

The Impact of Family Relationships on the Smoking Habits of University Students

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Abstract

Smoking habits are thought to be strongly impacted by family relationships. In this study, we looked specifically at family relationships with the aim of finding effective anti-smoking education measures. We surveyed 290 university students in order to establish their current smoking habits, along with their family relationships from primary and junior high school until now. The results showed that students with one or more smokers in their family were clearly more likely to smoke. Furthermore, a poor relationship between the student's parents and a poor relationship with his/her father are believed to have a causal relationship with the student smoking. In the section in which students were asked how often they were told to study, we found that students who smoked had been instructed to study a significantly higher number of times. It is believed that the stress experienced by students frequently told that they must study during their elementary or junior high school years leads to a tendency to smoke. Among the group of non-smokers, we found many who ate breakfast with their parents during elementary or junior high school, along with many who regularly went on holidays with their families. The lack of these things appears to distance parents from children and may be a factor regarding why children end up smoking. In this study, while no clear correlation was found between family relationships and smoking, several types of family relationships that may lead to smoking were suggested.

Keywords

Smoking Habits, Family Relationships, University Students, Elementary and Junior High School Years

1. Introduction

The fact that smoking and passive smoking can increase the risk of a range of diseases is nothing new. Japan, however, retains a high ratio of smokers [1]. In Japan, a wide range of anti-smoking measures has seen some effect, but this has not been sufficient, and further action from various perspectives is considered necessary.

A number of studies have been carried out regarding the smoking habits of students [2] [3]. Since people under the age of 20 are more likely to become dependent on nicotine than those over the age of 20 [4], it becomes more difficult for people to give up smoking if they begin before age 20 [5] [6]. For this reason, it is believed that the environment relating to smoking that a young person encounters between puberty and adulthood is particularly important.

In this study, the authors focused on family and household relationships, which are believed to have the greatest impact on individual development of a young person until adulthood, as the environment affecting their behavior in regard to smoking. Smoking habits are clearly related to “self-esteem”—in other words, self-respect, emotions relating to how one sees oneself, and self-evaluation [7]. It is believed that family relationships are one of the major factors affecting self-esteem; however, no research has yet been conducted into the type of family relationships and home environment that may result in the type of self-esteem that affects smoking habits. In this study, we focused particularly on the family relationships and home environment of young people in elementary and junior high school, which are believed to have a particularly strong and direct impact on parent-child relationships as they relate to smoking within the home.

The purpose of this research was to implement a comprehensive survey among university students in regard to the correlation between their home environment/family relationships during elementary and junior high school and smoking, and to consider household-based measures that might contribute to preventing people from smoking prior to reaching adulthood.

2. Methods

The study surveyed a total of 290 university students (137 males and 153 females). It is thought that enough numerical objects and average college students are sorted out in this research like some overseas preceding studies [8] [9]. The age of the subjects ranged from 19 - 25 years, with an average of 20.9 ± 1.6 years (mean \pm standard deviation). The study was anonymous and self-completed and involved subjects hearing an explanation of the survey during class, after which those who consented to participate were handed a copy of the questionnaire either before or after class. Since the survey touched on private issues, students were told that it was for research purposes only and asked to complete the survey and hand it back without taking it out of the classroom.

The contents of the survey first divided subjects into “smokers” and “non-smokers,” depending on their answer to the question about whether they currently smoked. Since far fewer female subjects smoked, analysis was not implemented based on the gender of participants. Subjects were asked about how many people around them smoked, if any. Those who responded “yes” to the question “Do both your parents live with you?” were asked about how well their parents got on with one another, how well they got on with their mother, and how well they got on with their father. Those who responded that they lived “with their mother but not their father” were only asked about their relationship with their mother, while those who responded that they lived “with their father but not their mother” were only asked about their relationship with their father. Subjects were asked whether either of their parents was a smoker, alcoholic, drug-dependent or addicted to gambling, and whether they “would discuss issues of concern with their parents”.

The survey was implemented based on prior research [7] [10] regarding the family relationships of elementary and junior high school students. Subjects were requested to reflect on their elementary/junior high school years and asked whether their parents both worked, how frequently they ate breakfast and dinner with their parents, how frequently they went on holidays as a family, and about their parents’ attitude on education.

