

THE RELATIONSHIP BETWEEN SOCIAL ENVIRONMENTAL FACTORS AND SMOKING BEHAVIOR IN COLLEGE STUDENT

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Abstract: Cigarettes have become one of the world's health problems. Smoking is also commonly found among students. Many things can affect a person's smoking behavior. Therefore, this study was conducted to determine the relationship of social environmental factors with student smoking behavior. The study used an analytic design with a cross-sectional approach that included 153 medical students batch 2017 of Udayana University. Data were collected by filling out a questionnaire that included respondents' smoking status, parents, peers, gender, number of cigarettes consumed, reasons for smoking and age of first smoking. Data analysis using SPSS for Windows version 26 with chi-square analysis and significance level used 0.05. Of the 153 respondents, 13 respondents (8.5%) have smoking habits. Most respondents consumed less than 5 cigarettes per day (69.2%). The reasons for continuing to smoke are feelings of pleasure (38.5%) and solidarity between friends (38.5%). Most respondents started smoking at the age 15 and 17 (30.77%). The analysis of relationship between social environmental factors with student smoking behavior resulted in smokers whose parents are also smoker 1 respondent (0.7%), smokers whose peers are also smokers 10 respondents (6.5%) and smokers whose gender are men 10 respondents (6.5%). There was a significant relationship between smokers' peers ($p = 0.002$) and gender ($p = 0.001$) with smoking behavior of students. There was no significant relationship between the factors of smoker's parents with smoking behavior of students ($p = 0.279$). It can be concluded that there is a relationship between smokers' peers and gender with student smoking behavior. There is no relationship between the factors of smoker's parents with smoking behavior of students.

Keywords: Cigarettes, Medical student, Smoking behavior, Social environment, Parents, Peers, Gender.

I. INTRODUCTION

One habit that is well-known as dangerous for health is smoking. Although the dangers are well known, smoking is still practiced. Smoking cigarettes can cause a sense of calm and satisfaction within its users. This makes smokers very difficult to quit and once he quits the pleasure he gets will be reduced.

Indonesia is the 4th highest rate of tobacco use country in the world after China, Russia and the United States.[1] In 2015, it was estimated that 36% or around 60 million people in Indonesia smoke regularly, compared to the amount of cigarette consumption in other countries which estimated to decrease. WHO estimated that by 2025, 90% of Indonesia's population is active smokers. Even more alarming, smoking habits also increase in the younger generation. WHO data in Indonesia show that teenagers who smoked for the first time at the age of 15 were 67% in 2011.[2]

The dangers of smoking to health can be in the form of cardiovascular, respiratory, malignant, mental, and other disorders. The younger a person starts smoking, the longer the duration of smoking and the greater the burden of smoking to develop into a disease.[3] It is difficult to reduce the number of smokers but not impossible. It is necessary to know the factors that play a role in increasing the risk of smoking. A study revealed that the social environment is the biggest factor

in the emergence of smoking habits.[4] The closest and most influential social environment in a person's life is the initial social environment, namely the family.[5] Several studies have revealed that there is a relationship between smoking habits of parents and their children's smoking habits. Parents who smoke increase the risk of smoking in their offspring.[6]

Based on a survey conducted by researchers at the Medical Faculty of Udayana University, there are regulations regarding the No Smoking Area in accordance with the Decree of the Chancellor of Udayana University which is addressed to all faculties in the University of Udayana. However, in its implementation, researchers still find students of the Medical Faculty who smoke in the campus environment, such as in the canteen. Therefore, the authors are interested in conducting research on the relationship of social environmental factors with student smoking behavior.

II. INSTRUMENTS AND METHOD

This study uses an analytic design with a cross-sectional approach where data retrieval of the independent and dependent variables is carried out at the same time. The objective to be achieved through this research is to find out the relationship between social environmental factors and student smoking behavior.

The population in this study were students of Bachelor of Medicine and Doctor Professional Program in 2017 who participated in the lecture process in December 2019 at the Medical Faculty, Udayana University. This research sample is part of population that meets the inclusion and exclusion criteria, chosen using a simple random sampling method. The minimum number of samples in this study was calculated using an unpaired categorical analytic formula. Based on the calculation of the number of samples, it was found that the minimum number of samples needed was 114 people.

This research was conducted by administering a self-administered questionnaire, in which the researcher would give a questionnaire to participants and explain the filling procedure and the purpose of filling out the questionnaire.

Data obtained from the questionnaire were then analyzed by researchers using univariate analysis to describe the characteristics of each study variable that would produce frequencies and percentages of each variable, and bivariate analysis to determine whether the relationship between the two research variables was meaningful or not significant with a 5% significance test. If the value of $P \leq 0.05$ means that statistically there is a significant relationship between the two variables, whereas if the value of $P > 0.05$ means there is no meaningful relationship between the two variables.

III. RESULTS

The number of samples obtained in the study were 155 participants with 2 participants dropping out so that the number of respondents studied was 153 respondents. The number of participants still meets the minimum sample limit of 114. Data distribution of participants involved in this study is shown in Table 1.

