FAMILY AND PEER INFLUENCE ON SMOKING BEHAVIOR AMONG MALE UNIVERSITY STUDENTS

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Abstract

The purpose of this study was to examine the characteristics and correlates of smoking among male university students from one of the public universities in Selangor, Malaysia. The study was based on 150 male students who are current smokers, aged between 19 to 24 years old, and were identified using the "snowball" technique. A self-administered questionnaire was used as a tool for data collection. Descriptive statistics and Pearson Correlation test were used to address objectives of the study. The findings of the study show that: majority of the respondents smoke ten or more cigarettes per week; many of the subjects had been smoking before they entered university; the minimum age for the first smoke is 10 years old; more than 50% reported that they started to smoke because "friends ask them to try". The results of bivariate analysis show that peer smoking model, mother's strictness and father's strictness have significant correlations with male university student's smoking frequency. In general, results show that there is a link between the perceived social environment and smoking among the male college students'. Multivariate analysis shows that peer has stronger influence on male university students' smoking frequency than family. Thus, existing and future programs on smoking targeted at male university students should focus on building skills to resist negative peer influence.

Key words: smoking behavior, parents smoking, peer smoking, parents-children relationships, peer relationships, university students.

Introduction

Smoking has been related with immediate and lasting problems such as abuse and dependence that have negative consequences on health and social well-being (*Srivastava & Kreiger, 2004; Eisner & Iribarren, 2007; Khader & Alsadi, 2008)*. According to WHO (2005), about a third of male global adult population smokes and smoking related diseases kill one in 10 adults globally. Every eight second, someone

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dies from tobacco use. In Malaysia, every day about 50 teenagers below the age of 18 start smoking *(WHO, 2005).*

Past studies reported that the great majority of smokers try their first cigarette before 18 years of age *(Chassin et al., 2003; Herman & Fahnlander, 2003; Khairani, Norazua & Zaiton, 2007; Lee, Paul, Kam & Jagmohni, 2005; Minnesota Department of Health et al., 2004; Rapeah et al., 2008; Von Ah et al., 2005*). While the great majority of smokers try their first cigarette as children or teens, Everett et al. (1999) noted that initiation and experimentation with smoking also occurs among young adults. Further more, the risky period for trying cigarette smoking as revealed by Dewitt et al. (1996) and Sax (1997) is extending to 20 years of age. In Malaysia, published studies on smoking among university students are still of scarce. Most of the past studies in Malaysia examined smoking among adolescents or secondary school students (e.g.: Hidayah et al., 2003; Khairani, Norazua & Zaiton, 2007; Lee, Paul, Kam & Jagmohni, 2005; Naing et al., 2004; Rapeah et al., 2008; Sufean & Marian, 2004).

The Minnesota Adult Tobacco Survey noted that the frequency of smoking for many smokers tend to increase when they are between the ages of 18 and 24 and gradually become addicted to smoking (Minnesota Department of Health, Blue Cross and Blue Shield of Minnesota, & Minnesota Partnership for Action against Tobacco, 2004:1). Some students started smoking when they entered college and those that smoked earlier become regular smokers after they entered college (Wechsler et al.,1998). Cigarette was widely smoked by university students (Khader & Alsadi, 2008; Kasikci et al., 2008; O'Malley & Johnston, 2002; Onal et al., 2006; Rigotti, Lee, & Wechsler, 2001) and there was an increase in cigarette smoking among college students (Lantz, 2003; Sax, 1997). Individuals in the young adult stage may be trying out a broad range of life experiences including cigarette smoking. This trend may suggest that young adulthood may be an important and overlooked period in the development of regular smoking behavior.

Why do students start to smoke cigarette? Findings from past studies highlighted a number of risk factors for cigarette smoking among adolescents, college students and young adults. Among the reasons frequently reported for first time smoking are curiosity, peer pressure/influence, to relieve stress, for pleasure, image, showing off and tobacco advertisement (Fairuz, 2005; Haddad & Malak, 2002; Khairani, Norazua & Zaiton, 2007; Kasikci et al., 2008; Sufean & Mariani, 2004; Sufean et al., 2004). Others includes gender, low academic performance, stress, life problems, peer pressure and family relationship (Khader & Alsadi, 2008).

