

ORIGINAL ARTICLE

Translation, reliability and validity of Iranian version of the Smoking Consequences Questionnaire (SCQ) among smokers

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Abstract

Background: Smoking poses various adverse effects on human health. Unfortunately, there is still a large population of smokers worldwide. Well understanding the potential consequences of smoking by the general public may prevent the initiation of smoking behavior and help the smokers to quit.

Aims: The aim of this study was to cross-culturally translate and validate the Persian version of Smoking Consequences Questionnaire (SCQ).

Design and methods: The backward–forward translation technique was used to setup the scales among 40 smokers. Using a convenient sampling method, 400 smokers were recruited from a smoking cessation department in Qazvin city. Internal consistency and test–retest method was used to assess reliability. Cronbach's Alpha and Intraclass Correlation Coefficients (ICC) were used to assess Internal Consistency and Test–retest reliability. Predictive validity of Nicotine Dependence was measured by correlation between SCQ and Fagerstrom Test. The scale construction was verified by Factor Analysis (explanatory and confirmatory). Data are expressed as mean \pm SD, which were analyzed by SPSS.

Results: The average age of participants was 40 ± 0.6 (376 male, 24 female). More than half of the participants smoked between 11 and 20 cigarettes per day. The Cronbach's alpha coefficients test showed an acceptable internal consistency (ranged from 0.70 to 0.93). All items of the SCQ were significantly correlated with each other at two assessments with 2-week interval (r ranged from 0.76 to 0.93). The ICC ranged from 0.73 to 0.89 for all factors ($p < 0.05$). The scale well fitted the data ($GFI = 0.97$, $RMSEA = 0.064$). There were 10 factors on the scale which explained $\sim 78\%$ of the variance.

Conclusion: Our results suggest that Persian SCQ is a valid and reliable application among Iranian smokers. The scales can nicely recognize the smokers' views on health consequences across different languages and cultures, which is highly recommended in general public education.

Keywords

Adverse health consequences, reliability, smoking consequences questionnaire, validity

History

Received 5 May 2013

Accepted 24 July 2013

Published online 13 September 2013

Background

Tobacco smoking is considered as a preventable cause of premature mortality (Tomar, 2001). Although the smoking rate is decreasing worldwide, more than two-third of current deaths due to smoking related diseases occur in developing countries. It has been estimated that this is more than those from HIV infection, tuberculosis and related complications (Burgan, 2003; Warnakulasuriya et al., 2005). The number of deaths from smoking related disorders will reach 10 million by 2020, and by the year 2030 $\sim 70\%$ of annual deaths from

smoking related disorders worldwide will occur in developing countries (Bawazeer et al., 1999; Gu et al., 2004).

The prevalence of smoking among Iranian men and women is 26% and 3.6%, respectively (Ahmadi et al., 2001). Despite the adverse health consequences of smoking, a lot of people still refuse to quit. It is well known that quitting smoking will bring in numerous health benefits, such as reduced risk and mortality of cardiovascular disorders (Panagiotakos et al., 2002; Tavani et al., 2004). Relapse after quitting are common, due to the strong abdicative effect of nicotine. There are also some social benefit among smokers that prevent them from quitting, include reduced irritability, relaxation, a sense of control, better sensory stimuli and improved group relationships and intimacy (Hine et al., 2007; McChargue et al., 2004; Patterson et al., 2004). The long term smokers are usually not convinced by the long-term benefits of quitting smoking

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especially when they have not developed evident smoking related diseases (Aveyard et al., 2005; Ellickson et al., 2001; McDonald et al., 2003).

Interpersonal interaction plays an important role in smoking behaviors. From the perspective of social cognition, the decision of whether to smoke is affected by the response of people surrounded. For example, people may be discouraged from smoking if they believe that smoking is considered as misbehavior by the public and they will receive social criticism by doing so. Therefore, these individuals are less likely to smoke or more likely to quit smoking if they are smokers. Indeed, the perception that smoking is associated with negative social relationship, such as peer rejection, is closely related to reduced likelihood of continuing smoking (Chassin et al., 1991; Shore et al., 2000). Therefore, people are less likely to start smoking (Unger et al., 2001). Smokers usually report using negative social factors as the motivation to successfully quit smoking (Rose et al., 1996). In addition, smokers who are highly motivated to quit, have expressed more criticizing statements by the peers, such as "People are angry because of my smoking", than those less motivated to quit (Curry et al., 1997).

