BRIEF REPORT

The Influence of Self-Exempting Beliefs and Social Networks on Daily Smoking: A Mediation Relationship Explored

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The decision to initiate, maintain, or quit cigarette smoking is structured by both social networks and health beliefs. Self-exempting beliefs affect people's decisions in favor of a behavior even when they recognize the harm associated with it. This study incorporated the literatures on social networks and self-exempting beliefs to study the problem of daily smoking by exploring their mediatory relationships and the mechanisms of how smoking behavior is developed and maintained. Specifically, this article hypothesizes that social networks affect daily smoking directly as well as indirectly by facilitating the formation of self-exempting beliefs. The sample comes from urban male residents in Hangzhou, China randomly selected and interviewed through multistage sampling in 2011. Using binary mediation analysis with logistic regression to test the hypotheses, the authors found that (a) daily smoking is associated with having smokers in several social network arenas and (b) self-exempting beliefs about smoking mediate the association between coworker network and daily smoking, but not for family network and friend network. The role of social network at work place in the creation and maintenance of self-exempting beliefs should be considered by policymakers, prevention experts, and interventionists.

Keywords: health beliefs, mediation analysis, self-exempting beliefs, social networks, smoking

Smoking, like many other health behaviors, is subject to the complex interaction of social influences and psychological processes. Intervention through policy is a necessary action but a difficult to carry out, especially when professional conceptions confront lay understandings. People tend to be reluctant to act upon mass communication messages unless the information is transmitted via their own social networks (Katz & Lazarsfeld, 1955; Bandura, 2004). Sometimes implemented policy even creates contrary effects due to a marginalizing impact, thus making certain groups harder to reach and more policy-resistant when reached (Graham et al., 2006; Room, 2005; Stuber, Galea & Link, 2008; Constance & Peretti-Watel, 2010). Given the contextualized nature of policy uptake, policy implementation that targets tobacco users must be attentive to the social network composition of smokers and its effect on their health beliefs. This study identifies how social networks influence smoking through a particular set of health beliefs: self-exempting beliefs (SEB).

SEB and Smoking

Although the physical health effects of consuming tobacco has a medical basis, the belief in such basis is a sociopsychological construct. Festinger (1957) proposed the concept of SEB: When people receive messages about the risk of their behavior, many of which refer to scientific evidence, instead of surrendering to the message and changing their behavior, they resort to beliefs that exempt themselves to mitigate the undesirability of such behavior. People may actively use their own evidence contrary to medical professional recommendations or acknowledge professional suggestions but argue for the exception for themselves. For example, smokers may develop explanations for why medical evidences do not apply to them (Heikkinen et al., 2010; Oakes, Chapman, Borland, Balmford, & Trotter, 2004). SEB reduce the threat to self-integrity and its resulting behavioral adaption; they may rise à posteriori to justify the existing behavior or strengthen the behavioral continuance to weaken the necessity of quitting (Radtke, Scholz, Keller, & Hornung, 2011); they could also spread as innovative messages that ease the anxiety about tobacco harm and recruit others into cigarette smoking. SEB also emerge when smoking can be used as a useful label of identity and provide a form of social etiquette for instrumental benefits (Collins, Maguire, & O'Dell, 2002). Some people who possess SEB try to distance themselves from the addiction stereotype but nevertheless continue to use cigarettes because of their supposed normative status and predominance in social interaction. In this aspect, men in Chinese society routinely use the phenomenon of courtesy smoking and gifting cigarettes, where cigarettes are used in daily

interactions among men, welcoming guests, or as bribe (Ma et al., 2008; Rich & Xiao, 2012). Sociologists (Swidler, 1986; DiMaggio, 2001; Vuolo, 2012) have argued that culture constitutes an elastic reservoir for individuals to choose according to their needs when values are in conflict. Thus, culture also plays an important role in creating concrete SEB. For example, Wright illustrated with ample descriptions of how farmers in Kentucky justify tobacco cultivation and consumption as a community tradition and cultural necessity (Wright, 2005). Other scholars (e.g., Manderson, 1981; Jackson et al., 2004) discovered that beliefs in nonharmful ways of tobacco smoking, based on the semireligious folk classification of tobacco as food, indirectly legitimizes smoking as normal daily conduct. Scholars have reported SEB about smoking are associated with education, age, and other background factors (Chapman et al., 1993; Oakes et al., 2004; Heikkinen et al., 2010).