The strength of relationships within the family, parents’ attitudes on education during elementary/junior high school and the frequency with which they were told to study were graded numerically, and the results subjected to a Mann-Whitney U test in order to compare the scores between smokers and non-smokers. Responses to other questions were analyzed using a chi-squared test, in order to compare the difference in frequency of various responses between the smoking and non-smoking group and establish a correlation between smoking habits and past family relationships.

3. Results

3.1. Smoking Habits

Overall, 44 students (15.2%) responded that they currently smoke (Table 1). Of these, 38 (29.9%) were male and 6 (3.9%) were female. Furthermore, 246 students (84.8%) said that they did not smoke. Of these, 99 (70.1%) were male and 147 (96.1%) were female.

3.2. People Smoking Around the Subjects

The students were asked who around them smoked, with multiple answers possible from among “father,” “mother,” “grandfather,” “grandmother,” “older sister,” “older brother,” “younger sister,” “younger brother,” “friend(s),” “girl/boyfriend,” “other” and “no one.” among both smokers and non-smokers, the most common response was “friend(s),” with a majority (75.0% of smokers and 50.6% of non-smokers) reporting that they had friends who smoke (Table 2). The next most common response was “father,” with 40.9% of smokers and 31.8% of non-smokers selecting this response. While only 2.4% of respondents stated that “no one” around them smoked, 24.1% of non-smokers gave this response, indicating a significant difference. In almost all categories, the proportion of smokers with people around them who smoked was higher than the proportion of non-smokers. In particular, 20.5% of smokers said that their “older brother” smoked, compared with 9.4% of non-smokers. Chi-squared testing on the frequency in both groups showed a significant difference.

3.3. Current Family Relationships

As shown in Table 3, when asked about their parents’ relationship, smokers scored 3.3, a significantly lower value than non-smokers ($p < 0.05$). When asked about their relationship with their mothers, there was no significant difference between the two groups. In terms of the relationship with their fathers, smokers scored 3.8, a significantly lower value than non-smokers ($p < 0.05$).

The results of the question regarding whether one or more of their parents was a smoker are shown in Table 4. 61.4% of smokers and 74.0% of non-smokers replied that “neither parent smokes,” while 38.6% of smokers and

Table 1. Current smoking habit.

	Male	Female	Overall
Smokers (no. people)	38	6	44
Non-smokers (no. people)	99	147	246
Rate of smoking	29.9%	3.9%	15.2%

Table 2. People around the subjects who smoke.

	Father	Mother	Grandfather	Grandmother	Older sister	Older brother	Younger sister	Younger brother	Friend	Girl/boyfriend	Other	No-one
Smokers (%)	40.9	6.8	9.1	2.3	2.3	20.5	2.3	13.6	75.0	0	2.3	2.4
Nonsmokers (%)	31.8	4.9	6.5	1.2	3.3	9.4	0.4	4.1	50.6	3.3	2.4	24.1

Smokers vs. non-smokers $p < 0.05$.

Table 3. Comparison between groups in terms of average score for family relationships (“Parents’ relationship,” “Relationship with mother,” “Relationship with father”).

	Parents’ relationship	Relationship with mother	Relationship with father
Smokers (score)	3.3 ± 0.9*	4.3 ± 0.8	3.8 ± 1.1*
Non-smokers (score)	4.1 ± 0.9	4.5 ± 0.7	4.3 ± 0.9

*Smokers vs. non-smokers $p < 0.05$.

26.0% of non-smokers replied that “one or more parents smoke.” This demonstrated a significant difference between the two groups ($p < 0.05$).

When asked whether or not they discuss their concerns with their parents (**Table 5**), the most common answer was “sometimes,” with 35.6% of smokers and 46.3% of non-smokers giving this response. The next most common answer among smokers was “almost never,” at 30.3%, followed by “never” (27.3%) and “often” (6.8%). Among non-smokers, the next most common responses were “almost never” (30.9%), “often” (12.6%) and “never” (10.2%). There was a significant difference in frequency between the two groups ($p < 0.05$).

