

Are American Adolescents Using Cigarettes More?

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Introduction

Nowadays, the problem of substance use, e.g., drinking alcohol, smoking cigarettes and using marijuana, cocaine or other substances is of serious concern since it gradually becomes more intensive. Addiction to substances not only poses harmful impact on the users themselves but also on their families and the society as a whole.

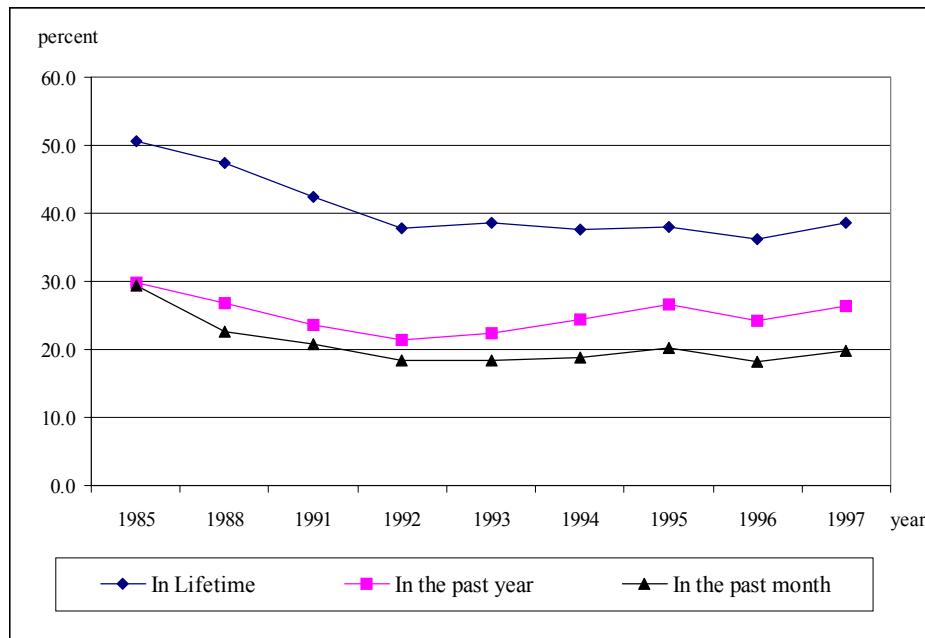
One of the most damaging behaviors for the long-term health of young people is cigarette use. Most adult smokers start during their adolescent years. Of the present population of youth worldwide, about 300 millions are smokers and 150 millions will die of smoking related causes later in life (WHO, 1998). Even though the harmful effect of cigarette smoking is widely known, cigarette use by young people is widely increasing all through out the world, especially in the developing countries (WHO, 1993).

In the United States of America, the number of adolescents aged 12-17 years accounted for 10 percent of the total population (Office of Applied Studies, 1998). As shown in figure 1, trends in cigarette use for the age group 12-17 years was reported slightly decreased over time and then become stable. Regarding the quantity of cigarette use during their lifetime, less than half (36-50 %) used cigarettes, while 21-29 % used cigarettes in the past year, and 18-29 % had used them in the past month. The data suggested a high proportion of adolescents using cigarettes in American society.

The situation has drawn an interest on why a high proportion of American adolescent used cigarettes. The finding of this study would help supporting the data base on cigarette use as well as policy formulation related to resolutions on cigarette use.

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Figure 1
Percentage of American Adolescents Aged 12-17 Reporting Cigarette Use: 1985-1997



Source: Office of Applied Studies, National Household Survey on Drug Abuse, 1985-1997.

Objective

- 1) The study is aimed to describe patterns of cigarette use of American adolescents; and 2) to find out the factors, personal, parental, and peer factors related to cigarette use of American adolescents.

