Personality, Emotional Intelligence, Perceived Stress And Smoking Behavior Among Adolescents In Pakistan

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ARTICLE INFO	ABSTRACT
	The issue of smoking is a significant public health concern due to its association with increased risk of disease and premature mortality. Understanding the factors that contribute to smoking behavior can aid in the development of effective strategies to promote smoking cessation. This study aimed to explore the relationship between psychosocial factors and smoking behavior among college students. A correlational study was conducted with N= 500 adolescents' from various schools in Lahore, Pakistan. Results from Pearson's Product Moment correlation analysis revealed that students with high levels of neuroticism (r= .36**, p<.01), extraversion (r=.46**, p<.01), perceived stress (r=.72**, p<.01), as well as low levels of emotional intelligence(r= .71**, p<.01), were more likely to smoke. Conversely, those with high levels of extraversion(r=.53**, p<.01), agreeableness(r=.53**, p<.01), openness(r=.59**, p<.01) and conscientiousness(r=.42**, p<.01) tended to have higher levels of emotional intelligence and lower levels of perceived stress. Overall, the study highlights the importance of social and psychological factors in predicting smoking behavior.

Introduction

Smoking is a major global risk factor for diseases and involves inhaling the smoke of burning tobacco from cigarettes, pipes, and cigars. It is often used to cope with stress or for social situations (Khaled et al., 2012). However, smoking increases the risk of various illnesses, such as cancer and cardiovascular diseases, and decreases life expectancy. Regular smoking can alter an individual's behavior towards others. In most countries, males have been reported to smoke more frequently than females. Several factors, including psychological and sociodemographic variables, have been examined for their effects on smoking behavior. For

instance, an individual's beliefs and values, which include weighing the costs and benefits of smoking, may influence their smoking behavior. Additionally, sociodemographic factors, such as age, parents' smoking, and social class, are also associated with smoking behavior. Personality traits, such as extraversion and neuroticism, have been found to be linked with smoking behavior. Emotional intelligence and stress have also been postulated to play significant roles in smoking behavior. Emotional intelligence can provide a buffer against certain situations, while stress can trigger smoking as a means of coping (Hock et al., 2014; Kamal et al., 2012). Hence, an individual's personality, emotional intelligence, and coping mechanisms may interact to determine their smoking behavior

Psychosocial Predictors of Smoking Behavior

Psychosocial predictors refer to the factors that can alter an individual's behavior. Among these factors are cardiovascular diseases and lung cancer, which have been linked to changes in behavior. Other significant psychosocial factors include personality traits, emotional intelligence, and stress. These factors have a strong influence on changes in an individual's behavior.

Personality is a crucial aspect of an individual's life, comprising their thoughts, emotions, and behavior that make them unique. It encompasses various traits that determine whether a person is happy or sad, energetic or apathetic, smart or dull (Buczkowski et al., 2017). Several studies have been conducted on personality and its traits, revealing its significance in our lives. Personality is particularly affected when an individual is in distress or tension, leading to changes in their behavior. For instance, smoking has been linked with changes in an individual's behavior due to their personality (Inoue-Choi et al., 2017; Terracciano et al., 2004).

Smith (1970) suggests that smoking is positively associated with personality traits such as extraversion (12 of 15 studies), antisocial tendencies (17 of 19 studies), and impulsive behavior (6 of 8 studies). It concludes that smokers are more extraverted and have more antisocial tendencies than non-smokers, and there is reasonably convincing evidence that smokers are also more impulsive. Some studies indicate that smoking is also associated with neuroticism and anxiety.

A study by Li et al. (2021) revealed that smokers score higher than non-smokers on Psychoticism, a factor of Eysenck's personality scale. This construct has been inversely related to Agreeableness and Conscientiousness of the five-factor model, further supporting evidence of the relationship between smoking and personality, which involves a lack of Conscientiousness and perhaps Agreeableness in this case.