Personal and social environment factors have been linked to smoking behavior among university students. Von Ah et al. (2005) conducted a study on 161 college students in the United States to examine the relationship between personal, family, friend and demographic factors with cigarette smoking behavior. Von Ah et al. found that students with lower levels of conscientiousness and self-efficacy had a higher

tendency to smoke cigarette. Personality traits such as neuroticism were also found to have significant correlation with cigarette smoking in young people and adults (Byrne et al., 1995; Vink et al., 2003).

The socio-environmental factors include familial and peer factors. Familial factors that were often linked to smoking are family or parental smoking, parental monitoring, expectation and involvement. Family smoking is a strong correlate of the initiation and the escalation of smoking in children (Bricker et al., 2006; Khader & Alsadi, 2008; Shamsuddin & Haris, 2000; Sufean et al., 2004). Parents smoking and a higher number of family members who smoke increased the tendency for adolescents, youth and university students to experiment cigarette smoking and increase the frequency of smoking. Father's smoking is highly correlated with children's smoking (Shamsuddin & Haris, 2000) because parents are role model for their children.

Parental monitoring, expectation, involvement, supervision, strictness and support have inverse relationships with smoking. Individuals who reported high monitoring, expectation and involvement by their parents, smoked less number of cigarettes (Biglan et al., 1995; Simmons-Morton et al., 2001; Stattin & Kerr, 2000; Tyas & Pederson, 1998). Students may avoid smoking or smoke fewer cigarettes when they perceived their parents as strict (Simmon-Morton et al., 1999) and monitoring their activities and behavior (Marsiglia et al., 2002).

As children grow to adolescence and young adulthood, peers become more significant in their lives as role model and for social-psychological support. Based on the analysis of past findings, it can be concluded that friends or peers are the main predictor of smoking behavior of university students. Peers can have both direct and indirect effects on students' smoking. The direct effect is when students interact with peers who smoke, observed their their behavior and act like them (Hawkins et al., 1992; Mason & Windle, 2001; Piko, 2002) to fit with their peer group (Dinges & Oetting, 1993; Spijkerman et al., 2007; Unger et al., 2002). On the other hand, peer influence on smoking behavior is indirect when the influence depends on other factors such as the quality of parent-student relationship (Blanton et al., 1997). Students experienced positive relationships with parents showed low level of smoking behavior (Marsiglia et al., 2002) and they tend to avoid smoking even when their friends smoke (Simons-Morton, 2001).

Smokers have friends who smoke (Kasikci et al., 2008; Nichter et al., 1997; Saatci et al., 2004). Number of friends who smoke has positive correlations with smoking status and amount of smoking (Haddad & Malak, 2002; Khader & Alsadi, 2008, Maziak et al., 2004; Tobacco Surveillance Report, 2007). Students with higher number of friends who smoke tend to smoke or smoke more cigarettes compared to those with fewer or no friends who smoke.

Parents, family members and friends have great influences on students' smoking behavior. Thus, in line with the brief overview above, this research was

designed to examine the characteristics of smoking among male university students and its correlations with selected familial and peer factors. The specific objectives of this study were to:

1. Describe male university students' smoking behavior.
2. Determine the relationships between family factors (parents smoking model, parents attitudes toward male university students' smoking, motivation to comply with parents, and perceived parental strictness) and male university students' smoking.
3. Determine the relationships between peer factors (peer smoking model, peer attitude toward respondents' smoking) and male university students' smoking.

Methods

Location and Respondents of the Study

This study was conducted in one of the selected public universities in Selangor, Malaysia. Respondents of the study were 150 male university students who were identified as smokers through snowballing technique. They were Diploma and Bachelor degree students, aged between 19 to 24 years old and reside in residential college.

Data Collection

Data were collected in January 2007 using a structured questionnaire. The selected respondents were requested to complete self-administered questionnaires. The questionnaire contains questions concerning sociodemographic information, smoking behavior or practices, family influence and peer influence.