Conceptual Framework

The conceptual framework of the study is drawn from some behavior concepts. The basic concept of the Social Learning Theory of Bandura (1976) believes that behavior has occurred and changed not only by the environment but also depending on personal factors (intelligence, body and other internal factors). On observational

learning, Bandura's belief was that human learning is mostly transmitted through observing models. This is different from experiential learning or doing by themselves that may waste the time and may be harmful. In learning through models, only one model can socialize ideals and act together. Because the way of life in each day stays in a closed environment in order to receive perceptions on society that will socialize by the experience of others through listening and watching without directly experiencing. Many people perceive everything about society from mass media. This theory indicates that adolescents learn how to behave from the person that they live with such as parents or others in the house. If parents or others in the house are good models, adolescents would have good behavior too. On the other hand, if parents or others in the house are bad models, adolescents may absorb and imitate misbehavior.

Concerning peers of adolescents, the Social Learning Theory (Bandura, 1976) explains that adolescents learn behavior from their close persons such as parents or others in the house. Peers will also become later close persons. Adolescents having close / best friends will take their close / best friends' behavior as their model. Good models of their best friends could persuade adolescents to practice good behavior. On the other hand, negative models of their best friends could lead adolescents to negative behavior such as gambling or cigarette use.

The Reference Group Theory (Merton, 1957) explains the influence of the peer group to other behavior, especially a pluralistic society such as American society where parents and peers mostly have conflicts in the adolescents' perception. This theory proposes that a person who has behavior in cross-pressure will be harmonious to the expectations of the reference group. For example; during the childhood, parents dominate their child as an important reference group for the child, but at the adolescent age, peer groups are more important and influential. Adolescents who like to be a member of a group must accept the conditions of the group. If peers in that group have negative behaviors like using cigarettes, adolescents may be persuaded to use cigarettes too.

The study investigates the following factors:

- Adolescents' characteristics (grade point average, intention of life and skipping school)
- substance use of parents (alcohol use of parents, alcohol use of parents' spouse, cigarette use of parents and cigarette use of others in the house)
- substance use of friends (number of best friends using cigarette, alcohol and marijuana)

Hypothesis: The substance uses of friends are more likely to associate with cigarette use of adolescents than other factors.

Data and Methodology

Data

This research is based on the data from the Add Health Project. Add Health is a school-based study on health-related behaviors of adolescents in grades 7-12. It has been designed to explore the cause of these behaviors, with an emphasis on the influence of social context. That is, Add Health postulates that families, friends, schools and communities play roles in the lives of adolescents that may encourage healthy choices of activities or may lead to supporting or refusing the theory. The data were collected by surveys of students, parents and school administrators. The Add Health study was funded by the National Institute of Child Health and Human Development to the Carolina Population Center, University of North Carolina at Chapel Hill, with cooperative funding participation by a number of institutions. Fieldwork was conducted by the National Opinion Research Center of the University of Chicago.

Sample

The survey used a random sample of American adolescents studying in grades 7 to 12 by selecting population at the same ages. The random sample stage

included : 1) Interview 90,118 students from schools in 80 communities of the U.S.A.; 2) Interview a random sample of 20,746 students out of the 90,118 students at their house; and further interview a random sample of 17,670 students' parents at their house. After processing the data, the sampled students who were interviewed at home were reduced from 17,670 students to 6,504 students due to two reasons. Firstly, the interviewing data was a public-use data. Secondly, the data collected in this project was very detailed. As a result, if more than five variables were traced they disclosed that adolescent. Therefore, in order to maintain confidentiality of adolescents, the random sampling method was used.

Results

The sample group consisted more females than males with the mean age of 15 years. Most of them are white American and the rest included African-American, Asian, the Pacific Islands, and others. Regarding educational achievement in English, Mathematics, Sociology, History, and Science, it was found that the grade point average in 4 subjects was 2.6. With respect to intention of life i.e. adolescents' expectation to further education at tertiary level and living until 35 years of age, the combination of these 2 expectations revealed that the vast majority (83 %) had high level of intention with mean score of 8.8. Most of the samples (71 %) never skipped school, with mean number of 2 times skipping school. Considering alcohol and cigarette use of parents and others in the house, nearly half of them (44 %) did not use alcohol, and mostly (70%) did not smoke cigarette. Also, about half, 50% and 54% of parents' spouse, did not use alcohol and cigarette respectively. The use of alcohol, cigarette and marijuana of adolescents' best friends was reported the same results, more or less the half, 55 %, 43 %, and 67 % did not use cigarette, alcohol, and marijuana respectively.

