

## Role of Socio-Economic Status in Cigarette Smoking Tendency of Youths

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### ABSTRACT

Smoking is considered as one of the most common health impairing behaviors involving recreational drug use, in which tobacco is burned and the smoke is tasted or inhaled. Health professionals have identified cigarette smoking (in which the active drug is nicotine) as a most serious preventive health problem of youths worldwide. The study examines the role of socioeconomic status (SES) in smoking tendency of youths. The study was carried out with 75 male youths, who represented lower, middle, and high SES. The age of participants ranged from 19 to 25 years, and they resided in the rural and urban areas of Varanasi. Participants were given the measures of socio-economic status and smoking urges. Analysis revealed that youths of lower and higher SES, exhibited greater smoking tendencies as compared to those of middle SES. The findings are discussed and their implications are pointed out.

**Keywords:** *Health Impairing Behavior, Smoking; Smoking Tendency, Socio-Economic Status, Youth*

One of the major global public health problems is tobacco smoking. Tobacco smoking is the major preventable factor of smoking-related diseases, premature mortality, and general mortality (Banks, et. al., 2015; Health Consequences of Smoking, 2014). Studies revealed smoking to be related to risk of cancer, diseases related to heart, respiratory system diseases, and many other health problems (Carter, et al. 2015, & Jha et al. 2013). Currently, there are over one billion smokers all over the world, and the number of smokers is gradually rising, especially in developing countries (Appelman, van Rijn, Monique, Boersma, & Peters, 2015; Veeranki, Mamudu, Anderson, & Zheng, 2014). WHO has estimated that use of tobacco (smoking and smokeless) is currently responsible for the death of about six million people across the world. Each year youths pass away prematurely due to this cause. About 600,000 people are also estimated to die from the effects of second-hand smoke. Although it is often associated with ill-

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health, disability and death from non-communicable chronic diseases but tobacco smoking is associated with an increased risk of death from communicable diseases (World Health Organization, 2008).

Evidence indicates that about one million people die due to smoking-related diseases in India (Gallus et al., 2014; Sharma, 2015). In addition, over one billion deaths may result from smoking at the end of this century if efficient tobacco control measures are not taken (Mathers, 2006). Growing evidence suggests that multiple risk factors are involved in smoking (Goel, & Zhang, 2012; Yang, Sung, Mao, Hu, & Rao, 2011). Furthermore, as the diagnosis of nicotine dependence appeared in Diagnostic and Statistical Manual of Mental Disorders, cigarette smoking has been considered the most widespread psychiatric diagnosis worldwide (American Psychiatric Association, 2013). It is therefore noticeable that cigarette smoking is an affliction resulting in mounting human and economic costs and is one of the most vital public health tribulations with which we have to confront in the upcoming years.

Currently cigarette smoking is observed as outcomes of the interplay of bio-psycho-social aspects (Lydon, Wilson, Child, & Geier, 2014). Regarding biological aspects, facts of genetic determinants affecting the smoking phenotype has been established (Straub et al., 1999) and dependence to nicotine has been recognized as the psychopharmacological cause that maintains smoking behaviors (Crooks & Dvoskin, 1997; Dvoskin, Teng, & Crooks, 2001). Concerning the social aspects, it has been confirmed that certain demographic factors such as male gender, young age, low socioeconomic status and low educational level enhance cigarette smoking tendency of people (Bergen, & Caporaso, 1999; Escobedo, Anda, Smith, Remington, & Mast, 1990; Zhu, Giovino, Mowery, & Eriksen, 1996). Some social and/or contextual influence also plays a remarkable role (Conrad, Flay, & Hill, 1992; Derzon, & Lipsey, 1999).

Psychological findings observe cigarette smoking tendency as a prototypical addictive turmoil, which mark typical characteristics of people such as tolerance and withdrawal despite high personal costs (Baker, Bradon, & Chassin, 2004). Smoking tendency may be the outcome of a wide range of factors like reduced social support, people's low motivation for quitting, stronger tobacco addiction, higher probability of not completing courses of pharmacotherapy or sessions of behavioral support, psychological differences like lack of self-efficacy and self-concept, and tobacco industry marketing (Hiscock, Bauld, Amos, Fidler, & Munafò, 2012). A broad array of opportunities, exposure, decisions and behaviors that promote or threaten health are influenced by social and economic factors. Though, many factors may predict smoking tendency of people, but SES has been indicated as single greatest predictor of tobacco usage of people in some studies (Bergen et al., 1999; Tobacco & Low Income Smoking, 2011). Taking out possible factors from the findings, it seems that SES has usually been an essential factor in many speculative models of substance abuse.