Outcome Expectancies play a major role in smoking behavior, which is the ability of individuals to use old experience to guide future behaviors (McBride et al., 2001). During Outcome Expectancies, rewards are provided by performing certain behavior, therefore reinforcing such behavior (Goldman et al., 1999). The assumed function of outcome expectancies is to prepare the individuals to overcome future situations that prevent certain behavior. Each type of outcome expectancies can be learnt primarily by direct implementation or through observation and training (Cervone & Scott, 1999; Jones et al., 2001). It is predicted that expectation of positive outcomes of unhealthy habits can lead to continuity and plays an important role in recurrence, while, expectation of negative outcomes may motivate individuals to stop the behavior and return to previous habits (Cox & Klinger, 1988; Jones & McMahon, 1996; Niaura et al., 1988).

The first scale to measure Outcome Expectations is the Smoking Consequences Questionnaire (SCQ) that assesses four aspects, which are negative consequences, negative reinforcement, positive reinforcement and weight-appetite control (Brandon & Baker, 1991). Later on, Copeland et al. (1995) developed a SCQ with eight aspects for adults. In addition, Rash & Copeland (2008) developed a brief version of SCQ to be used in clinical research among heavy smokers. Myers et al. (2003) built a short version of SCQ which was used among adolescents with a history of substance abuse. Considering the direct and indirect cost of smoking related disorders, it is necessary to assess the relationship between outcome expectancies and the motivation and relapse after quitting smoking. Therefore, a good approach with good psychometric properties and compatibility which can be applied within Iranian culture is needed. The aim of this study was to translate and assess the efficiency of the SCQ which was translated from English into Persian language.

Methods

The main approach of current study was the SCQ for adults, adopted from that developed by Copeland et al. (1995)

to evaluate the outcome expectations in the smokers. This questionnaire consists of 10 factors and 55 questions, including negative affection reduction (9 items), stimulation/state enhancement (7 items), health risks (4 items), taste/sensorimotor manipulation (9 items), social facilitation (5 items), weight control (5 items), craving/addiction (6 items), negative physical feeling (3 items), boredom reduction (4 items) and negative social impressions (3 items).

The first stage was to translate the SCQ-adult from English to Persian language. The approval for translation of the original questionnaire was obtained from the original developers by the authors. Then, two bilingual specialists translated the questionnaire independently based on standardized guidelines (forward translation). Both versions were reviewed by a third professional translator and the difficulty level of the translations was determined and classified using the Difficulty Level Index from 0 (without any difficulty) to 1 (the most difficulty). The translators compared their translated documents, when the inconsistencies were discussed and resolved to come up with a Persian version of the SCQ for the smokers. Then, the questionnaire was completed by 40 smokers randomly selected, who were not included in the main study. Simplicity and difficulty of the SCQ were evaluated by a panel of experts in psychology, health education, nursing and five smokers with different education levels. Based on the evaluation, the questionnaire was then modified. In addition, lay language was used to replace the professional jargons. Subsequently, the final version was translated from Persian back into English by another two bilingual researchers. The differences between the translation and original document were resolved and the final version of the Persian SCQ was confirmed.

After the final approval, the Persian SCQ-adult was used in the volunteer smokers who were referred to the Smoking Cessation Department of Qazvin city. Among the 603 volunteer smokers admitted to the Smoking Cessation Center, 400 people were selected to participate the current study. Inclusion criteria were: smoking and the ability to understand Persian language, and the exclusion criteria are any existing cognitive impairment or physical illness. This study was approved by the research ethics committee of Qazvin University of Medical Sciences. All participants have signed a written consent of confidentiality.

Statistical analysis

The results are expressed as mean \pm SD. Cronbach's alpha coefficient was used to assess the internal consistency (Nunnally & Bernstein, 1994). Test-Retest and Intraclass Correlation (ICC) were used to assess the reliability of questionnaire between two times of the implementation. Correlation between SCQ-adults cores and Fagerstrom Test for Nicotine Dependence (FTND) score was used to examine the predictive validity of the SCQ. The FTND is a six-item self-report questionnaire, which is a range of scales ranking nicotine dependence (0–2 = no nicotine dependence, 3–5 = moderate nicotine dependence and 6–10 = substantial nicotine dependence). This scale is an efficient clinical test to examine the physical dependence of nicotine (Heatherton et al., 1991).