Social Networks and Smoking

Social networks matter because different types of connections have different influences on behaviors. Social networks provide contexts where communications, consolidations of beliefs, and daily interactions are performed. Sutherland and Cressey (1970) argued that typical delinquent behaviors are gradually formed by both peer pressure and the changed attitude from imitating and learning from peers. When people cluster within networks with smokers, the observation of smoking behavior is repeated and normalized to a degree that not only will the perceived normative status of smoking be confirmed in their cognition, but justifications of such behavior could also be mutually reinforced by people who smoke within the social network. Scholars have argued the strength of ties in a network has the unique function to influence beliefs and behavior, where weak ties facilitate heterogeneous information and behavior, strong ties generate conformity to existing norms (Granovetter, 1973; Baer, 2010). Thus the impact on smoking by networks composed of different types of ties, weak versus strong, family versus friends, distant versus proximate, can too be different.

A number of studies have also discussed the impact of different types of social network ties on smoking. Family influence is strongest at earlier stages of the life course but is replaced by peer influences as the individual grows older (Glynn, 1981; Krosnick & Judd, 1982; Perry, Kelder, & Komro, 1993); although some studies have found that parental influence does not entirely diminish after years (Chassin et al., 1986; de Vries et al., 2003). Another study by Christakis and Fowler (2008), with specific attention to smoking networks, revealed that cessation is most likely to occur when one's spouse stopped smoking. In this manner, both natal families and marital families matter. Moreover, a network's impact on an individual's smoking probability also differs across social settings: such as the work unit, family, or a cultural setting. For example, family members' attitudes and intervention constitute the strongest predictor of Chinese men's smoking cessation (Yang et al., 2006; Zhang et al., 2012).

SEB are arguably developed not only as a defensive mechanism but also as part of social routines within social networks. Currently, there is no study that has investigated SEB as contextualized in social networks, though it has been noted that cognitive dissonance, risk perception, and behavior motivation are joint products of social and psychological mechanisms (Bandura, 2004).

The perception of health risk is organized and transmitted by network interactions, built upon the consistently perceived attitude and (mis)information grouped in cliques (Scherer & Cho, 2003; Helleringer & Kohler, 2005; Kohler, Behrman & Watkins, 2007). Thus, individuals can develop SEB, particularly the culturally specific content of such beliefs, from family members' gradual socialization throughout years, daily communication with friends, integration into a subculture, or influence by those who work closely with him. Some have demonstrated that smokers rarely exert direct pressure on their nonsmoking peers, and the latter initiated smoking rather because the discouraging message is scarcely received (Urberg et al., 1990). Others suggest (Kelly, 2009; Constance & Peretti-Watel, 2010) that friends may express justifications for their smoking peers vis-à-vis coercive policies. Therefore, holding certain SEB does not necessarily require the status of being a smoker. Instead, being tied to smoking networks alone can locate a nonsmoker in the midst of messages and information shared by smokers and increase his likelihood of having SEB. Thus, SEB are more likely to occur in contexts where one's network ties include smokers. As a result, how social networks affect smoking behavior would be mediated by SEB

Based upon the literature reviewed above, we propose the following hypotheses:

H1: Men with higher levels of SEB are more likely to be daily smokers.

H2a: Men reporting smokers in their family network are more likely to be daily smokers.

H2b: Men reporting smokers in their friend network are more likely to be daily smokers.

H2c: Men reporting smokers in their coworker networks are more likely to be daily smokers.

H3: SEB will mediate the association between three social network types and smoking status.

Methodology

Sampling

A multistage sampling design was employed to collect data during the summer of 2011. At Stage 1, we randomly selected two residential districts (*qu*) of Hangzhou; at Stage 2, we randomly selected two subdistricts (*jiedao*) from a district; then two to three communities (*shequ*) within each subdistrict at Stage 3. Hangzhou is located in southeast China with a population of 6.7 million, it has six districts and 16–22 communities within each district. The Community Committee Office randomly sampled households in each community, and these households were distributed across each community in approximate proportion to their estimated overall distribution across the city cluster of communities. Participants in the study were sampled independently within these clusters. The inclusion criterion was being a resident aged 15 years or older. One eligible resident from each household was selected into the study, based on nearest birthdate to the interviewing date. We scheduled a face-to-face individual survey once an eligible individual was identified and agreed to study participation. All surveys were conducted by means of a structured, interviewer-