Pattern of cigarette use of adolescents

During the past of their lifetime (see Table 1), it was identified that less than half (45%) of the sampled group never smoked; 30% used to smoke in the past but do not currently smoke and one-fourth (24%) used to smoke in the past but keep

unchanged at present respectively. During the past 30 days, having categorized the sampling population into groups, it was disclosed that most of them (75%) did not smoke and 12% smoked more than 60 cigarettes. Among smoking adolescents, on the average they smoked 175 cigarettes in the past 30 days. Their first use was at the age of 13 years 1 month.

Table 1: Number and percentage of cigarette use of adolescents

Cigarette use	Percent	Number
Cigarette use		
Never	45.1	2918
Ever but now don't use	30.3	1956
Ever and currently use	24.6	1592
Total	100.0	6466
Cigarette use in the past 30 days		
None	75.4	4874
1-30 cigarettes	10.3	664
31-60 cigarettes	2.3	151
61 cigarettes or higher (Maximum=1,800)	12.0	777
Total	100.0	6466
(Mean 174.9 Standard deviation 240.1)		
Age at first cigarette use		
7-9 years old	6.8	182
10-12 years old	31.5	841
13-15 years old	47.3	1263
16-20 years old	14.4	384
Total	100.0	2670
(Mean 13.1 Standard deviation 2.2)		

Cigarette use was classified by demographic characteristic of adolescents (age, sex, and race). Adolescents aged 16-20 years were more use of cigarettes than those aged 11-15 years while males were more use of cigarettes than females, and cigarette use was more pronounced among the white than others.

Cigarette use (during the past 30 days) of adolescents classified by grade point average, intention of life and skipping school of adolescents.

Grade point average, comparing exclusively among adolescents who took 4 same subjects, it was found that most (86 percent) of the non-smoking group had good GPA from 3.01-4.00. 11 percent of the mild smoking group (1-30 cigarettes) had GPA at 0.1-1.00 like the medium and the hard smoking groups. Especially, 29 percent of the hard cigarette user group (over 60 cigarettes) had GPA at 0.1-1.00. The reason was that the good GPA adolescents studied hard and spent time fruitfully on studying. These made them not to get involved with or less involved with cigarettes than the poorer GPA groups (Newcomb, et al., 1986).

Intention of life, includes, the intention of university entrance or long life span at 35 years of age or longer. It was recorded that most (77 percent) of the non-smoking group had high expectation for their lives. 17 percent of the mild cigarette user group (1-30 cigarettes) had low intention of life, so did one-thirds (34 percent) of the hard cigarette user group (over 60 cigarettes). Since the students with auspicious intention of life paid attention and most of time on studying as well as looking after themselves not to smoke, they had lower tendency towards cigarette use than those with lower aim of life (Newcomb, et al., 1986).

Skipping school, it was shown that most (82 percent) of the non-smoking group never missed the class without an excuse. 14 percent of the mild cigarette user group (1-30 cigarettes) was absent twice without a leave, so were the medium and hard cigarette user groups. Especially, 29 percent of the hard cigarette user group (over 60 cigarettes) skipped the class without an excuse more than 3 times. It should be noted that those with many skip records would smoke more than those with fewer ones or without the record. It could be explained that the absentee groups without an excuse hardly paid interest on schooling but wasted the skipping time in improper places, attracting them to cigarettes instead (Kangwannawaratra, 1985).

Cigarette use (during the past 30 days) of adolescent classified by alcohol use and cigarette use of parents and others in the house

On this study, it can be briefly stated that most of the non-smoking adolescent group had non-alcoholic parents and parents' spouse as well as non-smoking parents and other non-smoking persons in the house. Unlike the non-smoking adolescent group, the hard smoking group (over 60 cigarettes) had parents and parents' spouse drinking alcohol nearly every day, smoking parents and other smoking persons in the house as well. In general, it is to say that adolescents whose parents or close persons got involved with substance use would have more inclination towards cigarette use than those whose parents or close persons had no involvement with substance use.

