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Effect of smoking and its associated factors on personality traits of adults living in rural and urban areas

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Abstract
Smoking tobacco is a major health risk. But many people commonly smoke tobacco oblivious to its ill effects on health. In older people, tobacco use is considered the primary preventable cause of disability and death. There are very few studies on the use tobacco in older people and its associated factors.
AIM: The present study aims to examine the tobacco smoking and effect of its associated factors on the personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism), on adults residing in rual and urban localities of North Karnataka.
Methods: The present study has adopted hypothetico deductive approach and a cross sectional method. This study was carried out in North Karnataka's randomly selected rural and urban localities. This study includes 280 male female participants aged from 20 to 50 years. Data were collected through interviews at the participants' homes questionnaire. Covering family socio demographic details, tobacco smoking history, nicotine addiction scale and Five Big Personality Test.
Conclusion: The prevalence of both active and passive tobacco smoking among older people was found to be high as compared to same age group people from economically advanced countries. The most important factors associated with smoking status were locality of residence and age of the participants. There is an urgent need for anti-tobacco campaigns and smoking cessation interventions specifically targeting adults and older people.

Keywords: Smoking, personality traits, adults

Introduction

Tobacco use is recognized as one of the biggest public health threats and the primary cause of non communicable diseases and premature death in low and middle-income countries. It is estimated that 71% of lung cancers, 42% of chronic respiratory diseases and nearly 10% of cardiovascular diseases are due to tobacco smoking, it is found that tobacco smoking increases the risk of communicable diseases such as tuberculosis and lower tract respiratory infections and decreases life expectancy, according to the Global Adult Tobacco Survey (2009). Tobacco use among older people is of particular public health concern, noting the high prevalence in the world with regard to elderly citizens, who are at a greater risk of side effects associated with long-term tobacco use. Smoking tobacco is associated with a higher risk of cognitive impairment and dementia in older people and has also been linked to many sensory disabilities, as well as loss of function, mobility and independence.

Smoking is a multi determined behaviour that is impacted by several and often overlapping biological, psychological, and environmental factors in adolescents and young adults. These elements may behave as danger or protective elements. Risk factors raise the likelihood of beginning to smoke as well as the likelihood of continuing to do so, as evidenced by increases in frequency and intensity. Protective factors, on the other hand, lessen the likelihood of starting to smoke and the likelihood that experimental usage will turn into regular use. The interactions between these many risk and protective factors establish a person's overall risk profile.

Additionally, age-related mechanisms are crucial in determining smoking risk. The delicate developmental stage of adolescence is marked by amazing brain changes, as well as high levels of emotion, impulsivity, and risk-taking. The development of smoking behaviour is more susceptible to occur because of the plasticity of the teenage brain and the relatively immature neurobehavioral systems required for self-control and affect regulation (Steinberg 2007) [14]. The rates of substance usage, smoking, reckless driving, and dangerous sex all peak at this time in life (Arnett 2000) [1]. During this time, young individuals may also start college or begin to assume more traditional adult roles including marriage, parenthood, and job responsibilities. These life changes are frequently linked to concurrent declines in risky behaviour (Bachman *et al*. 2001 [2]; Flora and Chassin 2005) [8], and they may mark a turning point in a person's smoking behaviour or their decision to give up smoking in favour of a non-smoking lifestyle.

Furthermore, it is associated with age-related diseases in older women such as osteoporosis and breast cancer. Lastly, quitting smoking tobacco is more difficult with advancing age due to significant and prolonged nicotine dependence. Although many studies have focused on tobacco use among adolescents and adults, the literature is lacking when examining tobacco use in older and retired people. This study aimed to estimate the interactional influence of smoking on personality traits of adults of north Karnataka.

Objectives of the study

1. To find out the interaction level between independent and dependent variables i.e. personality traits among smokers.

2. To find out the influence of socio demographic factors on dependent variables i.e., personality traits among smokers.

Hypothesis

1. There would be significant difference in interaction between independent variables and dependent variables i.e., personality traits of smokers.
2. There would be significant influence of socio demographic factors on dependent variables i.e., personality traits of smokers.