administered questionnaire. Surveyors were second-year medical graduate students or fourth-year medical students. Each surveyor completed a training on the study protocol and survey procedures prior to working on the study. Questionnaires were administered privately to participants in their home or in a quiet place, such as a backyard or community park. Appointments were scheduled through a community organization and were rescheduled as necessary. Upon receiving instructions from surveyors, participants were asked to fill out a questionnaire of approximately 30 minutes' duration. Each participant was afforded an opportunity to seek clarification of questions regarding the survey or questionnaire items, and given adequate time for completion. The protocol was approved by the Ethics Committee at the Medical Center, Zhejiang University, and we obtained informed written consent from all participants prior to interview. The total sample size yielded was 669. The sample's demographic characteristics are shown in Table 1.

Measurement

SEB. SEB are measured by 20 items. Each item asked respondents to rate their agreement on the statement in a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Eighteen items are adopted from Oakes's study (Oakes et al., 2004), such as "The scientific evidence about tobacco's harm is exaggerated," "Many smokers are very healthy so smoking can't be so harmful," "My current smoking amount is too low to be considered risky," "You have got to die of something, so why not enjoy yourself and smoke," "Smoking is no more risky than lots of

Table 1
Descriptive Demographics

	Percentage (%)	M (SD)	Range
SEB		2.09 (0.78)	1–5
Annual income (Yuan)			1–6
Less than 10k	10.08		
10k–less than 20k	17.57		
20k–less than 30k	25.58		
30k–less than 40k	15.76		
40k–less than 50k	10.85		
50k and above	20.16		
Education			1–4
Elementary and below	10.59		
Middle school	29.46		
High school	24.55		
College and above	35.40		
Age		41.98 (15.9)	15–87
Marriage			
Unmarried	24.55		0–1
Married	72.35		0–1
Divorce or widowed	2.07		0–1
Religion belief			
Have	13.70		0–1
Have not	86.30		0–1
Smoke status			0,1
Not daily smoker	60.47		
Daily smoker	39.53		
Smoker in social networks			
Family network	53.90		0–1
Friend network	91.73		0–1
Coworker network	71.83		0–1

Note. Cronbach's alpha: self-exempting belief: 0.92.

other things that people do," and so forth. Two additional items to represent the instrumental dimension of SEB were included after pilot tests within local exploratory studies (Ma et al., 2008; Yang et al., 2006), "smoking is good for socializing" and "smoking is good for reducing stress."

Network measures. Smoking social networks are measured by three questions, representing three types of ties. The strongest ties in Chinese culture usually refer to the immediate family, so the questionnaire first asks if there is anyone who smokes in respondent's household. Please note, word *household* (*jia*) in the Chinese language has the same connotation with *family* (*jia*). There is another word (*qinqi*) for extended family who usually live somewhere else. This term *jia* is indicative of the family with whom the individual shares a household. In this instance, family household may include one's nuclear family, parents, or possibly siblings. The second question asks if the respondent's friends smoke. The third question intends to represent formal weak ties to smoking associates: Does any coworker who shares an office or working space with the respondent smoke.

Smoking status measures. Smoking status of the respondent is first assessed by a question that asks respondent's current smoking status: 1, smoke everyday; 2, smoke some days; 3, don't smoke now. Considering the high prevalence of Chinese male smoking and the normative status of cigarettes in social etiquette, it is often futile to distinguish occasional smokers versus nonsmokers, as well as smoking under pressure versus absolute abstinence among men, therefore it is most important to distinguish daily habitual smokers from nondaily smokers. Furthermore, Brant test of parallel regression assumption dictates the ordinal treatment of the dependent variable inappropriate (Long & Freese, 2006). Therefore people who answered they smoke everyday are coded as a daily smoker (1), and the rest of them are grouped as not daily smokers (0).

Demographic control measures. Demographic indicators were assessed in the section "individual and family background" of the survey, including sex, age, income, marriage status, ethnicity, and education. Religious belief is simply dichotomized as "Do you have any religious beliefs or not," because of the sensitive nature of religion and lack of major religious beliefs in the survey context.