Upon being asked whether they felt loved by their parents (**Table 6**), the highest rate of response was “I always feel loved,” with 47.7% of smokers and 54.1% of non-smokers giving this response. The next most common responses among smokers were “I sometimes feel loved” (43.2%), “I don’t really feel loved” (6.8%) and “I don’t feel loved at all” (2.3%). Among non-smokers, the results were “I sometimes feel loved” (40.2%), “I don’t really feel loved” (4.5%) and “I don’t feel loved at all” (1.2%). There was a significant difference in frequency between the two groups ($p < 0.05$).

When asked regarding their level of satisfaction in terms of how they felt about the economic state of their household (**Table 7**), 31.8% of smokers stated that they were “more satisfied than dissatisfied,” with 27.3% stating they were “satisfied,” 25% stating that they were “neither satisfied nor dissatisfied,” 9.1% stating that they were “dissatisfied” and 6.8% stating that they were “more dissatisfied than satisfied.” Among non-smokers, 35.8% each replied that they were “satisfied” and “more satisfied than dissatisfied,” 18.7% that they were “neither satisfied nor dissatisfied,” 8.1% that they were “more dissatisfied than satisfied” and 1.6% that they were “dissatisfied.” There was no significant difference in frequency between the two groups.

3.4. Family Relationships When in Elementary School

The subjects were asked whether both their parents worked. Overall, 211 respondents (72.8%) said that one (or both) of their parents did not work, while 79 (27.2%) stated that both did (**Table 8**). There was no significant difference in frequency between the two groups.

The subjects were asked regarding the frequency with which they ate breakfast with their parents (**Table 9**). Among smokers, 25 (56.8%) said that they “always ate with parents,” along with 151 (61.4%) non-smokers, making this the most common answer. The next most common was “sometimes ate with parents” (11 (25%) smokers and 71 (28.9%) non-smokers), followed by “never ate with parents (8 (18.2%) smokers and 24 (9.7%) non-smokers). There was a significant difference in frequency between the two groups ($p < 0.05$).

Table 4. Smoking among parents.

	One or both parents smoke	Neither parent smokes
Smokers (no. of people)	17	27
Non-smokers (no. of people)	64	182

Smokers vs. non-smokers $p < 0.05$.

Table 5. Frequency with which you discuss concerns with your parents.

	Often	Sometimes	Almost never	Never
Smokers (no. of people)	3	16	13	12
Non-smokers (no. of people)	31	114	76	25

Smokers vs. non-smokers $p < 0.05$.

Table 6. Love from parents.

	Always feel loved	Sometimes feel loved	Don’t really feel loved	Don’t feel loved at all
Smokers (no. of people)	21	19	3	1
Non-smokers (no. of people)	133	99	11	3

Smokers vs. non-smokers $p < 0.05$.

The subjects were asked regarding the frequency with which they ate evening meals with their parents (**Table 10**). Overall, 245 respondents (84.5%) said that they “always ate with their parents,” making this the most common answer. This was followed by “sometimes ate with parents” (42 respondents (14.5%)), and “never ate with parents” (3 respondents (1%)). There was no significant difference in frequency between the two groups.

The subjects were asked regarding how regularly they went on holidays with their parents (**Table 11**). Among smokers, 28 (63.6%) responded that they “sometimes went,” compared with 152 (61.8%) non-smokers, making this the most common answer. This was followed by “often went” (18 (40.9%) smokers and 80 (32.5%) non-smokers), and “never went” (4 (9.1%) smokers and 14 (5.7%) non-smokers). There was a significant difference in frequency between the two groups ($p < 0.05$).

As shown in **Table 12**, there was no difference in “Parents’ attitude on education” between the smokers and the non-smokers, although the frequency with which the smokers had been “told to study by their parents” was higher ($p < 0.05$).

3.5. Family Relationships When in Junior High School

The subjects were asked regarding whether both their parents worked. Overall, 207 respondents (71.4%) said that one (or both) of their parents did not work, while 83 (28.6%) stated that both did (**Table 13**). There was no significant difference in frequency between the two groups.

The subjects were asked regarding the frequency with which they ate breakfast with their parents (**Table 14**). Among smokers, 18 (40.9%) said that they “always ate with parents,” along with 127 (51.6%) non-smokers, making this the most common answer. The next most common was “sometimes ate with parents” (14 (31.8%) smokers and 86 (35%) non-smokers), followed by “never ate with parents” (12 (27.3%) smokers and 33 (13.4%) non-smokers). There was a significant difference in frequency between the two groups ($p < 0.05$).