Method and Materials

For this study's data was collected from 280 male and female participants whose age ranged from 20 to 50 years drawn from rural and urban areas of North Karnataka. Smoking intensity was divided into two categories: light smoker and heavy smoker. In addition, a variety of questionnaires were utilised to assess the participants' personality traits, aggression, lifetime usage, and smoking frequency, all of which were self-reported.

Big five personality inventory: A 50-item questionnaire was used to measure individual personality traits: openness (innovation, risk-taking, and openness to new ideas), extraversion (assertiveness, sociability), neuroticism (predisposition to experience negative emotions), conscientiousness (organization and discipline), and agreeableness (the extent to which behaviour is typically seen as compliant and cooperative).

The collected data was scored following the standard procedure and tabulated for statistical treatment.

Statistical analysis

Using the statistical program SPSS V.21. The Mean and Standard Deviation (SD) were calculated of all the scores. The following comparisons were made to find the difference and interaction between the independent and dependent variable scores for adults

RESULTS

Table 1: Shows the summary of pattern of smoking and its effect on personality traits on adults

Factors	Value Label	N
Domicile	Rural	160
	Urban	120
Smoking and Non smoking family members	Yes	154
	No	126

Table 2: Summary of Mean and Standard Error of Rural and Urban Adults

DV	Domicile	SFM	Mean	Std. Error
		No	18.321	.976
	Urban	*Yes*	17.830	1.036
		No	22.904	.831
2	*Rural*	*Yes*	20.140	.853
		No	14.755	1.212
	Urban	*Yes*	16.085	1.287
		No	20.575	1.032
3	*Rural*	*Yes*	21.439	.674
		No	20.208	.958
	Urban	*Yes*	17.617	1.018
		No	20.740	.817
4	*Rural*	*Yes*	23.075	.771
		No	22.660	1.095
	Urban	*Yes*	21.723	1.163
		No	23.945	.933
5	*Rural*	*Yes*	25.140	.850
		No	18.887	1.207
	Urban	*Yes*	19.787	1.282
		No	23.986	1.029

*SFM: Smoking family members

* Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism

*DV: Dependent variable

*IV: Domicile and Smoking family members

Table: 2 shows the characteristics of Rural and Urban Adult smoking family members. The results indicate the Mean scores and Standard Error of scores on dependent variables. It is evident that personality traits have been found to be moderating factors for addiction to tobacco smoking. On the dimensions of openness, rural adults who responded to yes and no have mean scores of 21.159 and 18.321, and urban adults have mean scores of 17.830 and 22.094, which show that rural and urban is found to be a determinant of increased smoking in the rural adults than the urban adult.

On the dimensions of Conscientiousness rural adults responded to yes and no have mean score of 20.140 and 14.755, and urban adults have mean scores of 16.085 and 20.575, which shows that rural and urban is found to be a causing factor for smoking, and it indicates that urban adults evidently affected and addicted to smoking either by seeing or experiencing it. Whereas, it has been found contradictory in rural adults.

On the dimensions of Extraversion rural adults who have responded to yes and no have mean scores of 21.439 and 20.208, which means, adults who have responded to yes have reported that smoking is due to the greater stimulation, seeking enjoyment, to have energizer smoking. Whereas it has been reported as contradictory with urban adults. The mean scores indicate that the urban adults have mean scores of 17.617 and 20.740.

On the dimensions of Neuroticism and Agreeableness rural adults who have responded to yes and no have mean scores of 23.075 and 22.660, which means, adults who have responded to yes have reported that smoking is due to

greater affection, and compassion. Further, it has also been reported as a cohesive result with rural and urban adults. The mean scores indicate that the urban adults have mean scores of 21.723 and 23.945, which means adults of both entities reported the same for greater affectionate and compassionate.