The exploratory factor analysis (EFA) was used to assess the structure of the SCQ. Several tests were used to examine

Table 1. Factor loading for sub-scale of Smoking Consequences Questionnaire.

Subscales and items	Factor loading
Negative affection reduction	
1. If I feel irritable and in a bad mood, smoking can really help me	0.87
2. When I get upset with someone, smoking helps me to overcome it	0.86
3. Smoking helps me to reduce or manage my tension	0.86
4. When I'm worrying about something, smoking will be useful for me	0.79
5. Smoking helps me to overcome my anxiety or worries	0.78
6. When I feel nervous, smoking calms me down	0.77
7. Cigarette can calm me down, when I'm angry	0.77
8. If I am tense, cigarette helps me to relax	0.76
9. Cigarette helps me deal with my anger	0.73
Stimulation/state enhancement	
10. When I feel happy, smoking helps me keep this feeling	0.82
11. Smoking can really help me to have a good mood	0.80
12. Smoking can give me energy when I'm tired	0.78
13. Smoking gives me energy	0.75
14. I feel better physically after I smoke	0.74
15. I feel that I can do a better job when I smoke	0.68
16. I like the way that smoking makes me feel good physically	0.57
Healthy risk	
17. The more I smoke, my health takes more risk	0.94
18. Smoking is dangerous for my health	0.81
19. Smoking puts me at risks of developing cardiovascular disease and lung cancer	0.73
20. Smoking will destroy years of my life	0.67
Taste/sensorimotor manipulation	
21. I enjoy the feeling of smoke hit my mouth and the back of my throat	0.81
22. When I'm smoking, I enjoy the taste sensations	0.81
23. Cigarette taste is desired	0.79
24. I enjoy the effect of cigarette smoke on my lips and tongue	0.73
25. I enjoy the taste and smell of the cigarette smoke	0.70
26. Cigarette smoke tastes good	0.63
27. I love watching the smoke rising from my cigarette	0.58
28. Just manipulating the cigarette is enjoyable	0.56
29. I like the steps to light a cigarette	0.55
Social facilitation	
30. Conversations seem to be more special if every one smoked	0.77
31. I feel I am part of a group when I'm around the other smokers	0.76
32. I feel more comfortable with others if I have a cigarette	0.75
33. Smoking helps me to enjoy people more	0.73
34. I enjoy the party more when I'm smoking	0.71
Weight control	
35. Cigarettes keep me from eating more than I should	0.91
36. Smoking makes my weight stays down	0.86
37. Smoking helps me to control my weight	0.85
38. Cigarettes keep me from overeating	0.77
39. Smoking controls my appetite	0.74
Craving/addiction	
40. Smoking will satisfy my cravings for nicotine	0.85
41. A cigarette can satisfy my urge to smoke	0.73
42. Nicotine "fits" can be controlled by smoking	0.60
43. Smoking temporarily reduces repeated urge for cigarette	0.57
44. If I keep smoking, I will be more dependent on nicotine	0.47
45. The more I smoke, the more I addict to it	0.42

(continued)

the suitability of the respondent data for EFA, including Kaiser–Meyer–Olkin (KMO), Measure of Sampling Adequacy and Bartlett's Test of Sphericity. KMO index (ranges from 0 to 1) is recommended in the case: variable ratio is <1:5, with >0.50 considered as suitable for EFA. The result of the Bartlett's Test of Sphericity needs to be significant ($p < 0.05$) to be eligible to perform EFA.

Confirmatory factor analysis (CFA) was performed using LISREL 8.80. CFA is a measurement model that deals with relationships between observed variables and factors (latent variables) (Aroijan & Norris, 2005). In another word, CFA can determine whether the proposed model fits the data. During confirmatory analysis, the relationship between the factors and variable observed is determined (Schumacker & Lomax, 2004). Various fitness indexes and structural coefficients, as well as the significance of the correlation between the variable and any factors, were used to determine the fitness of the model. The fitness indices include Goodness of fitness index (GFI), root mean square error of approximation (RMSEA), χ^2 and related Degrees of freedom, comparative fit index (CFI), Root mean square residual (RMR). These indices are commonly used to determine fitness CFA (Tabachnick & Fidell, 2007).