Analytic Method

To confirm the reliability of the SEB measure, a Cronbach's alpha test was performed on the 20 SEB items. Cronbach's alpha over 0.70 suggests acceptable level of reliability; that which over 0.80 suggests considerably good reliability. Cronbach's alpha test of our SEB measures (0.92) suggests excellent reliability.

To conduct mediation analyses, we combined the classic mediation model proposed by Baron and Kenny (1986)—which emphasized the reduction of coefficients and *p* value for the independent variable after mediator is introduced—with survey sample weighted bootstrap to estimate the mediation effects and coefficients. Recently scholars argued that observing the change of power by the classic approach does not suffice to establish mediation for two main reasons: First, it is possible to have significance reduction without considerable effect size change, or considerable effect size change without reducing significance; second, under Baron and Kenny's classic ap-

proach, people often erroneously treat the mediator as a control variable, or vice versa (Zhao et al., 2010). As a result, Preacher and Hayes (2008) proved that a significance test on the indirect effect can avoid Type I error and is more straightforward than the classic approach. Therefore, we follow the recent technique of using bootstrap to test the significance of indirect effect for the mediation analyses (Bollen & Stine, 1990; Shrout & Bolger, 2002; MacKinnon et al., 2002).

Another benefit of using bootstrap resampling is its capacity to deal with multistage cluster sampling. The svy bootstrap command in Stata also allows us to deal with complex data structure set by sample weighting, plus using bootstrap to resample observations. In this study, district, neighborhood, and community, are the clusters specified for bootstrap resampling. Sample weight is calculated as the inverse product of the probabilities that each level's unit is selected from its population: within n districts, l communities are in jth neighborhood, and m neighborhoods from ith district, weight W_{ij} equals $\frac{NM_iL_j}{nm_il_j}$, where the population total at each level is attained from various bureau websites. Binary mediation logistic regression was performed in STATA 11 for the analyses, then we use survey bootstrap to derive the final coefficients and 95% confidence intervals. Adjusted odds ratios, significance level at 95%, indirect effect, and ratio of indirect to direct effect are reported.

Results

Sample Characteristics

The percentage of cases, sample mean, standard deviation, and range are presented for both main variables and relevant demographic characteristics in Table 1. The outcome variable, smoking status, shows an approximate Pareto number: 39.5 of all males in the sample are self-described as smoking on a daily basis, whereas 60.5% of them are not daily smokers. The ratio of daily smoking generally conforms with recent studies in the same city (T. Yang et al., 2007; Yang et al., 2010). Missing data is negligible among all the variables as only three cases were missing from the SEB instrument.

Smoking is common in social networks. In this sample, 53.9% of male respondents reported having a smoker in their families, 91.7% reported having a smoker among their friends, and 71.8% indicated having a smoker among coworkers. The mean of SEB among men is 2.09, standard deviation is 0.78, and the SEB scale ranges from 1 to 5.

The socioeconomic background of the sampled male population is diverse although all respondents had the same background as having been a resident in Hangzhou for at least 1 year. The largest proportion are those who claimed yearly household income per capita between 20,000 and 30,000 Yuan (25.6%), about a quarter of all males belong to this income category. In terms of education, 10.6% had received only elementary education or below, 29.5% went to middle school, 24.6% went to high school, and 35.4% received a college degree. Among sampled males, 24.6% are unmarried, 72.4% are married, and the remainder (3.1%) are divorced or widowed. The mean age of the sample is 42 ($SD = 16$), respondent ages ranged from 15 to 87 years old. As for religion, 13.7% reported having religious beliefs, 86.3% reported no religion.

Findings

Table 2 shows that higher SEB is associated with higher odds of being a daily smoker. This relationship is considerably strong and straightforward after controlling for other demographic influences including income, age, marriage, religious beliefs, and education. The odds ratio of being a daily smoker for SEB is 3.52 ($p < .001$), which implies that with each higher level of SEB, the odds of being daily smoker is 3.52 times higher. Additionally worth noting is the impact of income, age, and education: Income increases the likelihood of being daily smoker while older age and education reduces it.