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### *Socio-economic Status (SES) and Smoking Tendency*

Socio-economic status (SES) is a combination comprising of an individual's economic status (measured by income), social status (measured by the level of education) and work status (measured by occupation or profession) (Adler, Boyce, Chesney, Cohen, Folkman, & Kahn, 1994). SES status is usually conceptualized as the social status or class of an individual or group. It is often measured as a combination of education, income and occupation. Although, education is most frequently used measure of socio-economic status in hygiene researches all over the world in many studies. Numerous socio-economic factors such as education, occupation and monthly income have been indicated to be associated with smoking tendency in some studies (Jarvis, & Wardle, 1999; Siahpuh, & Borland, 2001). Researches indicate high rate of smoking tendency in people with a lower educational level as compared to middle and high educational levels (Cavelaar, et al; 2000; Giskes et al; 2005).

Studies show smoking prevalence to be high among people of deprived and disadvantaged groups and also among those who belong to low SES. Attempts to quit smoking are not much liable to be successful in these populations. As a consequence, these people have to face soaring health challenges of tobacco due to their health impairing smoking tendency. Poverty and tobacco usage creates a vicious cycle. Reports reveal that people belonging to low SES suffer from chronic health related problems caused by their tobacco consumption tendencies that ultimately increase their mortality rates. The populations of low SES status include those people, who earn low-income and have less than 12 years of education. They are also medically underserved, poor in given task performances and are unemployed (Tobacco & Low Income Smoking, 2011). Smoking behavior is contrarily associated to socio-economic status, with deprived groups in the population being more prone to take up and continue smoking (Lopez, Collishaw, & Piha, 1994). It seems that a number of socio-demographic factors may be strongly associated with the likelihood of smoking tendency of youths.

In developed countries, studies indicate smoking tendency as more common among youths of high SES as compared to those of low SES (Amos, Bauld, & Clifford, 2011). On the other hand, few studies also indicate a greater proportion of people's smoking tendency in low SES (Siahpush et al., 2001). Report indicates that in India youths having college-level educational status generally apt to use more cigarettes, which are more expensive in comparison to other cigarettes, whereas, smokers with low level of educational status consume bigger numbers of the low-priced Bidis (World Bank, 1999).

Siahpush et al. (2001) studied the association of smoking behavior with many factors, including education, family income and Index of Relative Socio-economic Disadvantage (IRSD). The findings explained all three measures of SES such as education, income and IRSD to be separately and extensively related to the likelihood of smoking for both males and females. Of these three measures, IRSD was found to be strongly related to smoking status. The individuals

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falling within the maximum IRSD category of disadvantage were about twice as likely to smoke as compared to individuals with minimum IRSD category irrespective of individuals' level of education and income. This finding suggests that the influence of low SES is a significant contributing factor to whether an individual smoke or not. Siahpush et al. (2001) explained this as a "contextual effect" that occurs because smoking may be interpreted as a normative behavior in a particular environment. Additional physical, cultural, social or economic factors of low SES are considered those areas that encourage or lead to smoking tendency of people. Findings indicate age, education, and income to be inversely correlated with smoking tendency of people (Baska, Warren, Baskova, & Jones, 2009; Goel, 2007; Marinho, Blay, Andreoli, & Gastal, 2008). It seems that individuals representing low SES are more likely to exhibit greater smoking tendency than those of middle and high SES.

Additional risk factors for smoking tendency of people from their surroundings include parental smoking, peer/friend smoking and sibling smoking tendencies (Tyas & Pederson, 1998). Youths typically engage in behaviors they see their friends or family engage in on a daily basis. Whatever health behavior (healthy/unhealthy) are undertaken by the people of their surroundings they perceive such behaviors as acceptable (Clark, Schooley, Pierce, Schulman, Hartman, & Schmitt, 2006). Studies reveal peer selection or peer influence as important factor of adolescents' smoking tendency, having close friends, who smoke is very important factor for encouraging the smoking tendency of youths (Lantz, et al., 2000; McDermott, Sarvela, Hoalt, Bajracharya, Marty, & Emery, 1992; Tyas et al., 1998) but some factors like parental SES and following their patterns of health impairing behavior may probably be closely associated to smoking tendency of youths.