It should be noted a RMSEA result ≤ 0.06 indicating a good fitness, a result between 0.06 and 0.08 indicating acceptable fitness, a result between 0.08 and 1 representing the medium fitness, and a result > 1 indicating a poor fitness of the model. ARMSE result ≤ 0.08 with GFI and CFI values > 0.90 represents the perfect fitness index. If the chi-square to degrees of freedom is < 5 , it is acceptable; and if it is < 3 , it indicates a good fitness (Byrne, 2006). Based on previous studies, one sample for each variable is sufficient to estimate the sample size for CFA (Floyd & Widaman, 1995). In addition, a sample size of 100 subjects is suitable for the CFA (MacCallum et al., 1999; Marsh et al., 1998; Myers et al., 2003). The sample size in this study is clearly sufficient for this test.

Results

The age range of the participants was between 18 and 86 years. The mean age of the participants was 40 ± 10.6 . Among them, 375 were male. About half of the participants (193 patients) had diploma degree and 12% (48 patients) of them had tertiary education. About 34% of the participants claimed that they started smoking between the age between 15 and 20 years. The most common age to initiate smoking was 13 years of age (17.5% patients). The average age to start smoking was 21 ± 8.19 years. Among the participants, 54% (216 patients) smoked 11–20 cigarettes per day. The average daily cigarette dose was 15.75 ± 9.13 . The results of the EFA are shown in Table 1. EFA was performed on all the items in the questionnaire (cut-off point = 0.5). Factor loading for each item and their 10 specific subcategories are also shown in Table 1. All items were classified in their subsets. Overall, comprised 10 factors of the scale were able to explain 78% variance of the all variables.

Table 2 shows the results of Cronbach's alpha coefficients to evaluate the internal consistency between the sub-scales. The coefficients vary from 0.7 to 0.93. The test–retest coefficients for the sub-scales were changed from 0.76 to

Subscales and items	Factor loading
Negative physical feelings	
46. Smoking irritates my mouth and throat	0.94
47. My throat burns after smoking	0.72
48. Smoking damages my lungs	0.64
Boredom reduction	
49. If I have nothing to do, smoking can help me to kill time	0.81
50. When I'm too tired, smoking can really help me	0.78
51. Cigarette is good to cope with boredom and fatigue	0.75
52. When I'm lonely, smoking helps me to kill my time	0.74
Negative social impressions	
53. People think less of me if they see me smoking	0.75
54. I'll look ridiculous when I'm smoking	0.71
55. Smoking makes me less attractive	0.62

Table 2. Test-retest coefficients and internal consistency for Smoking Consequences Questionnaire.

	Test-retest coefficients	α coefficients
SCQ subscales		
Weight control	0.88	0.89
Craving/addiction	0.76	0.70
Negative physical feeling	0.79	0.78
Boredom reduction	0.83	0.83
Negative social impressions	0.69	0.71
Negative affection reduction	0.92	0.93
Stimulation/state enhancement	0.86	0.87
Health risk	0.85	0.84
Taste/sensorimotor manipulation	0.86	0.87
Social facilitation	0.83	0.84

0.92. However, there was one exception, which was 0.69 for the negative social impressions.

The ICC was calculated to include the factors in the SCQ questionnaire. The results showed that this questionnaire has a reliable stability between two assessments with 2-week interval. ICC results were within the range of 0.73 (Stimulation/State Enhancement dimension) and 0.89 (weight control factors) (Table 3).

The summary of the fitness indices are presented in Table 4. CFA was used to reply the research question, such as "Do the aspects in the SCQ fit in the data?". The results showed that SCQ well fitted into the data. Factor structure of the questionnaire has been confirmed and the results of 4 fitness indices out of 5 researched appropriate levels.

Table 5 shows the correlations between SCQ scores and FTND score, as well as cigarette consumption per day. There were significant negative correlations between factors, such as 3 (health risk), 8 (adverse health effects) and 10 (negative status), to the number of cigarettes per day ($p < 0.05$, Table 5). In addition, there were positive correlations between the other factors to daily cigarette usage and nicotine dependence (FTND) ($p < 0.05$, Table 5).

Discussion

The purpose of this study was to translate the English version of SCQ into Persian, and investigate the psychometric

Table 3. Intra-class correlation coefficient (ICC) for SCQ.

