EFFECT OF SMOKING ON SELF-ESTEEM AND PERSONALITY TYPE: A STUDY ON ENGINEERING STUDENTS

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INTRODUCTION

The harmful effects of smoking have become more evident than ever in the last century with cigarette manufactures mandatorily required by governments almost all over the world to mention "smoking is injurious to health" on the packaging itself. However the trend of smoking specifically among college going adults has not changed much and college or university remains the phase in which majority of smokers adopt this addictive habit for the rest of their life.

The effects of factors like peer pressure, stress, health levels, coping strategies, normative beliefs, personal beliefs, family structure, geographical location, age groups, job involvement, film actors, gender, cultural beliefs and childhood experiences on smoking have been studied in many previous studies [1,2,3,4,5,6,7,8,9,11,20,25,32,34,38,42], however, there are not many researches in which the smoking has been studied as an independent variable in which its effect on psychological variables has been investigated.

Lot of literature has been found that indentifies factors that trigger an individual to begin smoking and cause an individual to cease smoking [40]. The different personality types and the relationships between personality and self-esteem have also been studied [16,17]. However the literature was silent on how the psychological variables of an individual change when one starts smoking. Understanding theses variables can be of significant importance as this shall help to draft the smoking cessation programs in a better and effective manner. Counselling services can also benefit from study of such factors. To cater to this research gap in this study we have tried to investigate the differences in personality and self-esteem levels between smokers and non-smokers.

Self-esteem is a set of attitudes and beliefs that a person brings with him- or herself when facing the world. It includes beliefs as to whether he or she can expect success or failure, how much effort should be put forth, whether failure at a task will "hurt," and whether he or she will become more capable as a result of different experiences. In psychological terms, self-esteem provides a mental set that prepares the person to respond according to expectations of success, acceptance, and personal strength." (Adapted from The Coopersmith Self-Esteem Inventory manual) [39]

Personality type refers to the psychological classification of different types of individuals. Personality types are sometimes distinguished from personality traits, with the latter embodying a smaller grouping of behavioural tendencies. Types are sometimes said to involve qualitative differences between people, whereas traits might be construed as quantitative differences. According to type theories, for example, introverts and extraverts are two fundamentally different categories of people. According to trait theories, introversion and extraversion are part of a continuous dimension, with many people in the middle. Originally published in the 1950s, the Type A and Type B personality theory " by Friedman and Rosenman is a theory which describes two common, contrasting personality types—the high-strung Type A and the easy-going Type B—as patterns of behavior that could either raise or lower, respectively, one's chances of developing coronary heart disease.

METHOD

Survey method was chosen as the method of study. Convenience sampling, a non-probability sampling technique has been used. The sample size for the study is 100 with 50 smokers and 50 non-smokers. Among them 75 were boys and 25 were girls. All participants are students of Indian Institute of Technology Delhi and are hostel residents. The various variables of the study were gender, peer and family smoking habits, self-esteem, Personality type, alcohol consumption. Of the above self-esteem and personality have been hypothesised as dependent variables .

Two questionnaires were chosen to test the hypothesis. The first questionnaire was the self esteem inventory adapted from Coopersmith (1981) [39] used for measuring self esteem in adults. This questionnaire measures the level of self esteem on a scale of 0-25 points as per the response to 25 statements. For statements 2,3,6,7,10,11,12,13,15,16,17,18,21,22,23,24,25 a response of unlike me was rated as 1 and like me was rated as 0 . For statements 1,4,5, 8,9,14,19,20 a response of like me was rated as 1 and unlike me was rated as 0. Individual scores were added to get a total score out of 25. Higher the score higher is the self-esteem of the individual.

The second questionnaire was the Short Rating Scale as a Potential Measure of type A or type B personality adapted from R.W. Bortner (1969) [44] . It Consists of 7 statements , each can be answered on a scale of 1 to 8 .To calculate the score total, one's score on the seven questions is to be multiplied by 3. A total of 120 or more indicates that one is a hard-core Type A.

Students' t-test   has been used as the tool to analyse the data. The t-test assesses whether the means of two groups are statistically different from each other.

This analysis is appropriate whenever means of two groups are to be compared. For our case two-tailed t test has been performed with equal variance and equal sample size of the two independent groups i.e. smokers and non-smokers.