The pathways by which youths' smoking behavior is influenced by parental SES are usually unclear. Soteriades and DiFranza (2003) proposed that parental high SES may be related with better role modeling and healthier life opportunities, which promotes healthy behaviors of their children. With respect to role modeling, studies indicate youth smoking tendency to be positively related with parental smoking tendency, which indicate a lower smoking tendency in adults with higher education levels and higher grades of employment and vice versa (Adler et al. 1994). Also, improved and healthy life opportunities possibly increases the range of 'conventional' options and reduces the attractiveness of 'deviant' options such as smoking, drinking, and other abusive activities. Therefore, for low SES, Soteriades et al. (2003, p.1159) recommended that this could be a "substitute measure" for (1) usually poorer family attitudes toward long term health and well-being; (2) lower enforcement of smoking bans in schools typically attended; and (3) locus of control where deprived young people with less life opportunities are more likely to seek instant satisfaction from cigarette smoking.

Mechanisms of role of SES in influencing youths' smoking tendency are not well understood (Wahl, Turner, Mermelstein, & Flay, 2005). Exposure to smokers in youths' environment is a

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significant risk factor for smoking (Biglan, Duncan, Ary, Smolkowski, 1995; Schepis, & Rao, 2005). It seems that increased likelihood of exposure to peers and adults' smoking tendency may contribute to any milieu of SES and may be conducive for youths to initiate attempt of smoking, and then uphold smoking tendency in urban-rural settings.

In view of the general findings reported in the field of health psychology, the present study attempted to (a) examine the smoking tendencies of youths represented lower, middle, and high socio-economic status (b) assess the smoking tendencies of youths resided in rural and urban settings. The study is exploratory; hence no hypotheses have been advanced.

### **METHOD**

#### *Participants*

The present study was conducted on 75 male youths residing in the different rural and urban areas of Varanasi. Samples were selected taking into consideration whether youths were representing low, middle, and high SES, and whether they were from rural (n=35) and urban (n=40) settings. A 3×2 between group factorial design was employed in the study. The age of participants ranged from 19 to 25 years. The level of education was junior high school to post graduation. Purposive sampling was used for selecting the participants in this study.

#### *Measures*

The following measures were employed in this study:

**Brief questionnaire of smoking urges** Developed by Tiffany and Drobes (1991), this measure assess smoking tendency of adolescents. In the present study an index of smoking tendency was calculated by totaling up the scores obtained on the whole measure. This measure consists of 10 items. Each item is rated on a 7- point scale that ranges from “strongly agree” (7) to “strongly disagree” (1). This measure has been widely used to assess smoking tendency of people across world. In the present study, the internal consistency reliability of the measure was calculated by Cronbach's alpha was 0.89.

**Socio-economic Status Scale** Dubey and Nigam (2005; 2007) have developed urban and rural forms of scale to assess the socio-economic status (SES) of participants belonging to urban and rural areas. Both forms of the scale assesses three important areas of life of participants, namely economic status (10 items), educational status (10 items), and social status (10 items). The scale contains a total of 30 items for urban and 30 items for rural forms. The reliability of the scale for urban form was found to be .81, and validity was also satisfactory (.62). The reliability of this scale for rural was found to be .82, and the validity was also found to be satisfactory (.79). SES was distributed in five groups like upper (high) class, upper middle class, middle class, lower middle class, and lower class on the basis of raw data. After counting all the raw scores of the respondents, SES was decided on the basis of the obtained scores. The study uses the data of high, middle, and low SES of youths.

**RESULTS**

The mean scores of high, middle, and low SES groups of youths on smoking tendency are given in **Table 1**. Youths of high SES and low SES groups scored higher on smoking tendency as compared to those of middle SES group. Youths of urban areas whether they represented high as well as middle SES scored higher on smoking tendency measure as compared to those of rural areas. On the other hand, youths of low SES resided in rural areas scored higher on smoking tendency measure than those of urban areas.