SCQ subscales	Intra-class correlation coefficient (ICC)*
Negative affection reduction	0.76*
Stimulation/state enhancement	0.73*
Health risk	0.80*
Taste/sensorimotor manipulation	0.87*
social facilitation	0.76*
Weight control	0.89*
Craving/addiction	0.79*
Negative physical feeling	0.81*
Boredom reduction	0.83*
Negative social impressions	0.84*

* $p < 0.05$.

Table 4. Results of confirmatory factor analysis for SCQ.

Fitness index	Value	p
$\chi^2/(df), p$	1.92, 0.001	0.05
RMSEA	0.064	0.06
GFI	0.97	0.95
CFI	0.98	0.95
RMR	0.061	0.08

Table 5. Correlation between SCQ factors and nicotine dependence (FTND) and smoking rate (number per day).

SCQ factors	Cigarette per day	FTND score
Negative affection reduction	0.20*	0.21**
Stimulation/state enhancement	0.25*	0.23*
Health risks	-0.13	-0.31**
Taste/sensorimotor manipulation	0.32**	0.28**
Social facilitation	0.10	0.23**
Weight control	0.24**	0.10
Craving/addiction	0.04	0.15*
Negative physical feeling	-0.19*	-0.23**
Boredom reduction	0.30**	0.36**
Negative social impressions	-0.32**	-0.20**
Total score of SCQ	0.24**	0.27**

* $p < 0.05$, ** $p < 0.001$.

properties of this questionnaire. The results suggest that the translated SCQ is appropriate to be used in the smokers who speak Persian language. The results of the EFA are consistent with that obtained by the original developer of the SCQ. This implies that SCQ is effective to introduce multiple aspects of the health consequences caused by smoking (e.g. 10 different subscales of consequences in the present study). The results of this study are similar to the studies that have been done by the other researches (Buckley et al., 2005; Copeland et al., 1995; Vidrine et al., 2009).

All fitness indices include CFI, GFI, RMR and RMSEA reached acceptable levels. The result of χ^2/df is another evidence that the model is fitted with the data. Our findings are consistent with the study of Vidrine et al. (2009), where CFA confirmed the specified structure of SCQ.

Our findings suggest that SCQ is reliable when it was used in the Persian-speaking smokers, which is consistent with the other studies in different culture setting (Buckley et al., 2005; Copeland et al., 1995; Shore et al., 2000; Vidrine et al., 2009). There was a range of coefficients from very good

(e.g. reducing negative emotions) to unreliable (e.g. craving/addiction). This suggests that SCQ has a high reliability and internal consistency with large sample size of participants who are the representatives of the society.

EFA in this study was able to identify 10 different sub-scales, while the following 10 factors are able to predict >70% of the variance. In a previous study, using EFA Rajabi et al. discovered other factors, including good relationship with a smoker, smoking restrictions and rules, healthy and smoke-free environment, and nameless factor (Rajabi, 2006). In another study among smokers and nonsmokers by Shore et al. (2000), four factors were recognized that could explain 54% of the variance. These were interpersonal relations with the smokers, laws and social restrictions on smoking in public places, health concerns and ultimately the marketing and sale of cigarettes (Shore et al., 2000). Thus, compared with these studies, the predictive power of variance in the current study was much higher. In addition, construct validity of the current study was also higher than these two previous studies on a similar topic.

Internal consistency of the questionnaire was acceptable for all aspects. However, Cronbach's alpha coefficients were low for some aspects, such as craving and negative social impressions. Nevertheless, with regard to SCQ validation, current findings are consistent with previous studies (Rajabi, 2006; Shore et al., 2000). Our results clearly showed that the questionnaire has good stability in the short term, however it is unknown whether SCQ is still stable in the long-term, which requires further investigation.

The Persian version of the SCQ has good psychometric properties among Iranian smokers. In addition, it can measure the 10 sub-scales associated with the adverse consequences of smoking. Therefore, this is a good tool to be used in future research to measure the perception of the consequences of smoking among Iranian smokers. In addition, Persian version of the SCQ can be used to assess the outcome of health educational programs on smoking prevention and cessation.

Declaration of interest

The authors report no conflicts of interest.