The association of each type of social networks and smoking status is analyzed independent from SEB while controlling for the same demographic factors and shown in Table 2. As expected, the presence of smokers in all three network types independently increase the odds of daily smoking. Having a smoker in one's coworker network has the largest association with the likelihood of being daily smoker in terms of odds ratio magnitude (OR = 4.74, $p < .001$), followed by the friend network (OR = 3.73, $p < .05$) and family network (OR = 2.65, $p < .001$). The second tier of hypotheses (H2a, H2b, and H2c) is hence validated by the statistics presented in the first model of Table 3: Men are more likely to be daily smokers when having a smoker in his family, friend, or coworker network, net of the effect of the control variables.

The upper part of Table 3 shows the unmediated logistic regression of smoking status on social networks, each network is estimated controlling for the other types of networks and demographic variables. The unmediated models in Table 3 are exactly the same, they are listed separately for the sake of convenience to compare with the mediated models. The unmediated model shows that family network and coworker network are significantly associated with being daily smoker after controlling for the other network types and demographic variables. Having smoking family member increases the probability of being a daily smoker by 2.10 ($p < .01$), and having smoking coworker increases the probability of being a daily smoker by 3.94 ($p < .001$). Friend network is not signifi-

Table 2
Logistic Regression Analyses of Daily Smoker Status on Self-Exempting Beliefs (SEB) and Social Networks Independently

	Odds ratio	95% confidence interval
SEB	3.52***	2.53, 4.90
Social networks		
Family network	2.65***	1.69, 4.17
Friend network	3.73*	1.37, 10.12
Coworker network	4.74***	2.64, 8.52
Control variables		
Education	0.49***	0.38, 0.65
Income	1.32**	1.11–1.54
Age	0.98*	0.96, 1.00
Marital status (base = unmarried)		
Married	ns	—
Divorce/widowed	ns	—
Religion	ns	—

Note. Each network variable is estimated independently from other network measures.
* $p < .05$.   ** $p < .01$.   *** $p < .001$.

Table 3

Unmediated models, Self-Exempting Beliefs (SEB)-Mediated Models, by Types of Social Networks

	Daily smoking (*n* = 387)	
	Odds ratio	95% confidence interval
Unmediated		
Family network	2.10**	1.25, 3.45
Friend network	1.56	0.51, 4.85
Coworker network	3.94***	2.15, 7.17
Education	0.50***	0.38, 0.66
Income	1.25**	1.08, 1.47
Age	*ns*	—
Marriage	*ns*	—
Religion belief	*ns*	—
Mediated		
SEB	3.25***	2.12, 4.98
Family network	2.23*	1.21, 4.10
Friend network	1.12	0.28, 4.37
Coworker network	3.52***	1,83, 6.82
Education	0.50***	0.38, 0.68
Income	1.31**	1.10, 1.58
Age	*ns*	—
Marriage	*ns*	—
Religion belief	*ns*	—
Mediation analysis		
Family network model		
Indirect effect	.01	−.04, .07
ratio indirect/direct	.05	
Friend network model		
Indirect effect	.03	−.02, .07
ratio indirect/direct	2.02	
Coworker network model		
Indirect effect	.07	.02, .10
ratio indirect/direct	.23	

Note. Coefficients in the mediated models and the indirect effects were estimated by 500 resampling using survey weighted bootstrap (-svy bootstrap-).

* *p* < .05.   ** *p* < .01.   *** *p* < .001.

cantly associated with being daily smoker after controlling for the other network types, a difference from Table 2 where only demographic variables are controlled.

The lower part of Table 3 shows the mediation analyses where social networks are mediated by SEB, controlling for the other network types and demographic variables. The classic approach expects reduction in *p* value or the magnitude of odds ratio of social network when SEB was added to the regression, and the survey weighted bootstrap method calculates the odds ratio and indirect effects. The magnitude of odds ratio of smoking status on family network actually increased after SEB was introduced as a mediator (2.23 vs. 2.10), and the 95% confidence interval of the indirect effect overlaps zero. The ratio of indirect effect to direct effect for the family network model is also minimal (0.01). We conclude there is no mediation effect in the family network model. For the friend network model, indirect effect is too not significant. The ratio of indirect effect to direct effect is large in absolute value (2.02), but indeed originates from an inconsistent mediation in this case (MacKinnon, Fairchild, & Fritz, 2007). Because friend network itself is not significantly associated with daily smoking, we conclude there is no mediation effect for the friend network model. However, for the coworker network, odds ratio drops from 3.94 to

3.53 after SEB was introduced. The indirect effect has an above zero 95% confidence interval (0.03–0.10), the indirect/direct effect ratio is 0.23. The result suggests that SEB partially mediates coworker network and smoking status, after controlling for the other network types and demographic variables.