*Table 1: Mean Scores of Groups on Smoking Tendency Measure*

Socio-economic status	Residence	Mean	Std. Deviation	N
High SES	Rural	49.17	7.07	12
	Urban	57.47	2.40	13
Middle SES	Rural	27.81	3.45	11
	Urban	35.42	3.10	14
Low SES	Rural	59.00	4.07	12
	Urban	56.38	2.14	13

*Table 2: ANOVA outcomes on the Smoking Tendency Measure*

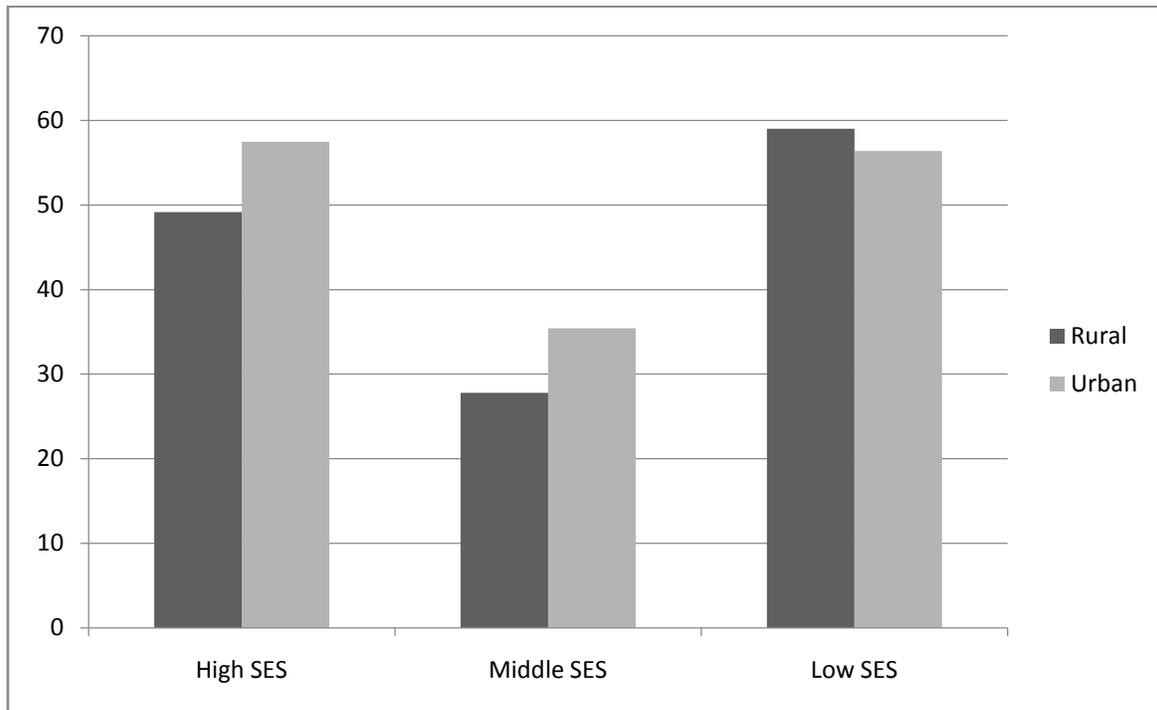
Sources of Variations	df	Mean Square	F	Sig
SES	2	4823.33	302.27	.000
RES	1	365.78	22.92	.000
SES*RES	2	232.62	14.58	.000
Error	69			

ANOVA (**Table 2**) revealed a significant main effect of SES for smoking tendency of youths ( $F(2, 69) = 302.27, p < .001$ ). Mean scores of youths of high (Mean= 53.45, SD = 6.60) and low (Mean=57.64, SD= 3.41) SES were higher than that of youth of middle (Mean=32.08, SD= 5.00) SES. Main effect of residence was also significant for smoking tendency of youths ( $F(1, 69) = 22.92, p < .001$ ). Youths of urban areas scored higher as compared to those of rural areas. Significant interaction effect of SES and RES (residence) on smoking tendency of youths ( $F(2, 69) = 14.58, p < .001$ ) indicated differences in youths' smoking tendencies for urban and rural areas at their high, middle, and low SES levels. Youths came from high and low SES groups indicated greater smoking tendency as compared to youths of middle SES. Youths of urban areas, irrespective of their high and middle SES showed greater smoking tendency than those of

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youths of rural area. On the other hand, urban-rural difference on low SES revealed higher smoking tendency of rural group as compared to those of urban (**Figure 1**).