Measurement Of Variables

Respondent's smoking behavior

Respondent's smoking behavior refers to the frequency of cigarette smoking among respondents. It was measured by a scale of self-reported smoking during the past one month by Soldz and Cui (2002). The responses to a question "how frequent did you smoke in the past one month" were in a 6-point scale from 1=one cigarette or less, 2=two cigarettes, 3=three to five cigarettes, 4=six to ten cigarettes, 5=11 to 30 cigarettes, 6=10 or more cigarettes in a week.

Family influence

Family influence refers to parent's smoking model, parent's attitude toward respondent's smoking, motivation to comply with parents, and perceived parental

strictness. The operationalization of selected family variables was based on a study by Chassin and Presson (1984).

Parent smoking model. Parent smoking was assessed by the following items: My father smokes cigarettes and my mother smokes cigarettes. The responses for the items were '0' for no and '1' for yes.

Parent attitude toward the respondent's smoking. Parent attitude toward the respondent's smoking was measured by the following item: My father thinks that I should smoke cigarette and my mother thinks that I should smoke cigarette. The responses for the items were in a 5-point likert scale from 1=strongly agree, 2=agree, 3=uncertain, 4=disagree, and 5=strongly disagree

Motivation to comply with parents. Motivation to comply with parents was assessed by the following item: Most of the time when my father/mother wants me to do something, I go along with it. The responses for the item were in a 5-point likert scale ranging from 1=strongly agree to 5=strongly disagree.

Perceived parental strictness. Perceived parental strictness was assessed by the following question: Compared to other father/mothers, how strict would you say your father/mother is with you? The responses were in a 5-point likert scale ranging from 1=very strict to 5=not strict at all.

Peer influence

Peer influence refers to peer's smoking model, peer's attitude toward respondent's smoking, motivation to comply with peers, and perceived peer strictness. The operationalizations of selected peer variables were based on a study by Chassin and Presson (1984).

Peer smoking model. Peer smoking model was assessed by using one question which is "how many of your five closest friends smoke cigarettes?

Peer attitude toward the respondent's smoking. Peer attitude toward the respondent's smoking was measured by a single item: My friends think that I should smoke cigarette. The responses for the item were in a 5-point likert scale from 1=strongly agree, 2=agree, 3=uncertain, 4=disagree, and 5=strongly disagree

Motivation to comply with peers. Motivation to comply with peers was assessed by one item that is "Most of the time when my friends want me to do something, I go along with it. The responses for the item were in a 5-point likert scale ranging from 1=strongly agree to 5=strongly disagree.

Perceived peer strictness. Perceived peer strictness was assessed by using the following question: Compared to others' friends, how strict would you say your friends are with you? The responses were in a 5-point likert scale ranging from 1=very strict to 5=not strict at all.

Data Analysis

Data were analyzed by using the "Statistical Package for Social Sciences" (SPSS for Windows). Descriptive statistics such as frequencies, percentage, mean and standard deviations were used to describe all the main variables. The bivariate correlation analysis using Pearson Correlation was utilized to examine the relationships between family and peer influences with the frequency of the male university students smoking in the past one month.

Results

Descriptive Findings

This section highlights information related to respondents' background such as age, race, financial sources, and academic semester, as well as their family backgrounds such as parents' education, job and monthly income.

Age, Race, Academic Semester and Program Level

Male university students involved in this study aged between 19 to 24 years old and mean age equals 21.53 (s.d.= 1.26). More than fifty percent (table 1) of the respondents are 21 and 22 years old. Majority (90%) is Malays and was degree program students (96.0%). A large proportion (46%) of the students is in the fifth semester of their academic program. Majority of them (56.7%) mentioned 'loan' as their main financial source, followed by scholarships (26.5%).

Parents Background Information

A large proportion (30.0%) of mothers completed Form Five education and only 16.0% completed their education at Diploma or Degree level (Table 2). More than 80% mothers are housewives and majority (66.7%) of fathers is blue collar workers. About 23.3% of the respondents come from families with monthly income between RM2001 to RM4000.

Smoking Behavior

Smoking frequency. On a question, "how frequent do you smoke cigarette in the past one month?", Table 3 shows that majority (60.7%) of the male university students who smoked noted that they smoke ten or more cigarettes per week. Thus, in one month (4 weeks) they smoked more than 40 cigarettes.