Trinidad and Johnson, (2002) that there is a relationship between EI and smoking as they found that those with a high EI score tended to 'stick' with their original decision, those who had never smoked were unlikely to go on and do so and those who had tried it had greater intentions to smoke in the future. The finding suggest that EI plays a part in the decision to smoke. Brakkett et al (2004) citied the study in which the EI of 330 college students was tested to see if there was a relationship between this and their lifestyles. A significant relationship in males was found between EI and lifestyle. Those with low EI were likely to engage in negative activities such as greater cigarettes consumption and alcohol use.

Lots of findings suggest that smoking helps combat stress. Cohen et al (1990) found a significant relationship between changes in smoking status and people's perceived stress levels. The experiment involved recording individuals perceived stress levels prior to giving up smoking and at post cessation, at time intervals up to six months. Cohen et al found that successful cessation was coupled with reduced stress levels, whereas those who continued to smoke (i.e. failed in quitting) continue to perceive their cessation to be high. Furthermore stress levels were

associated with failure in cessation (i.e. relapse). It seems fair that stress can play a role in smoking behaviour. However it is unclear whether this is a direct causal relationship (stress causes smoking) or whether it is in fact mediated by other variables such as personality. Stress and its role in substance abuse is not entirely understood as much of the evidence provided is purely correlational.

Emotional intelligence, stress and personality although all have been reported to have an affect on the social situations the individual is in, and it appears that in the case of emotional intelligence ,being high in such a construct may provide a buffer in certain situations. How individuals interpret and react to life events is linked in with the concept of coping, hence the situation, the personality in the situation, and the amount of intelligence they have over their emotions in dealing with it may all be interacting to determine if an individual will partake in risky health behavior such as smoking.

Aim and objectives
The aim and objectives of this study are:
- To investigate the relationship between psychosocial factors (personality, stress and emotional intelligence) and smoking behavior in college students.
- To investigate that personality trait affects the stress or emotional intelligence or not.

Hypothesis
- High levels of smoking behavior are likely to be observed in students who have high levels of Neuroticism and Extraversion.
- Smoking behavior may be more common in students who have low levels of Emotional Intelligence.
- Students who experience high levels of stress may be more likely to engage in smoking behavior.
- Students with high levels of Neuroticism are likely to have low levels of Emotional Intelligence.
- Students who have high levels of Extraversion, Agreeableness, Intellect, and Conscientiousness are more likely to have high levels of Emotional Intelligence.
- High levels of Perceived Stress are likely to be observed in students who have high levels of Neuroticism.
- Students who have high levels of Extraversion, Agreeableness, Intellect, and Conscientiousness are likely to have low levels of Perceived Stress.
- Students with high levels of Emotional Intelligence are likely to have low levels of perceived stress.

Research Design
The study used a co-relational exploratory design to study the associations between psychosocial variables and smoking-related factors in college students.

Sample
The sample consist of 500 college students, 250 males (125 smokers & 125 non-smokers) and 250 females (125 smokers & 125 non-smokers) with the age range of 18-24 years. The sample was selected purposively from the colleges in Lahore, which granted permission to collect data; Skans College, CAPS College, GCU, FC College and six department of Punjab University, Lahore. Participation in the study was totally voluntary and participants were assured confidentiality and mystery as no individual personal information was obtained. Participants

were debriefed by thanking them for their participation and they were given contact details of the researchers in the event of any queries.

Instruments

The questionnaire contained two sections. First section, contained smoking history and the second section contained scales measuring Personality (International Personality Item Pool (IPIP; Goldberg, 1999), Emotional Intelligence (Shutte et al, 1997) and perceived stress (Cohen et al, 1983).

Smoking history

Smoking status was measured using two status categories of current smoker and non-smoker. The question was asked by the current smoker and non-smoker that how many cigarettes they smoke per day and the reason why they smoke.