The subjects were asked regarding the frequency with which they ate evening meals with their parents (**Table 15**). Overall, 192 respondents (66.2%) said that they “always ate with their parents,” making this the most common answer. This was followed by “sometimes ate with parents” (91 respondents (31.4%)), and “never ate with parents” (7 respondents (2.4%)). There was no significant difference in the frequency between the two groups.

The subjects were asked regarding how regularly they went on holidays with their parents (**Table 16**). Among smokers, 26 (59.1%) responded that they “sometimes went,” compared with 161 (65.4%) non-smokers, making this the most common answer. In addition, the response “often went” was given by 3 (6.8%) smokers and 28

Table 7. Economic state of household.

	Satisfied	Fairly satisfied	Fairly dissatisfied	Dissatisfied
Smokers (no. of people)	12	14	14	4
Non-smokers (no. of people)	88	88	50	20

Smokers vs. non-smokers N.S.

Table 8. Whether or not both parents worked.

	Both worked	One (or both) did not work
Smokers (no. of people)	11	33
Non-smokers (no. of people)	68	178

Smokers vs. non-smokers N.S.

Table 9. Whether or not the subjects ate breakfast with their parents.

	Always	Sometimes	Never
Smokers (no. of people)	25	11	8
Non-smokers (no. of people)	151	71	24

Smokers vs. non-smokers $p < 0.05$.

Table 10. Whether or not the subjects ate evening meals with their parents.

	Always	Sometimes	Never
Smokers (no. of people)	38	6	0
Non-smokers (no. of people)	207	36	3

Smokers vs. non-smokers N.S.

Table 11. Frequency with which the subjects went on holidays with their families.

	Often	Sometimes	Never
Smokers (no. of people)	18	28	4
Non-smokers (no. of people)	80	152	14

Smokers vs. non-smokers $p < 0.05$.**Table 12.** "Parents' attitude on education," "Frequency with which subject was told to study".

	Parents' attitude on education	Frequency with which the subject was told to study
Smokers (no. of people)	3.3 ± 0.9	$3.4 \pm 1.0^*$
Non-smokers (no. of people)	3.5 ± 0.7	2.8 ± 0.7

*Smokers vs. non-smokers $p < 0.05$.**Table 13.** Whether or not both parents worked.

	Both worked	One (or both) did not work
Smokers (no. of people)	10	34
Non-smokers (no. of people)	73	173

Smokers vs. non-smokers N.S.

Table 14. Whether or not the subjects ate breakfast with their parents.

	Always	Sometimes	Never
Smokers (no. of people)	18	14	12
Non-smokers (no. of people)	127	86	33

Smokers vs. non-smokers $p < 0.05$.**Table 15.** Whether or not the subjects ate evening meals with their parents.

	Always	Sometimes	Never
Smokers (no. of people)	32	13	1
Non-smokers (no. of people)	160	78	6

Smokers vs. non-smokers N.S.

Table 16. Frequency with which the subjects went on holidays with their families.

	Often	Sometimes	Never
Smokers (no. of people)	3	26	15
Non-smokers (no. of people)	28	161	57

Smokers vs. non-smokers $p < 0.05$.

(11.4%) non-smokers, and “never went” by 15 (34.1%) smokers and 57 (23.2%) non-smokers. There was a significant difference in frequency between the two groups ($p < 0.05$).

As shown in **Table 17**, there was no difference in “Parents’ attitude on education” between the smokers and the non-smokers, although the frequency with which the smokers had been “told to study by their parents” was higher ($p < 0.05$).

4. Discussion

It is believed that relationships with one’s family have an impact on developing a strong desire not to smoke. Prior research [7] suggests that low “family” self-esteem leads to a greater tendency to smoke, indicating a correlation between family relationships and smoking. Additionally, it has been said that smoking reduces resistance to drug abuse, and as such, if specific problems can be identified in family relationships and those problems solved during elementary or junior high school education, it may be possible to provide support that prevents smoking in later life, possibly reducing drug abuse among university students, which is becoming more of a problem. This was the reason for the creation of a questionnaire studying the relationship between smoking and family relationships.