Smoking duration. The respondents were also asked "how long have you been smoking?". About 38% (Table 3) of the respondents indicated that they have been smoking between 49 to 72 months or between 4 to 6 years. The minimum duration is one month and the maximum duration is 144 months (mean = 61.51; standard deviation = 27.79). About 30.7% reported that they have smoked for more than 72 months or 6 years. This finding shows that some of the respondents had been smoking long before they entered university.

Age at first smoking. When asked to note the age when they first started smoking, 42% of the respondents reported that they first smoked cigarette at the age of 16 to 18 years old (Table 3). The mean age for first time smoking is 16.26 (standard deviation = 2.39). The minimum age for the first smoke is 10 years old.

Amount of money spent on cigarette. Respondents were also asked, "on average how much do you spend on cigarettes per day?". Respondents reported that they spend between RM1 and RM10 per day to buy cigarettes (Table 3). The mean expenditure is RM3.89 (standard deviation = 2.13). A large proportion (49.3%) of the respondents reported that they spend between RM3 to RM5 for cigarettes per day.

Reasons for smoking. Reasons for smoking are displayed in Table 4. Peers seem to be the most popular answer given by respondents. More than 50% of the respondents reported that they began to smoke because "friends ask them to try". About 31% smoked for relaxation, 35% to release tension and 34% smoked for fun. About 14% reported that they smoke because it is stylish to do so.

Table 1: Respondents' Background Information

Variable	n	%	Mean	s.d
Age (Years)			21.53	1.26
19	5	3.3		
20	28	18.7		
21	43	28.7		
22	42	28.0		
23	20	13.3		
24	12	8.0		
Race				
Malay	135	90.0		
Chinese	7	4.7		
Indian	8	5.3		
Academic Program				
Diploma	6	4.0		
Degree	144	96.0		
Academic Semester				
1	1	0.7		
2	33	22.0		
3	2	1.3		
4	32	21.3		
5	69	46.0		
6	6	8.7		
Financial Sources				
Scholarship	39	26.0		
Loan	85	56.7		
Parents	56	37.3		
Others	10	6.7		

Try to quit smoking.

When asked whether they have ever tried to stop smoking, 43.3% mentioned yes and 42% noted that they stopped smoking, but later start to smoke again (Table 4).

Smoking when ill.

Respondents were also asked "Do you still smoke when you are so ill?". About 50% of the respondents noted that they continue to smoke cigarette even when they are so ill (Table 4).

Number of close friends who smoke.

About 48% of the respondents reported that they have at least five close friends who smoke cigarette (Table 4). About 22% have four close friends who smoke and 17.3% have at least three friends.

Table 2: Parents Background Information

Variable	Mother		Father	
	n	%	n	%
Education				
Primary school	17	11.3	16	10.7
Form 3	19	12.7	11	7.3
Form 5	45	30.0	34	22.7
Form 6	14	9.3	23	15.3
Certificate	20	13.3	23	15.3
Diploma	10	6.7	9	6.0
Degree	14	9.3	21	14.0
Never attended school	8	5.3	5	3.3
Others	3	2.0	8	5.3
Occupation				
Blue collar job	59	39.3	100	66.7
White collar job	4	2.7	17	11.3
Housewives/Retired	87	58.0	33	22.0
Family income (RM)	n	%		
≤ 2000	81	54.0		
2001 – 4000	35	23.3		
4001 – 6000	19	12.7		
≥ 6001	15	10.0		