International Personality Item Pool (IPIP; Goldberg, 1999)

The IPIP was used to assess the 'Big Five' personality traits. The IPIP contains 50 items which measure the following domains of personality: Emotional Stability (ES), Extraversion (E), Intellect (I), Agreeableness (A) and Conscientiousness (C). Each participant rated how accurately the statements described them on a Likert scale ranging from 1 'Very inaccurate' to 5 'Very accurate'. There is general consensus among personality researchers that the 'Big Five' summaries the common variance across personality traits and provides a 'comprehensive account of human personality differences' (Matthews et al, 2003). The IPIP comes from the scientific Collaborator for the Development of Advanced Measures of Personality Traits and Other Individual Differences (http://ipip.ori.org/). The IPIP consists of 10 items for each personality domain. Scores for each item in each domain were added together to give an overall score for that domain. The reliability is as follows: Extraversion 0.90, Conscientiousness 0.85, Agreeableness 0.85, Neuroticism 0.88, and Openness 0.84. Negative items were reverse scored.

Emotional Intelligence (Shutte et al, 1997)

Emotional Intelligence is a new concept in Psychology. Emotional Intelligence Scale developed by Schutte and colleagues (1998). The scale contains 33 items that emphasized the cognitive components of the construct and conceptualized it in terms of potential for intellectual and emotional growth (Schutte et al, 1997). The 33 statements rated participants on how accurately each statement described them and responses were indicated on a scale ranging from 1 'strongly agree' to 5 'strongly disagree'. Questions 2, 28 and 33 are negative items which were reverse scored.

Perceived Stress Scale (Cohen et al, 1983)

Stress was assessed using the Perceived Stress Inventory (Cohen et al, 1983). Participants were asked to indicate their perceived stress levels using the 10-item Perceived Stress Scale (PSS; Cohen et al. 1983). Participants were simply asked to rate how often in the last month they had felt like that. Responses range from 1 'never' to 5 'often'. Questions 4, 5, 7 & 8 were negative items and were reverse scored. The ratings provided for each statement were added together to provide a total score.

Procedure

The data was collected from Skans College, CAPS College, GCU, FC College and six department of Punjab University, Lahore. The questionnaires were distributed during lectures and throughout other social connections with friends and colleagues within the Colleges and were filled out during the individual's own time. A brief verbal explanation was given to each subject and an information sheet was provided with each questionnaire explaining that the study was researching the relationships between psychosocial factors and smoking behavior among

college students. Each participant filled a consent respond on three measuring instruments International Personality Item Pool (IPIP; Goldberg, 1999), Emotional Intelligence (Schutte et al, 1998), and Perceived Stress Scale (Cohen et al, 1983). The scores on each item of IPIP, Emotional Intelligence & Perceived Stress were entered in Statistical Package for the Social Sciences (SPSS) version 22.0 for Windows. Where a significant difference was displayed ($p<0.05$ or $p<0.01$). Pearson's product moment correlation analysis was carried out for all the variables and smoking outcomes.

Results

The aim of the present study was to investigate the relationship of psychosocial predictors (Personality, Emotional Intelligence and Perceived Stress) of smoking behavior in college students. The Pearson's-Product Moment Correlation was computed between the sub scale of the Personality (IPIP), Emotional intelligence, Perceived Stress and smoking outcomes.

Table 1

Pearson's-Product Moment Correlation between the subscale of IPIP and smoking per day.

Subscales	Neuro	Extra
SPD	.356**	.456**

Note. SPD= smoking per day, Neuro= neuroticism, Extra= extraversion, $p**<0.01$

Hypothesis 1 "Students with the high levels of Neuroticism and Extraversion will have high levels of smoking behavior".

The hypotheses was supported as the results showed that students with the high level of Neuroticism is positively correlated with smoking behavior with $r = .356**$, $p<0.01$ and Extraversion is positively correlated with smoking behavior with $r = .456**$, $p<0.01$ (Table1).

Table 2

Pearson's-Product Moment Correlation between the Emotional intelligence and smoking per day.

	EI
SPD	-.717**

Note. SPD= smoking per day, EI = Emotional Intelligence, $p**<0.01$.

