

Supplementary material

Table S1. Variable definition and assignment.

Observed Variable	Definition	Measurement	Latent Variable
Community tobacco regulations	Whether the participant's community has explicit tobacco regulations.	0=no regulation,1=explicit regulation	
Home tobacco regulations	Whether the participant's home has explicit tobacco regulations.	0=no regulations,1= inexplicit regulations, 2=not allowed anywhere in the house	Environment support
Workplace tobacco regulations	Whether the participant's workplace has explicit tobacco regulations.	0=no regulations or don't know,1= allowed in smoking areas ,2=not allowed at all	
Anti-tobacco messaging	In the past 30 days, how many ways have participant seen anti-tobacco messaging in his or her community.	0=0 ways,1=1 ways,2=2 ways,3=3 ways,4=4 ways,5=5 ways	
Indoor tobacco exposure	In the past week, have smokers witnessed residents smoking indoors.	0=no tobacco exposure,1=tobacco exposure	Community tobacco exposure
Outdoor tobacco exposure	In the past week, have smokers witnessed residents smoking outdoors.	0=no tobacco exposure,1=tobacco exposure	
Frequency of smoking events at home	How often does someone smoke in the home, including the participant and his or her family.	1=less than 1 month,2=don't know/can't remember, 3=more than 1 month	
Number of smokers in the family	How many members of the family smoke in total.	1=one person,2=two people,3=three people, 4=four or more people	Social support
Family support for smoking cessation	Support for smoking cessation from people around participant.	1= unsupportive ,2=fair,3=supportive	

Smoking cessation outcome	The 7-day point smoking quit success rate of participants at the time of the survey was used as the main reference indicator to determine whether he or she has quit smoking ¹ .	0=not quit, 1=quit	
6-month smoking reduction	Changes in smoking among participants in the follow-up survey compared with the baseline survey.	1=increase in smoking, 2=no change in smoking, 3=reduction of 1-10 cigarettes, 4=reduction of 11-20 cigarettes, 5=reduction of 21-30 cigarettes, 6=reduction of 31 cigarettes and above	Smoking cessation

Note. Manifest Variable or Observed Variable is a variable that can be directly observed.

Latent Variable is usually a variable that cannot be directly observed and needs to be estimated with the help of an exogenous measure².

¹ Steinberg M B, Foulds J, Richardson D L, et al. Pharmacotherapy and smoking cessation at a tobacco dependence clinic. *Medicine*. 2006;42(2):114-119. DOI:10.1016/j.yjmed.2005.11.013.

² Wang Mengcheng. *Latent Variable Modeling Using Mplus*. Chongqing University Press. 2014.

Table S2. Results of structural equation model fitness tests for smoking cessation outcome, 2019 (N=375)

Indicator	<i>RMSEA</i>	<i>CFI</i>	<i>TLI</i>	<i>SRMR</i>
Reference value	≤0.080	≥0.900	≥0.900	≤0.080
Test value	0.025	0.972	0.960	0.054

Note. RMSEA: root mean square error of approximation; CFI: comparative fit index; TLI: Tucker-Lewis index; SRMR: standardized residual root mean square.

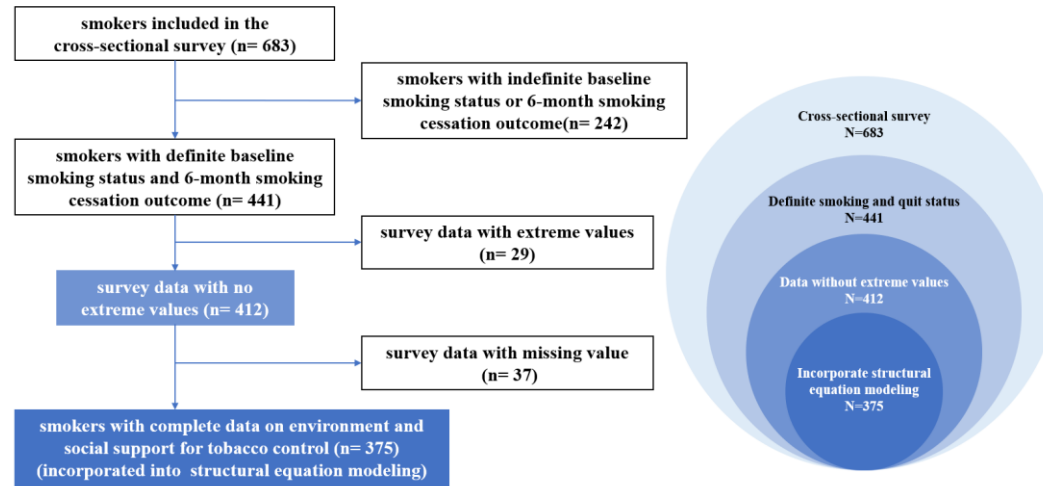


Figure S1. Study object data processing flow chart, 2019 (N=683)