Mean = 3063.00
Minimum = 350.00; Maximum = 15000.00
Standard deviation = 2910.46

Table 3: Frequency, Duration, Initiation, and Money Spent on Cigarette

Variable	n	%
Smoking frequency (during one past month)		
One cigarette or less	5	3.3
Two cigarettes	1	0.7
Three to five cigarettes	12	8.0
Six to ten cigarettes	22	14.7
11 to 30 cigarettes	19	12.7
10 or more cigarettes in a week	91	60.7
Smoking duration		
≤ 24 months	13	8.7
25 – 48 months	34	22.7
49 – 72 months	57	38.0
73 – 96 months	30	20.0
≥ 97 months	16	10.7
Mean = 61.51; Standard deviation = 27.79; Minimum = 1; Maximum = 144		
Age at first smoking		
≤12 years	6	4
13 – 15 years	54	36
16 – 18 years	63	42
≥ 19 years	27	18
Mean = 16.26; Standard deviation = 2.39; Minimum = 10; Maximum = 22;		
Amount spent on cigarette per day		
≤ RM2	44	29.3
RM3 – RM5	74	49.3
RM6 – RM8	28	18.7
≥ RM9	4	2.7
Mean = 3.89; Standard deviation = 2.13; Minimum = 1.0; Maximum = 10.0		

Table 4: Reasons for and Number of Friends Smoking

Variable	n	%
Reasons for First Smoking		
Friends ask me to try	86	57.3
It is stylish to smoke	21	14.0
To release tension	53	35.3
For fun	51	34.0
To control appetite	18	12.0
To overcome anger	25	16.7
Enhance concentration	23	15.3
To feel relax	46	30.7
Ever tried to quit smoking		
Yes	65	43.3
No	22	14.7
Quit but smoke again	63	42.0
Smoking when ill		
Yes	75	50.0
No	75	50.0
Number of close friends who smoke		
1	3	2.0
2	16	10.7
3	26	17.3
4	33	22.0
5	72	48.0

Frequency of Smoking by Number of Close Friends Who Smoke . Smoking frequency may be related to number of close friends who smoke. Table 5 shows that out of 91 (60.6%) respondents who smoke the most (≥10 cigarettes in a week), 83 (55.3%) stated that they have at least 3 to 5 close friends who smoke. Thirty four (22.7%) of the respondents who smoked 6 to 30 cigarettes during one past month also had 3 to 5 close friends who smoke.

Frequency of Smoking by Smoking When Ill. For those who mentioned that they continue to smoke even when they are ill, 51 (68.0%) of them smoked 10 or more cigarettes in a week. About 21.3% smoked between 3 to 10 cigarettes during one past month.

Table 5: Frequency of Smoking by Number of Close Friends Who Smoke and Smoking When iii

Variable	No. of Close Friends Smoke		Smoking When ill
	1-2	3-5	
	n (%)	n (%)	n (%)
Smoking frequency (during one past month)			
One cigarette or less	2 (1.3)	3 (2.0)	3 (4.0)
Two cigarettes	-	1 (0.7)	-
Three to five cigarettes	2 (1.3)	10 (6.7)	5 (6.7)
Six to ten cigarettes	1 (0.7)	21 (14.0)	11 (14.6)
11 to 30 cigarettes	6 (4.0)	13 (8.7)	5 (6.7)
10 or more cigarettes in a week	8 (5.3)	83 (55.3)	51 (68.0)

Correlation between Family Factors and Respondent's Smoking Frequency

Results of Pearson correlation analysis display in Table 6 indicate that out of five family factors, only parental strictness showed significant relationship with male university student's smoking frequency (father: r=-0.182, p≤ 0.05; mother: r=-0.201, p≤ 0.05). Male university students who reported high mothers' and fathers' strictness, smoked less number of cigarettes within the last one month. Parental smoking model, parents' attitude toward the respondent's smoking, and motivation to comply with parents have a very weak and no significant correlations with the frequency of male university students smoking.

Table 6: Correlations between Family Factors and Respondent's Smoking Frequency

Family Factors	r	p
Parents smoking model		
Father	0.108	>0.05
Mother	0.077	>0.05
Parents attitudes toward the respondent's smoking		
Father	0.005	>0.05
Mother	0.059	>0.05
Motivation to comply with parents		
Father	-0.037	>0.05
Mother	-0.024	>0.05
Perceived parental strictness		
Father	-0.182	≤0.03
Mother	-0.201	≤0.01

Correlation between Peer Factors and Respondent's Smoking Frequency

Table 7 shows that peer smoking model is the only peer variables that indicated significant correlation with male university students' smoking frequency ($r=0.168$, $p\leq0.05$). The positive and significant correlation means that male university students with more number of closest friends who smoke have higher tendency to smoke more cigarettes. For all other variables related to peers, the correlations are very weak and no significant. However, the relationships are in the expected direction. Peer attitudes toward the respondent's smoking and motivation to comply with peer have positive correlations with smoking frequency. Perceived peer strictness has negative relationship with frequency of smoking cigarette.