Hypothesis 2 "Students with the low levels of Emotional Intelligence will be more prone to smoking".

The results shows that Emotional intelligence is negatively affect the student's behavior. So the hypotheses is rejected with $r = -.717**$, $p<0.01$ (Table 2).

Table 3

Pearson's-Product Moment Correlation between perceived stress and smoking per day.

	PS
SPD	.722**

Note. SPD= smoking per day, PS= Perceived stress, $p**<0.01$

Hypothesis 3 "Students with the high levels of perceived stress will be more prone to smoking".

Results show that high level of perceived stress will lead to smoking consumptions and its change the behavior of a person with $r = .722**$, $p<0.01$ (Table 3).

Table 4

Pearson's-Product Moment Correlation between subscale of IPIP and Emotional Intelligence.

Subscale	Neuro
EI	-.507**

Note. Neuro= neuroticism, EI= emotional intelligence, $p**<0.01$.

Hypothesis 4 "Students with the high levels of Neuroticism will have low level of Emotional Intelligence".

The results shows that hypotheses is not supported the statement that those who are high level of neuroticism will have low level of Emotional Intelligence so we rejected the hypothesis with r = -.507**, p<0.01 (Table 4).

Table 5

Pearson's-Product Moment Correlation between subscale of IPIP and Emotional Intelligence.

Subscale	EXT	AGRE	INT	CON
EI	-.537**	.532**	.529**	.420**

Note. Ext= Extraversion, AGRE= Agreeableness INT= Intellect, CON= Conscientiousness, EI= emotional intelligence, p**<0.01.

Hypothesis 5 "Students with the high levels of Extraversion, Agreeableness, Intellect and Conscientiousness will high level of Emotional Intelligence".

Results shows that those who high on Extraversion is positively correlated with Emotional Intelligence with r = -.537** p<0.01, Agreeableness is minimally positive correlated with Emotional intelligence with r = .532** p<0.01, Intellect is correlated with Emotional intelligence with r = .529** p<0.01 and Conscientiousness is correlated with Emotional intelligence with r = .420** p<0.01 (Table5).

Table 6

Pearson's-Product Moment Correlation between subscale of IPIP and perceived stress.

Subscale	Neuro
PS	.488**

Note. Neuro= neuroticism, PS= perceived stress, p**<0.01.

Hypothesis 6 "Students with high levels of Neuroticism will have high level of Perceived stress".

The hypotheses was supported as the results showed that high level of Neuroticism is positively correlated with the high level of perceived stress with r = .488**, p<0.01 (Table 6).

Table 7

Pearson's-Product Moment Correlation between subscale of IPIP and Perceived stress.

Subscale	EXT	AGRE	INT	CON
PS	.459**	-.450**	-.563**	-.441*

Note. Ext= Extraversion, AGRE= Agreeableness INT= Intellect, CON= Conscientiousness, PS= Perceived Stress, p**<0.01.

Hypothesis 7 "Students with high levels of Extraversion, Agreeableness, Intellect and Conscientiousness will have low level of Perceived Stress".

Results shows that those who high on Extraversion is positively correlated with Perceived Stress with r = .459** p<0.01, Agreeableness is positive correlated with Perceived Stress with r = -.450** p<0.01, Intellect is correlated with Perceived Stress with r = -.563** p<0.01 and Conscientiousness is correlated with Perceived Stress with r = -.441** p<0.01 (Table7).

Table 8

Pearson's-Product Moment Correlation between perceived stress and Emotional Intelligence.

PS

EI	-.728**

Note. PS= Perceived stress, EI= emotional intelligence, p**<0.01.

Hypothesis 8 "Students with the high levels of Emotional Intelligence will have low level of Perceived stress".

The results shows that high level of Emotional intelligence is positively correlated with low level of perceived stress with r = -.728**, p<0.01 (Table 8).

DISCUSSION

The purpose of this research was to study the relationship between the psychosocial predictors of smoking behavior in college students. Three measuring instruments were used to measure the three variables. One measuring International personality item pool (IPIP; Goldberg, 1999), second measuring Emotional Intelligence (Shutte et al, 1997), and the third measuring Perceived Stress (Cohen et al, 1983).