References

- Ahmadi, J., Khalili, H., Jooybar, R., Namazi, N., & Mohammadagaei, P. (2001). Prevalence of cigarette smoking in Iran. *Psychological Reports*, 89, 339–341.
- Aroijan, K. J., & Norris, A. E. (2005). Confirmatory factor analysis. In B. H. Munro (Ed.), *Statistical Methods for Health Care Research* (5th ed., pp. 351–375). New York: Lippincott.
- Aveyard, P., Markham, W. A., Lancashire, E., Almond, J., Griffiths, R., & Cheng, K. K. (2005). Is inter-school variation in smoking uptake and cessation due to differences in pupil composition? A cohort study. *Health Place*, 11, 55–65.
- Bawazeer, A. A., Hattab, A. S., & Morales, E. (1999). First cigarette smoking experience among secondary-school students in Aden, Republic of Yemen. *East Mediterranean Health Journal*, 5, 440–449.
- Brandon, T. H., & Baker, T. B. (1991). The smoking consequences questionnaire: The subjective expected utility of smoking in college students. *Psychological Assessment*, 3, 484–491.
- Buckley, T. C., Kamholz, B. W., Mozley, S. L., Gulliver, S. B., Holohan, D. R., & Helstrom, A. W. (2005). A psychometric evaluation of the Smoking Consequences Questionnaire-Adult in smokers with psychiatric conditions. *Nicotine & Tobacco Research*, 7, 739–745.
- Burgan, S. Z. (2003). Smoking behavior and views of Jordanian dentists: A pilot survey. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontics*, 95, 163–168.
- Byrne, B. M. (2006). *Structural Equation Modeling with LISREL, PRELIS, and SIMPLIS: Basic Concepts, Applications, and Programming*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Cervone, D., & Scott, W. D. (1999). Self-efficacy theory of behavioral change. Foundations, conceptual issues, and therapeutic implications. In W. O'Donohue & L. Krasner (Eds.), *Theories of Behavior Therapy* (pp. 349–383). Washington, DC: American Psychological Association.
- Chassin, L., Presson, C. C., Sherman, S. J., & Edwards, D. A. (1991). Four pathways to young-adult smoking status: Adolescent social-psychological antecedents in a midwestern community sample. *Health Psychology*, 10, 409–418.
- Copeland, A. L., Brandon, T. H., & Quinn, E. P. (1995). The smoking consequences questionnaire-adult: Measurement of smoking outcome expectancies of experienced smokers. *Psychological Assessment*, 7, 484–494.
- Cox, W. M., & Klinger, E. (1988). A motivational model of alcohol use. *Journal of Abnormal Psychology*, 97, 168–180.
- Curry, S. J., Grothaus, L., & McBride, C. (1997). Reasons for quitting: Intrinsic and extrinsic motivation for smoking cessation in a population-based sample of smokers. *Addictive Behaviors*, 22, 727–739.
- Ellickson, P. L., McGuigan, K. A., & Klein, D. J. (2001). Predictors of late-onset smoking and cessation over 10 years. *Journal of Adolescent Health*, 29, 101–108.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instrument. *Psychological Assessment*, 7, 286–299.
- Goldman, M. S., Del Boca, F. K., & Darke, J. (1999). Alcohol expectancy theory: The application of cognitive neuroscience. In K. E. Leonard & H. T. Blane (Eds.), *Psychological Theories of Drinking and Alcoholism* (2nd ed., pp. 203–246). New York, NY: Guilford Press.
- Gu, D., Wu, X., Reynolds, K., Duan, X., Xin, X., & Reynolds, R. F. (2004). Cigarette smoking and exposure to environmental tobacco smoke in China: The international collaborative study of cardiovascular disease in Asia. *American Journal of Public Health*, 94, 1972–1976.
- Heatherington, T. F., Kozlowski, L. T., Frecker, R. C., & Fagerström, K. O. (1991). The Fagerström Test for Nicotine Dependence: A revision of the Fagerström Tolerance Questionnaire. *British Journal of Addiction*, 86, 1119–1127.
- Hine, D. W., Honan, C. A., Marks, A. D., & Brettschneider, K. (2007). Development and validation of the Smoking Expectancy Scale for Adolescents. *Psychological Assessment*, 19, 347–355.
- Jones, B. T., Corbin, W., & Fromme, K. (2001). A review of expectancy theory and alcohol consumption. *Addiction*, 96, 57–72.
- Jones, B. T., & McMahon, J. (1996). Changes in alcohol expectancies during treatment relate to subsequent abstinence survivorship. *British Journal of Clinical Psychology*, 35, 221–234.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4, 84–99.
- Marsh, H. W., Hau, K. T., Balla, J. R., & Grayson, D. (1998). Is more ever too much? The number of indicators per factor in CFA. *Multivariate Behavioral Research*, 33, 181–220.
- McBride, C. M., Pollak, K. I., Bepler, G., Lyna, P., Lipkus, I. M., & Samsa, G. P. (2001). Reasons for quitting smoking among low-income African American smokers. *Health Psychology*, 20, 334–340.
- McChargue, D. E., Spring, B., Cook, J. W., & Neumann, C. A. (2004). Reinforcement expectations explain the relationship between depressive history and smoking status in college students. *Addictive Behaviors*, 29, 991–994.
- McDonald, P., Colwell, B., Backinger, C. L., Husten, C., & Maule, C. O. (2003). Better practices for youth tobacco cessation: Evidence of review panel. *American Journal of Health Behavior*, 27, S144–S158.
- Myers, M. G., McCarthy, D. M., MacPherson, L., & Brown, S. A. (2003). Constructing a short form of the Smoking Consequences Questionnaire with adolescents and young adults. *Psychological Assessment*, 15, 163–172.
- Niaura, R. S., Rohsenow, D. J., Binkoff, J. A., Monti, P. M., Pedraza, M., & Abrams, D. B. (1988). Relevance of cue reactivity to understanding