Table 7: Correlation between Peer Factors and Respondent's Smoking Frequency

Peer Factors	r	p
Peer smoking model	0.168	≤0.04
Peer attitudes toward the respondent's smoking	0.024	>0.05
Motivation to comply with peer	0.063	>0.05
Perceived peer strictness	-0.041	>0.05

Predictors Of Smoking Frequency

Perceived father's strictness, mother's strictness and peer model were significantly related with frequency of smoking at the bivariate level analysis. Thus, these three variables were entered into the regression model to determine which variable is a stronger predictor of smoking among college students. Table 8 presents the results of multiple regression analysis between the selected independent variables and frequency of smoking. The results of the study shows that the regression model for frequency of smoking is significant (F=4.09 (3. 146); p ≤.01). However, the value of R^2.08 is quite small and perceived father's strictness, mother's strictness and peer model only explain about 8% of the variation in the frequency of smoking among university students. Table 7 also shows that peer smoking model emerged as the only significant predictor of smoking frequency (Beta=.16, p≤.05). The direction of relationship between parental strictness and frequency of smoking shows that parental strictness may reduce smoking; however the strength of influence is weaker compared to peer smoking model.

Table 8: Results of Multiple Regression Analysis

Peer Factors	Beta	p
Peer smoking model	0.16	≤ .05
Perceived mother's strictness		> .05
Perceived father's strictness	-0.15	> .05
R^2=.08	-0.11	
F= 4.09 (3, 146), p ≤ .01		

Conclusion

The majority of male university students in the present study smoked on average more than 10 cigarettes per week. Most of them were smokers before they enter university. Many of the respondents began smoking while in the upper secondary school, at the age between 16 to 18 years old. A large proportion of the respondents also mentioned that they had stopped smoking previously, but return to smoking

again. About half of the male university students' smokers in this study will continue to smoke even when they are ill. These findings are consistent with previous studies on cigarette smoking which found that majority of smokers take their first cigarette in their teenage years and become regular smokers while in college (Chassin et al., 2003; Wechsler et al., 1998).

Male university student smokers noted that they have close friends who smoke. About seventy percents admitted that 4 to 5 of their close friends smoke. Those who smoked the most and continue to smoke when ill have more number of close friends who smoke. The highest number of them also reported peer influence as the reason for first smoking. Higher number of peer smoking model promotes higher smoking frequency. These findings may imply the significant role peers play in initiating and sustaining cigarette smoking among male undergraduate students.

Perceived father and mother's strictness may act as a social control in male university student's smoking frequency. Those who perceived their fathers and mothers as strict have lower tendency to smoke higher number of cigarettes. Parents who are strict may have higher tendency to monitor their children's behavior than parents who are less strict. Studies on parental monitoring (for example, Stattin & Kerr, 2000) linked high risk of smoking cigarette with poor parental monitoring.

In general, based on the findings of the present study, it can be concluded that there is a link between the perceived social environment (such as family and peers) and the male university students' smoking behavior. However, the present study reveals that peer smoking model has greater influence on male university students' smoking than parents. One possible explanation for this finding is that during university years, most individuals live in university colleges, away from their parents. Thus, they tend to spend most of their time interacting with friends; and so they may be more vulnerable to peers influence. Based on the present findings, existing or future programs aimed at educating male university students on the consequences of smoking and preventing them from becoming regular smokers should emphasized the development of skills to resist negative influences from peers.

The present study examined smoking among male university students only since historically men were the primary users of tobacco products (National Center for Tobacco-free Kids, 2000). Thus, the generalizabilty of the findings is limited to those with characteristics similar to the respondents of the study. However, since the number of female who smoke is on the rise (Foong Kin, 2009; National Women's Law Center, 2003), future study should also cover smoking patterns among female university students. This will give a clearer and more current pattern of smoking behavior among young adults of Malaysia.

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