 (0.66–2.00)	1.00 (0.98–1.02)
I am afraid of gaining weight. (19.7%)	4.82 (2.42–9.56) **	11.92 **a	1.26 (0.68–2.36)	1.03 (1.01–1.06) **a
Financial Barrier				
I can't afford the medication or nicotine replacement products (such as the patch or gum). (30.9%)	1.87 (1.15–3.07) *a	1.21	1.80 (1.06–3.06) *a	1.03 (1.01–1.05) **
Support Barrier				
I don't have enough support. (25.7%)	1.33 (0.81–2.19)	2.71	1.11 (0.66–1.89)	1.02 (1.00–1.04)
Social Influence Barrier				
Everyone I know uses tobacco. (33.1%)	1.49 (0.93–2.39)	0.41	0.84 (0.52–1.37)	0.97 (0.95–0.99) **
Motivations (% Responded Yes)				
Financial Motivations				
Saving the money spent on tobacco products. (78.6%)	1.77 (1.04–2.99) *b	1.60	1.42 (0.83–2.46)	0.98 (0.96–1.00) *
Affordable medications or nicotine replacement products (such as the patch or gum). (50.3%)	1.91 (1.24–2.96) **	2.35	1.40 (0.88–2.22)	1.01 (0.99–1.03)
Support Motivations				
A doctor who would provide support and encouragement. (56.3%)	1.72 (1.11–2.66) *a	4.01	1.30 (0.82–2.06)	1.01 (0.99–1.02)
Support and encouragement from friends and family. (54.6%)	1.52 (0.98–2.35) b	3.97	1.13 (0.71–1.78)	1.00 (0.99–1.02)
Social Influence Motivation				
I am not able to smoke in many places now. (39.7%)	1.50 (0.96–2.35)	3.76	2.03 (1.25–3.29) **	1.00 (0.98–1.01)
Cessation Programs Motivations				
Access to a toll free quit line. (29.1%)	1.74 (1.06–2.85) *a	6.48 *a	1.52 (0.90–2.56)	1.00 (0.98–1.02)
Access to a free quit website. (27.1%)	1.82 (1.10–3.01) *a	6.32 *a	1.13 (0.67–1.89)	1.00 (0.98–1.02)

* p<.05

** p<.01.

[a] Effects that became marginal ($p \leq .10$) when analyses were re-run with only participants who did not endorse "I don't want to quit" as a barrier (n = 219).

[b] Effects that changed when analyses were re-run with only participants who did not endorse "I don't want to quit" as a barrier ($n = 219$): gender was no longer a significant predictor of endorsement of "Saving the money spent on tobacco products" ($p = .39$) and became a significant predictor of "Support and encouragement from friends and family" (OR = 1.09, 95% CI = 1.09–3.34, $p = .03$) as motivations.