Table 3: Multivariate summary on rural urban adults and smoking family members

Model	Dependent Variable	Type III Sum of Squares	df	Mean Square	F
Domi	Openness	24.896	1	24.896	.494
	Conscientiousness	49.331	1	49.331	.634
	Extraversion	171.303	1	171.303	3.519
	Agreeableness	.070	1	.070	.001
	Neuroticism	1.017	1	1.017	.013
SMK	Openness	79.137	1	79.137	11.569***
	Conscientiousness	12.683	1	12.683	.163
	Extraversion	56.590	1	56.590	10.163***
	Agreeableness	51.698	1	51.698	8.113**
	Neuroticism	66.788	1	66.788	.865
Domi * SMK	Openness	990.787	1	990.787	19.644***
	Conscientiousness	1543.459	1	1543.459	19.839***
	Extraversion	300.067	1	300.067	6.165**
	Agreeableness	109.980	1	109.980	11.730***
	Neuroticism	1729.004	1	1729.004	22.388***

*(a) R Squared =0.070, (b) R Squared =.070, (c) R Squared =0.035, (d) R Squared =0.008, (e) R Squared =0.083
* Adjusted (a=.060, b=.060, c=.025, d=-.002, e=.073)

Table: 3 shows that rural and urban residence has no significant on personality traits (openness, conscientiousness, extraversion, agreeableness, and neuroticism) of smokers of north Karnataka (F=.494,0.634, 3.519,0.001 &0.013). It also shows adults with higher scores on personality traits of openness, extraversion and agreeableness the number smokers has increased significantly compared to the scores on conscientiousness and neuroticism (F= 11.569, 10.163, 8.113).

Interactional results show that both domicile and smokers family members have higher scores on openness, conscientiousness, extraversion, agreeableness, and neuroticism of smokers belonging to rural and urban ares. Further, Openness and neuroticism are as a total 70% followed by 73% contributing to smokers of family members. Whereas, a very least contribution has been made by the conscientiousness, extraversion, agreeableness among adults.

Discussion and conclusion

The present study has found the extensive influence of personality traits (extraversion, neuroticism, conscientiousness, openness, and agreeableness) on smokers of rural and urban adults of North Karnataka. The study has also found that adult smokers of rural area have higher scores than that of adult smokers of urban area. Residence in rural area has significantly impacted on their personality traits.

In contrast to previous research studies which have found high neuroticism as a risk factor for smoking initiation? The data of this study indicates that tobacco smokers of both rural urban localities scored low on neuroticism. Smoker's family members when compared to urban smokers which could be attributed to a stimulus-response effect of smoking. Furthermore, nicotine depletion, identified as period between smokes, is thought to cause strong negative emotional states.

Openness is found to be related behavioural disinhibition, novelty seeking, and behavioural activation. It is showed that those who are more open to new experience are inclined to smoke tobacco for sake of getting an experience, but it can be a factor which would contribute to addiction in the future.

Extraversion and smoking prevalence are unrelated globally. Because impulsivity is one of extraversion's aspects, earlier results indicating extraversion and smoking are associated were based on this observation. The inconsistent findings of the previous research studies about the general extraversion component are due to the fact that extraversion is measured internationally using a range of questionnaires with varying features. Furthermore, since smoking is less socially stigmatised in areas where smoking is prevalent, extraverts are more likely to smoke. Some investigations indicated a strong connection between extraversion and smoking. However, other investigations found the exact opposite. The fact that introverts may turn to smoking to make up for their lack of social skills in Indian society could be the cause of the inverted tendency found in our study.

It is not unexpected to hear that smokers have lower agreeableness scores. Research suggests that one of the main causes of cigarette smoking is rebelliousness, a trait closely related to low agreeableness. Low agreeableness score individuals are hostile, aggressive, and intolerant. They have lower needs for social approval and are therefore more likely to start and maintain smoking despite the negative impacts of smoking on others. Unexpectedly, it's believed that hostility increases the risk of smoking.

Low conscientiousness has been linked to various health-risky behaviours, according to a study by Trobst *et al*., which confirms the link between conscientiousness and smoking. High conscientiousness demonstrates self-control and planning skills because it is associated with a healthy lifestyle. The findings of this study support the link between smoking and conscientiousness being detrimental.

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