The hypotheses 1 was supported as the co-relational analysis of students with high level of neuroticism and extraversion will more prone to smoke where as the findings of Van loon, Kendel (2005) that individuals who are high in extraversion and neuroticism are more likely to smoke. People who are high in Extraversion are more likely to smoke include the fact that people who are extraverted tend to be more sociable and open to experiencing positive emotions, which can be achieved through negative behaviors such as cigarette smoking (Booth-Kewley & Vickers, 1994). Smith's (1991) uses the label "mental health" to loosely unite research that has gone under the more specialized labels of "neuroticism," " nervousness", "psychosomatic distress," "adjustment," "emotionality," and "anxiety." Just over half of the 50 or so studies in his review show smokers to have slightly poorer mental health than nonsmokers. He emphasized that the positive findings support the notion that smokers are substantially more neurotic, psychotic, or "crazy" than nonsmokers. For example if we know that neuroticism is related to

smoking behavior and people who are high in neuroticism use smoking due to its calming properties as a coping mechanism it would seem viable to teach these individuals alternative coping strategies to minimize the chance of them turning to substance use when faced with stressful situations, and thus they may be more successful in cessation, as they will learn alternative methods of coping.

Perceived Stress was found to be correlated with smoking behavior. The results suggest that higher perceived stress was associated with starting smoking. These findings suggest that as people experience greater levels of stress they may turn to smoking as a way of coping with stress. Smoking could be regarded as the style of emotion-focused coping in which the individual does not deal with the stressor itself but attempts to control the stress (Rizvi & Batool, 2024). Smoking due to its tranquillizing properties could help improve the feelings of stress an individual is experiencing and thus it may be that stress leads to the onset of smoking in young adults. The association found between stress and smoking onset gives support to Bryne et al (1995) study in which their findings suggest that there is an association between stress and smoking onset in adolescents. In this study no relationship was found between stress and smoking consumption and therefore does not provide support for studies such as Rose et al (1983), in which smoking consumption was found to increase in conditions were stress was induced.

Limitations and Suggestions

The Present study included 250 male and 250 female college students and focused mainly on how their behavior is changed toward smoking. As with all studies, certain weaknesses in methodology should be taken into account when interpreting the findings. One of the limitations

of the present study is that a co-relation design was used. Longitudinal studies are beneficial in the respect that they look at behaviour over a long period of time, unlike co-relational studies, which only investigate the current relationship between the variable and the behavior. Smoking behavior easily changes due to relapse rates. For example people often give up smoking and thus would be categorized as ex-smokers but a few days later they may take up smoking again, thus changing their smoking status or extra stress may cause people's smoking consumption to increase. If this was taken into account co-relational studies results could be influenced dramatically. In study, little information on personality differences among current smokers. Labeling someone who smokes 20 a day and someone who smokes 5 a day in the same category does not allow for examination of important differences. In using a co-relatioanl design it is difficult to draw conclusions on directional causality.

The study used well-validated scales measurements of personality, emotional intelligence and stress. The design of the questionnaire meant questions were clear and concise and therefore easy for participants to answer. The anonymity of participants meant people were more likely to answer honestly, rather than giving what they might consider to be socially desirable answers.

Future Research

Longitudinal studies are necessary to investigate these associations further and to establish the directional nature of these associations. Initiatives aimed more at extraverted individuals such as stimulating, interactive campaigns, rather than facts and figures, may be beneficial in deterring younger people from initiating smoking and consequently reducing the number of people who establish a smoking habit by adulthood. One modifying variable Health which is not considered in this present study.

In regards to Emotional Intelligence and smoking behaviour more research is required. EI should be reviewed again across a bigger sample of adults (who are not only students) and across different age groups. Although there were no significant finding between EI and smoking behavior in this study we cannot conclude EI's influence is only apparent in adolescents.

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