- alcohol and smoking relapse. *Journal of Abnormal Psychology*, 97, 133–152.
- Nunnally, J. C., & Bernstein, I. R. (1994). *Psychometric Theory* (3rd ed.). New York: McGraw-Hill.
- Panagiotakos, D. B., Pitsavos, C., Chrysoshoou, C., Stefanadis, C., & Toutouzias, P. (2002). Risk stratification of coronary heart disease in Greece: Final results from the CARDIO2000 Epidemiological Study. *Preventive Medicine*, 35, 548–556.
- Patterson, F., Lerman, C., Kaufmann, V. G., Neuner, G. A., & Audrain-McGovern, J. (2004). Cigarette smoking practices among American college students: Review and future directions. *Journal of American College Health*, 52, 203–210.
- Rajabi, G. H. (2006). Validation of a scale measuring attitude toward smoking. *Iranian Journal of Psychiatry and Clinical Psychology*, 12, 230–235.
- Rash, C. J., & Copeland, A. L. (2008). The Brief Smoking Consequences Questionnaire-Adult (BSCQ-A): Development of a short form of the SCQ-A. *Nicotine & Tobacco Research*, 10, 1633–1643.
- Rose, J. S., Chassin, L., Presson, C. C., & Sherman, S. J. (1996). Prospective predictors of quit attempts and smoking cessation in young adults. *Health Psychology*, 15, 261–268.
- Schumacker, R. E., & Lomax, R. G. (2004). *A Beginner's Guide to Structural Equation Modeling* (2nd ed.). London: Lawrence Erlbaum Associates.
- Shore, T. H., Tashchian, A., & Adams, J. S. (2000). Development and validation of a scale measuring attitudes toward smoking. *Journal of Social Psychology*, 140, 615–623.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Boston: Allyn and Bacon.
- Tavani, A., Bertuzzi, M., Gallus, S., Negri, E., & La Vecchia, C. (2004). Risk factors for non-fatal acute myocardial infarction in Italian women. *Preventive Medicine*, 39, 128–134.
- Tomar, S. L. (2001). Dentistry's role in tobacco control. *Journal of the American Dental Association*, 132, 30S–35S.
- Unger, J. B., Rohrbach, L. A., Howard-Pitney, B., Ritt-Olson, A., & Mouttapa, M. (2001). Peer influences and susceptibility to smoking among California adolescents. *Substance Use & Misuse*, 36, 551–571.
- Vidrine, J. I., Vidrine, D. J., Costello, T. J., Mazas, C., Cofta-Woerpel, L., & Mejia, L. M. (2009). The Smoking Consequences Questionnaire: Factor structure and predictive validity among Spanish-speaking Latino smokers in the United States. *Nicotine & Tobacco Research*, 11, 1280–1288.
- Warnakulasuriya, S., Sutherland, G., & Scully, C. (2005). Tobacco, oral cancer, and treatment of dependence. *Oral Oncology*, 41, 244–260.