**Figure 1: Mean Scores of Socio-Economic Status and Residence on Smoking Tendency Measure**



## DISCUSSION

The findings of the study revealed that youths of high SES and low SES showed greater smoking tendency than those represented middle SES. Youths of urban areas showed greater smoking tendency at both high as well as middle SES levels compared to those of rural areas. On the other hand, youths of low SES resided in rural areas showed greater smoking tendency than those of urban areas. Thus SES and residential background have revealed significant link with the smoking tendency of youths. Findings regarding greater smoking tendency amongst youths of high SES seem to be consistent with the results obtained from developed countries, in which heavy smoking is more common among people of high SES than low SES (Amos et al. 2011). Data show that people of low SES smoke more or equal numbers of cigarettes per day. Though counting the number of cigarettes that a smoker smoke per day (e.g., light or heavy smoking), however, may not be the best indicators of tobacco exposure. Our findings also contradict the findings that indicated people of low SES in India tend to smoke greater number of bidis than those of people of developed nations who smoke cigarettes (David, Esson, Perucic, & Fitzpatrick, 2010). Thus to assess the smoking tendency of youth it becomes essential to make comparison between youths who smoke cigarettes and who smoke bidis because measures of

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heavy or light cigarettes smoking do not seem to be the best indicators of tobacco exposure of youth.

The high smoking tendency of youths of high SES may stem from factors such as over-scheduling in extracurricular resume building activities (including sports teams, music lessons, and extra academic tutoring), academic achievement pressure to be accepted by prestigious academic institutions, and/or isolation from parents due to pressure of studies or emotional detachment as youths are left home alone to develop “self-sufficiency” (Luthar, & Latendresse, 2005). According to this notion, youths of high SES engage in health impairing behaviors to combat the stress, anxiety, and depression they experience from achievement pressures.

Results of high smoking tendency of youths of low SES are found to be consistent with the findings of some studies that state the evidence of difference in smoking tendency of people of different SES. Generally people of low SES are economically deprived and show greater level of smoking tendency as compared to those in more affluent status (Fidler, Jarvis, Mindell, & West, 2008). This advocates that cigarette smoking hits the youths of low SES and therefore they inhale more nicotine (tar) per cigarette. Youths of low SES generally have disadvantaged neighborhoods and they are victimized this health impairing habits due to worklessness, vandalism, and community cohesion (Blackman, 2008). There may be also a collective outcome of low SES, for example, one study reveal highest smoking tendency in localities characterized by single-parent households living in public rented accommodation, with little community support, residents who have no access to skill promoting exposures or events, few occupational qualifications and high TV-viewing behavior (Sharma, Lewis, & Szatkowski, 2010).

Studies also reveal lower rates of smoking cessation among the people of low SES (Hiscock, Judge, & Bauld, 2011). Smoking bans are less common in the environments within which they live and work (David et al., 2010). Findings hint that people of low SES exhibit the utmost smoking tendency because they are more likely to attempt smoking and more likely to turn out to be habitual smokers, and are less likely to refrain from smoking (Federico, Costa & Kunst, 2007; Gilman, Abrams, & Buka, 2003). Thus, it seems very essential to find out the contextual factors that enhance the smoking tendency of youths of different SES groups.

Research in general indicates higher smoking tendency among people who represent low SES level and face the negative consequences of tobacco harms (Hiscock et al., 2012). Smoking is found to be prevalent among the people, who reside in lower SES in some parts of Europe (Laaksonen, Uutela, & Vartiainen, 1998; Rahkonen, Berg, & Puska, 1995). Thus higher smoking tendency of an individual may be ascribed to the non-availability of psychosocial interventions that suggest strategies of quitting smoking; low motivation of such people to relinquish may be a strong factor of addiction to smoking cigarettes.

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Our findings reveal that Youths of urban areas showed greater smoking tendency at both high as well as middle SES levels than those of rural areas. Evidence reveals that most regular smokers initiate smoking before 20 years of age. In urban areas smoking is portrayed as "cool" and media often presents the people who smoke as fascinating, cool, mature, sociable and sophisticated. Tobacco companies portray smoking with images of successful people, pleasure, relaxation, and freedom. Models of celluloid portrayed in advertisements believe that tobacco use is good for coping with stress and weight control (Jiloha, 2012). Since the media portrays smoking to be glamorous, the youth attract towards these portrayals and try smoking.