The results show that the group of smokers scored low in terms of “Parents’ relationship” and “Relationship with father.” From this, it can be assumed that a poor relationship between parents and a poor relationship with one’s father may be related to the causes of smoking. In addition to this, there was a significantly higher response rate among smokers when asked about the frequency with which the subject was told to study, both in elementary and junior high school. It is clear that studying is a source of worry for both elementary and junior high school students. From this, we can see that children and students told they must study by their parents during elementary and junior high school are stressed as a result, making them more susceptible to becoming smokers.

Our theory was that more smokers than non-smokers would have had both parents at work while they were elementary or junior high school students. Having both parents at work leads to the assumption that insufficient time is available for communication with parents and that this lack of communication can cause young people to become smokers in later life. The results, however, showed no difference in the proportion of smokers and non-smokers whose parents both worked. While there is no doubt that in families with two parents at work there is less time for communication, this study is not thought to have been sufficiently detailed to establish whether or not this led to insufficient communication.

When asked whether they had breakfast with their parents as elementary or junior high school students, while the proportion of smokers and non-smokers who responded “always” was roughly the same, the proportion of smokers who said that they “never” took breakfast together was 20% during elementary school years (as opposed to 9% of non-smokers) and 27% during junior high school years (as opposed to 13% of non-smokers), showing that a greater proportion of the smokers did not take breakfast with their parents. Meals are considered important opportunities for communication [11]. As a result, young people who had not taken breakfast with their parents as elementary school students would have been somewhat separated from interaction with their parents, suggesting a tendency in these children to be more likely to smoke in the future.

Family holidays, like meals, are also thought to provide an excellent opportunity for communication within the family. When asked whether or not they went on family holidays as elementary or junior high school students, the authors expected that the proportion of subjects who replied “never” would be higher among smokers than among non-smokers. The results, however, showed no difference between smokers and non-smokers in the proportion replying “never,” along with a greater proportion of non-smokers responding that they “often” went on holidays with family. While it may be difficult to draw conclusions from this, it appears that family holidays may provide a good opportunity for communication with the family.

Table 17. “Parents’ attitude on education”, “Frequency with which the subject was told to study”.

	Parents’ attitude on education	Frequency with which subject was told to study
Smokers (no. of people)	3.4 ± 0.9	3.6 ± 1.1*
Non-smokers (no. of people)	3.5 ± 0.8	2.9 ± 0.8

*Smokers vs. non-smokers $p < 0.05$.

When asked about who smoked around them, as might be expected, the smokers were surrounded by more people who smoked than the non-smokers. Prior research [12] has yielded the same results. This study indicated that students with family members who smoke were more likely to smoke themselves. At the same time, many parents do not realize that their children smoke and consider them non-smokers [13]; wherein, if these parents realized that their children were interested in smoking, they may be able to prevent them from taking up the habit. Among smokers, those most likely to smoke around them were “friends,” “father” and “older brother,” in that order, whereas among non-smokers, the most common responses were “friends,” “father” and “no one around me smokes.” This may indicate that among university students, smoking habits among their friends have a larger impact on their own behavior than whether or not their parents smoke. Among both smokers and non-smokers, a large proportion responded that they have an “older brother” who smokes, indicating that smoking among older brothers may have a significant impact on younger siblings taking up smoking.

This study was limited by the fact that there was a low ratio of smokers among the 290 respondents, with the result that there was little survey data produced relating to smokers. There was a particularly small amount of survey data relating to female students who smoke, making it difficult to draw any conclusions from the results. Although the results meant that this study was not able to draw any clear conclusions regarding the correlation between family relationships and smoking, it did come up with several suggestions indicating a link between family relationships and taking up smoking. Recently, Life Skills Education [14] has been noticeably successful in preventing smoking and it is thought that it will become more and more important for schools, families and communities to work together to engage in this sort of education. Taking up smoking may often have a particular meaning, such as being an expression of loneliness, rebellion or lack of affection. Since there is thought to be a wide range of environmental factors that can result in a young person taking up smoking, there is a need for individually tailored anti-smoking education programs to be rolled out for each individual child.