Discussion

This study was designed to examine how SEB are related to daily smoking, and whether the relationship between social network types and smoking are mediated by SEB. Previous studies had theoretically established the relationship between SEB and smoking initiation, continuation, and cessation. Relatively few investigations about SEB and smoking have been conducted in developing countries, and we are curious about how the normative status of cigarettes in such societies may shape the understanding of smoking behavior among smokers and nonsmokers alike. Our study attends to these issues as well.

This study, which adopted an existing SEB scale and incorporated new items for the instrumental dimension of SEB, has demonstrated a strong relationship between being a daily smoker and having higher levels of SEB. In contexts such as China, where cigarette use is normative but antitobacco policy and prevention efforts are also taking place at the same time, lay understandings and views of smoking are very ambiguous. Historically, tobacco was prescribed to people as medicament because of its assumed function to balance the corporeal air system (qi) in the philosophy of Chinese traditional medicine (Du, 2000). Dikötter, Laamann, & Xun (2002) also argued that, besides its assumed medical benefit, the quick and vast acceptance of tobacco in China was closely associated with the phenomenological meaning of smoke (*air or qi*) found in Chinese folk religion's evil dispelling ceremony. This mythical form of belief persists, and culminated during the 2003 SARS outbreak when people circulated the message that smoking cigarettes and burning incense can prevent SARS (Tai & Sun, 2011). Ma's exploratory study (Ma et al., 2008) informs us that the most common SEB about smoking among Chinese males include the importance of cigarettes in social and cultural etiquette. Although concrete beliefs in the legitimacy of tobacco consumption may be varying, they all demonstrated that traditional culture in many cases could provide the fundamental basis of SEB among men in China. People respond to tobacco policy positively overall (X. Y. Yang, Anderson, & Yang, 2014), but they also condone smoking as a necessary part of social etiquette, gender identity, or existing tradition. Tobacco policymakers need to be aware of the existence of SEB and consider counteractive measures.

The study results showed that smoking in each network included in the hypotheses exhibited strong positive association with being a daily smoker when estimated independent of the other types of networks. It is beyond the scope of this article to rule out the auto-selection effect of smoking behavior, but it is possible to reason that although friend networks can be formulated initially by individual selection of the homophily principle, that is, "birds of the same feather, fly together." Individuals have much less control over which working unit or family they are embedded in. Apart from the direct effect of social networks on smoking behavior, the research results discovered the significant indirect effect of SEB as a mediator between coworker networks and smoking behavior. But SEB's mediation is not significant for family networks and friend

networks, therefore it can be inferred that a coworker network, as a deposit of weak ties, can influence the individual to smoke through the development of SEB, which partially confirmed hypothesis H3. One can argue that because our respondents are urban male residents in China, their referred smokers in family networks are likely offspring or parents, but rarely siblings or spouses due to one child policy and the fact that few women smoke in China. Network alters such as parents and offspring fill in the family roles that are less conducive to spread beliefs due to role expectations and the generation gap. On the other hand, the definition of a friend may require further refinement to distinguish it as an effective carrier of SEB. Coworker corresponds to a type of weak tie (low in emotional intense and interaction frequency), which scholars argued is prone to transmit information. (Granovetter, 1973)

Although there are many strengths, this current study has a few limitations. First, the friend network measured in this study could be defined more specifically as different types and the count of friends rather than being categorized under the broad term *friend*. Thus we may discern more fundamental differences between the smoking patterns of a coworker network and friend network. Second, although we have argued that family network and coworker network are not likely caused by smoking as a result of homophily, we cannot confirm the causal direction between SEB and smoking solely from the cross-sectional data used here. Longitudinal data would be able to answer some interesting questions suggested by this study, such as how beliefs about smoking changed with formation and dissolution of social networks, and how people's smoking status and behavior change with SEB over a period of time. Finally, this study only included male population for analysis because the great difference of smoking prevalence between Chinese men and women could bias the estimation in the model we employed. However, future studies could Yang incorporate both males and females using a different model. Despite these limitations, this article provides important information on the role of social networks in SEB that play a pivotal role in the justification of smoking behaviors.

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