Findings showed that youths of low SES of rural areas showed greater smoking tendency than those of their counterparts of urban. High smoking tendency of rural youth may be attributed to various characteristics of rural residency (e.g., demographics, sex, and illiteracy) that contribute to high rate of smoking.

Studies show people reside in rural areas generally exhibit high rates of smoking than their urban counterparts. Among youths, those in rural areas are notably more likely to begin smoking earlier than urban youths (Harrell, Trenz, Scherer, Ropelewski, & Latimer, 2012). High smoking prevalence in rural area leads to poor consequences of health of youths. They have less publicity to anti-tobacco advertising campaigns that generate an atmosphere in which smoking is considered less acceptable. Studies indicate that youths residing in urban areas are twice as likely as those from rural areas to be aware of media messages about the dangers of tobacco use (Doescher, Jackson, Jerant, & Hart, 2006). There may also be easier accessibility of smoking products for rural youths, particularly in tobacco growing regions (Smith, Tingen, & Walle, 2005) and less regulatory boundaries on smoking in open places. Replicating the smoking bans in public places and businesses that are captivating in metropolitan areas (Crawford, 2001; Crawford, Balch, & Mermelstein, 2002) may build smoke less socially adequate in rural areas.

Youths of rural areas generally lack health care services and their smoking tendency translate into noteworthy social problems. They have less access to disease prevention services, as consequence rural residents are very much exposed to tobacco related diseases (Doescher et al., 2006). Additionally, disease prevention and health promotion messages, which comprise tobacco prevention messages, arrive at the rural residents less often and through fewer networks. Compared to rural residents, urban residents report poorer health and more physical restrictions. The range of health care providers and services in rural communities is constricted than in urban areas, and rural residents may experience greater monetary and contextual hurdles to access.

### **IMPLICATIONS**

This study brings out the significance of SES and residence in smoking tendency of youths. Lower socio-economic status may produce detrimental effects on the mental and physical health of youths due to their health impairing smoking tendency. Health care professionals may utilize

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these findings to help youths to view the harmful effects caused by smoking tendency. Also the finding may provide health care professionals with additional evidence regarding the prevalence of smoking tendency among youths of different SES, who reside in rural and urban areas. This may provide information that cigarette smoking may increase risk for the onset of physical and mental health problems of youths of high and middle SES of urban areas as well as also for those reside in low SES of rural areas. For health impairing behaviors, particularly for smoking tendency, SES and residence may appear as important factors for eliminating the smoking behavior of youths.

In future, effective cigarettes smoking control interventions may be developed for youth representing different SES groups through strict law enforcement, tailoring campaigns, and providing social welfare services to youths for example, by recruiting tobacco control personnel locally, which can target different residential areas in which youths reside.

Studies reveal that youths generally do not wish for to refrain from their smoking tendency (David et al., 2010). This may be the result of reduced support for quitting, low motivation to quit, strong addiction to tobacco, psychological differences such as lack of self-efficacy and anxiety. It is essential to make youths realize that quitting smoking is not a difficult process. They may be provided counseling along with the knowledge about future potential harm of the negative psychological, physiological, and interpersonal consequences of smoking cigarettes.

Psychosocial and educational interventions that challenge the youths of different SES in urban and rural areas seems to be very scanty. Targeted smoking cessation campaigns and mass media interventions may also reduce smoking tendency of youths. Thus, a smoking cessation program that uses a blend of interventions may likely to be most effective for ceasing smoking tendency of youths.

### **LIMITATIONS**

The study was carried out with participants of close age range (19-25years); we have not used age as a factor in the present analysis. For developing age specific psychological profile of people's smoking tendency, age specific analysis and comparisons are needed. The role of motivation, education, self-efficacy and anxiety in smoking tendency of youths residing in urban and rural areas and representing high, middle, and low SES may need to be examined simultaneously. Further research is needed to investigate whether different levels of SES may increase risk for cigarette smoking under certain circumstances or in specific populations apart from youths.

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*Conflict of Interests*

The author declared no conflict of interests.

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