TABLE 1. Characteristic Distribution of Respondents

Variable	n	%
College student smoking habits		
Smoke	13	8,5%
Do not smoke	140	91,5%
Parental smoking habits		
Smoke	29	19%
Do not smoke	124	81%
Peer smoking habits		
Smoke	58	37,9%
Do not smoke	95	62,1%
Gender		
Male	53	35,3%
Female	100	64,7%
Number of cigarettes (per day)		
< 5 cigarettes	9	69,2%
5-10 cigarettes	3	23,1%
> 10 cigarettes	1	7,7%

Reason for smoking		
Feelings of pleasure	5	38,5%
Solidarity between friends	5	38,5%
Habit	2	15,4%
Others	1	7,6%
Initial age of smoking		
10 years old	1	7,69%
11 years old	1	7,69%
15 years old	4	30,77%
16 years old	1	7,69%
17 years old	4	30,77%
19 years old	1	7,69%

The distribution of participants who smoke were 13 people (8.5%), while those who did not smoke 140 people (91.5%). Parents of participants who smoke were 29 people (19%), while 124 people who did not smoke (81%). Based on peer smoking habits, the number of participants who had friends who smoked were 58 people (37.9%) while those who did not smoke were 95 people (62.1%). Based on gender, the number of participants were male as many as 53 people (35.3%) and female participants as many as 100 people (64.7%).

Distribution of participants who consumed less than 5 cigarettes per day were 9 people (69.2%), consumed 5-10 cigarettes per day numbered 3 people (23.1%), while respondents who consumed more than 10 cigarettes per day were 1 person (7.7%) Distribution of participants who smoke for reasons of feeling pleasure were 5 people with a percentage of 38.5%, smoking for reasons of solidarity between friends were 5 people with a percentage of 38.5%, smoking due to habitual reasons 2%, and smoking for other reasons 1 person with a percentage of 7.6%.

Based on the initial age of smoking, the number of participants who started smoking at the age of 10 years were 1 person with a percentage of 7.69%, started smoking at the age of 11 years were 1 person with a percentage of 7.69%, started smoking at the age of 15 were 4 people with the percentage of 30.77%, started smoking at the age of 16 were 1 person with a percentage of 7.69%, started smoking at the age of 17 were 4 people with a percentage of 30.77%, started smoking at the age of 19 were 1 person with a percentage of 7.69% and started smoking at the age of 20 were 1 person with a percentage of 7.69%.

TABLE 2. Pearson Chi-Square Test

Variable	College student smoking behavior						P Value
	Yes		No		Total		
	n	%	n	%	n	%	
Parents	1	0.7	28	18.3	29	19	0.279
	12	7.8	112	73.2	124	81	
Peer	10	6.5	48	31.4	58	37.9	0.002
	3	2	92	60.1	95	62.1	
Gender	10	6.5	43	28.1	53	34.6	0.001
	3	2	97	63.4	100	65.4	

Based on Table 2, it was found that the smoking behavior of students is related to the smoker's peer and gender factors, not to the smoking parent's factor. This relationship was obtained through the chi-square test in which the relationship between the factors of parents of smokers with smoking behavior of students obtained a probability value of $p = 0.279$ which means the significance level > 0.05 , then H_0 is accepted. There is no relationship between parents of smokers with smoking behavior of students.

The results of the analysis of the relationship of smokers' peer factors with student smoking behavior obtained a probability value = 0.002, which means a significance level <0.05 , then H_0 is rejected. Therefore there is a relationship between smoker's peer factors and student smoking behavior.

The results of the analysis of the relationship of gender with smoking behavior of students obtained a probability value of $p = 0.001$ which means the significance level <0.05 , then H_0 is rejected. Therefore, it can be concluded that there is a relationship between gender and smoking behavior of students.

IV. DISCUSSION

In this study, the number of smokers who have parents whose also smokers is one person (0.7%) out of 13 smokers. Most students who don't smoke have parents whose also not smokers (73.2%). The results of this study indicate that there is no relationship between the factors of parents of smokers with smoking behavior of students ($p = 0.279$). The results of this study differ from previous studies on the factors that cause smoking behavior in adolescents, one of which is the permissive attitude of parents towards adolescent smoking behavior, where permissive attitudes and examples taken by parents increase the risk of smoking initiation in children.[7]

The number of smokers who have peers whose also smokers is 10 (6.5%) out of the 13 smokers participants. Most students who don't smoke have peers whose also not smokers (90.1%). The results of this study indicate that there is a relationship between smokers' peer factors and student smoking behavior ($p = 0.002$) supported by a 2009 study of 1.326 student respondents in Helsinki, stating that smoking behavior in adolescents is influenced by the smoking behavior of their peers. Teenagers who have the habit of smoking also have a tendency to choose friends who also have smoking behavior.[8]

13 (8.5%) out of 153 participants who had smoking habits, consisted of 10 men and 3 women. Based on previous research, smoking habits among male and female have the same likelihood. However, in this study, smoking was found to be more in participants who were male.[9] Other research states that one of the factors causing more smoking habits in male participants is that teenage boys tend to spend more time with their friends outside the home, from their association will affect each other negatively and positively.

V. CONCLUSION

After conducting research on the relationship of social environmental factors with smoking behavior, the following conclusions can be obtained. There was a significant relationship between smoker peer factors and smoking behaviour of students ($p = 0.002$). There was a significant relationship between gender ($p = 0.001$) and smoking behavior of students ($p = 0.001$). There was no significant relationship between the factors of parents of smokers with smoking behavior of students ($p = 0.279$). Therefore, it can be concluded that there is a relationship between smoker's peers and gender factors with the smoking behavior of students. There is no relationship between smoking factors of parents of smokers and smoking behavior of students.

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