References

- [1] Ministry of Health, Labour and Welfare (2012) National Health and Nutrition Survey (in Japanese). <http://www.mhlw.go.jp/file/04-Houdouhappyou-10904750-Kenkoukyoku-Gantaisakukenkouzoushinka/0000032813.pdf>
- [2] Higashiyama, A., Tsuda, T. and Takahashi, Y. (2009) University Students Smoking and the Tobacco Price. *The Japanese Association of Smoking Control Science*, **3**, 35-40. (In Japanese)
- [3] Nakao, R., Tahara, Y., Ishii, N. and Moji, K. (2007) Attitude and Nicotine Dependence among the Smoker of Young Age—Analysis of Questionnaire for University Students. *Health Science Research*, **20**, 59-65. (In Japanese)
- [4] Prokhorov, A.V., Winickoff, J.P., Ahluwalia, J.S., Ossip-Klein, D., Tanski, S., Lando, H.A., Moolchan, E.T., Muramoto, M., Klein, J.D., Weitzman, M. and Ford, K.H., Tobacco Consortium, American Academy of Pediatrics Center for Child Health Research (2006) Youthtobacco Use: A Global Perspective for Child Health Care Clinicians. *Pediatrics*, **118**, 890-903. <http://dx.doi.org/10.1542/peds.2005-0810>
- [5] Curry, S.J., Mermelstein, R.J. and Sporer, A.K. (2009) Therapy for Specific Problems: Youth Tobacco Cessation. *Annual Review of Psychology*, **60**, 229-255. <http://dx.doi.org/10.1146/annurev.psych.60.110707.163659>
- [6] Markham, W.A., Bridle, C., Grimshaw, G., Stanton, A. and Aveyard, P. (2010) Trial Protocol and Preliminary Results for a Cluster Randomised Trial of Behavioural Support versus Brief Advice for Smoking Cessation in Adolescents. *BMC Research Notes*, **3**.
- [7] Kawabata, K., Nishioka, N., Ishikawa, T., Katsuno, S., Haruki, T., Shimai, S. and Nozu, Y. (2005) Relationship between Self-Esteem, Cigarette Smoking, Alcohol Drinking, and Use of Illegal Drugs among Adolescents. *Japan Journal of School Health*, **46**, 612-627. (In Japanese)
- [8] Engels, R.C., Van, Zundert, R.M. and Kleinjan, M. (2012) Smoking Cessation-Specific Parenting and Parental Smoking as Precursors of Adolescent Smoking Cognitions and Quitting. *Addictive Behaviors*, **37**, 831-837. <http://dx.doi.org/10.1016/j.addbeh.2012.03.006>
- [9] Hiemstra, M., Otten, R., de Leeuw, R.N., van Schayck, O.C. and Engels, R.C. (2011) The Changing Role of Self-Efficacy in Adolescent Smoking Initiation. *Journal of Adolescent Health*, **48**, 597-603. <http://dx.doi.org/10.1016/j.jadohealth.2010.09.011>
- [10] Omasu, F. and Takahashi, Y. (2013) The Impact of a Sense of Belonging on Lethargy and Career Maturity. *Open Journal of Preventive Medicine*, **3**, 393-401. <http://dx.doi.org/10.4236/ojpm.2013.36053>
- [11] Naruse, Y., Tomita, K. and Ohtani, K. (2008) The Influence of Atmosphere of Mealtime at Home upon Children’s Feeling of Self-Esteem—For Elementary School Children in 5th Grade and 6th Grade and Junior High School Students 2nd Grade. *Journal for the Integrated Study of Dietary Habits*, **19**, 132-141. (In Japanese)

<http://dx.doi.org/10.2740/jisdh.19.132>

- [12] Imade, Y., Kawabata, T., Ishikawa, T., Katsuno, S. and Nishioka, N. (2007) Factors Related to the Initiation of Smoking among Japanese Early Adolescents. *Japan Journal of School Health*, **49**, 170-179. (In Japanese)
- [13] Osaki, Y. (2005) Adolescent Smoking Behavior, Associated Environmental Factors, and Countermeasures. *Journal of the National Institute of Public Health*, **54**, 284-289. (in Japanese)
- [14] Kawabata, T. (2009) Life Skills Education for Preventing Risk Behaviors among Japanese Adolescents. *Japan Journal of School Health*, **51**, 3-8. (In Japanese).

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