Hypotheses –

1) Self-esteem is higher among smokers as compared to non-smokers.

2) Type A personality type is more common among smokers as compared to non-smokers.

3) Males smoke more than females.

4) Peer group smoking habits are more among smokers as compared to non-smokers.

5) Alcohol drinking habits are more among smokers as compared to non-smokers.

Null hypothesis corresponds to each of the non- dependence of one variable on the other for each of the hypothesis above. Apart from t-test , some general analysis has also been done for the data.

RESULTS

Table 1- Results for the Coopersmith's self esteem inventory

	N	Mean	St. Dev	SE mean
Smokers	50	18.56	5.4517	0.771
Non smokers	50	15.78	3.2669	0.531

StDev = standard deviation, SE Mean = Standard Error mean and N = sample size
Observed difference (smokers – non smokers): 2.78
Standard Deviation of Difference : 0.926
t- test results -
Pooled Standard Deviation = 4.6301
Pooled degrees of freedom = 98
95% Confidence Interval for the Difference (0.9424, 4.6176)
t-Value 3.0021

The observed t value is greater than the t value at alpha=.05 from the t test significance tables, so we reject the null hypothesis and accept the alternative hypothesis, namely, that the difference in gain scores is likely the result of the experimental treatment and not the result of chance variation.

Table 2- Short Rating Scale as a Potential Measure of type A or Type B personality

	N	Mean	St. Dev	SE mean
Smokers	50	101.4	31.1474	4.405
Non smokers	50	88.2	33.09	4.681

Observed difference (Smokers – Non-smokers): 13.2
Standard Deviation of Difference : 6.4274

t- test results -
Pooled Standard Deviation: 32.1371
Pooled DF: 98
95% Confidence Interval for the Difference (0.4448 , 25.9552)

t-Value 2.0537
 The observed t value is greater than the t value at alpha=.05 from the t test significance tables, so we reject the null hypothesis and accept the alternative hypothesis, namely, that the difference in gain scores is likely the result of the experimental treatment and not the result of chance variation.

Table 3- Results obtained from the short rating scale for smokers and non smokers

Point Range	Personality Type	Number of Participants	
		Smokers	No Smokers
120 or More	A+	15	11
106-119	A	4	4
100-105	A-	7	1
90-99	B+	7	6
Below 90	B	19	28

Graph 1 – Graph indicating the Self esteem mean of smokers and non smokers as obtained from the results of Coopersmith's Self Esteem Inventory (1981)
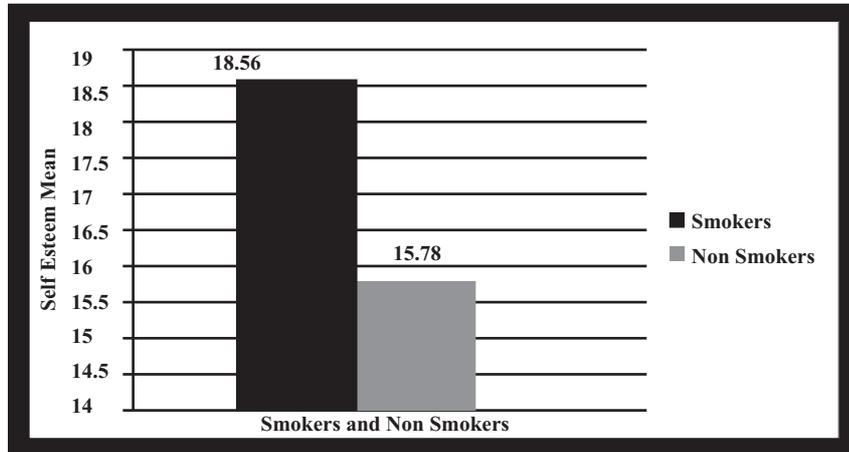
Graph 2 – Graph indicating the number of smokers and non smoker participants in each personality types as obtained from the results of Bortner's Short Rating Scale (1969)
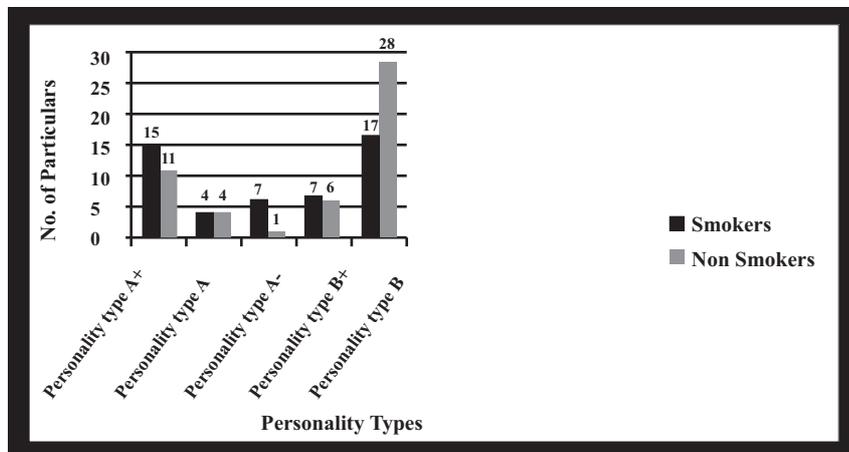
Some miscellaneous results from the survey are given below:

1) 83 % of the smokers had either their friends or family smoking as compared to 26 % for non smokers.
2) All the 25 girls surveyed did not smoke.
3) 56% of the smokers smoked between 10-14 cigarettes per week.
4) 76% of smokers also drank alcohol as compared to only 15% non-smokers who drank alcohol.

DISCUSSION

The self-esteem mean is higher for smokers as compared to non-smokers along with t value greater than tabled value at alpha=.05, hence we can assert that the hypothesis that smokers have higher self-esteem than non-smokers. West et. al.[43] had reported that the initiation of smoking by people with low self-esteem but did not investigate self esteem levels of smokers as compared to non-smokers. The present study caters to this research gap. The possible explanation to this observed phenomena may be that since smoking by peer group strongly co-relates to smoking initiation which also makes the initiator more fashionable among his peer group and hence increases the self-esteem of the individual as indicated by Joung et. al. [33]

The personality test result support he hypothesis that smokers are more inclined towards a type A personality as compared to non-smokers with the t value confirming the same with 95% probability. It is also observed that among smokers majority were either hardcore type A or Type B with remaining equally distributed in between however in case of on-smokers the number of participants in between type A and type B were considerably less. Hence there is a possibility that smoking leads to gradual shift from hardcore B personality towards A type personality as greater number of people with type B are observed in non-smokers as compared to smokers with number of participants in hardcore type A remaining almost the same in both cases. Higher chances of cardiac diseases have already been reported among smokers which are a characteristic of type A [44] however this may also be due to adverse effects of smoking on health of the smoker.

Convergence of smoking and alcohol consumption habits was also observed as supported by various previous studies. This behaviour is generally attributed to the local culture in our case India in pubs and parties. Apart from above less smoking tendencies among girls was also observed. Majority of smokers had smoking habits among the peer group and friends which confirms findings of Pan et. al.[42]. Hypothesis 1 and 2 i.e. Self-esteem increases by adopting smoking habits and Type A personality traits increase by adopting smoking habits have been observed and

confirmed. Hypothesis 3, 4, and 5 i.e. Males smoke more than females ; Peer group smoking habits are more among smokers as compared to non-smokers ; Drinking habits are more among smokers as compared to non-smokers have also been observed but could not be confirmed due to limitation of convenience sampling.

Convenience sampling results in various limitations of the study. Firstly, all the participants were confined to a very small geographical area and belonged to the same college. Secondly, all participants were belonged to the age group of 19-21 only. Moreover, only 25 girls had participated as a result conclusions regarding gender bias can not be confirmed. Since all were students of prestigious Indian Institute of Technology their self-esteems are expected to be higher than general people , this poses some doubt on the findings.

More effective conclusions regarding changes in self-esteem levels and personality type could have been made if the same sample could have been studied before and after they started smoking. However since it was not possible given the duration of study, difficulties in tracking people for years and uncertainty of an individual to start smoking were found to persist .

Further there are inherent limitations of the t test itself which in our case supports our findings with only 95% probability. Hence there is around a 5 % chance that the results may not be due to differences in the samples chosen but due to rare chances. Lastly the sample size of 100 though considerably large may be considered by some researches as small to confirm our hypothesis.

We can conclude from the current study that smokers have a higher self-esteem and more type A personality traits as compared to non-smokers

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