Cigarette use (during the past 30 days) of adolescents classified by number of best friends using substances (Cigarettes, Alcohol, and Marijuana)

Based on the research results, almost all non-smoking adolescents had no steadfast friends using cigarettes and alcohol, nor most of them had best friends using marijuana. On the other hand, the hard cigarette user group had up to 3 best friends using each of the mentioned substances. It might say that adolescents whose best friends using substances smoked more than those who had no best friends using substances.

Use of alcohol, cigarette, marijuana, value of substance use of adolescents and negative behaviors of adolescents

Based on the finding of study, most of the non-alcoholic adolescent group did not involve in negative behaviors. They did not tell their parents a lie and never committed any fight, thieving and sexual intercourse with others. Almost all of them never sold drugs. Unlike the non-alcoholic group, the mild, medium and hard alcohol user groups were more likely to have all those mentioned behaviors which the degree of involvement increased with the amount of alcohol use.

Factors related to Cigarette Use

Table 2 presented the result of multiple regression analysis of all independent variables affecting cigarette use. The finding indicated that grade points average, intention of life, numbers of skipping school, cigarette use of parents, cigarette use of others in the house, number of best friends using cigarette, and number of best friends using marijuana was significantly correlated with cigarette use of adolescents, which can explain the use of cigarette at 24.2%. In contrast, alcohol use of parents, alcohol use of parents' spouse, and number of best friends using alcohol were insignificantly associated with cigarette use of adolescents.

Table 2: Regression Coefficients for the models of cigarette use of adolescents

Model	Predicted variables				Coefficients
	ABC	A	B	C	
(Constant)	32.527	-64.694	57.864	74.267	
Age	4.668 ***	6.721 ***	4.351 ***	7.972 ***	
Sex	-5.583	-8.851 **	-4.847	-4.149	
Race	-29.291 ***	-25.830 ***	-31.147 ***	-39.836 ***	
Grade point average	-7.750 ***		-9.639 ***	-15.192 ***	
Intention of life	-5.104 ***		-5.398 ***	-9.011 ***	
Skipping school	2.506 ***		2.569 ***	3.268 ***	
Alcohol use of parents	0.973	-0.143		0.872	
Alcohol use of Parents' spouse	0.673	0.601		2.545	
Cigarette use of parents	34.853 ***	39.800 ***		46.273 ***	
Cigarette use of others in the house	-12.590 *	-11.837 *		-10.474 *	
Number of best friends Using cigarette	36.375 ***	40.281 ***	38.213 ***		
Number of best friends Using alcohol	0.187	-0.035	0.404		
Number of best friends Using marijuana	8.123 ***	11.632 ***	8.527 ***		
Dependent Variable:	Cigarette use in the past 30 days				
R Square	0.242	0.216	0.231	0.154	
R Square change		0.026	0.011	0.088	

The statistical significance level: *** p<.001 ; ** p<.01 ; * p<.05

Discussion

According to the findings, factors related to cigarette use included grade points average, intention of life, number of skipping school, cigarette use of parents, cigarette use of others in the house, numbers of best friends using cigarette and number of best friends using marijuana.

Since adolescents who obtained good grade and had good intention of life (Newcomb, Maddahian and Bantler, 1986) were likely to pay much attention in class, did not skip school (Kangvalnavaratana, 1985), neither parents nor others in the house used cigarette and that without misleading, thus duplication of bad habit was less possible (Bandura, 1976; Non-Smoking Campaign Foundation, n.d.; Crouther, et al., 1988). Moreover, if they did not associate with friends who used substance, they would not be asked to try the cigarette (Phra Tham Kosa Jarn, 1987). Also, if they did not get involved with friends who used cigarette or marijuana, there were no misleading for imitation (Bandura, 1976). Consequently, they need not to misbehave to gain recognition from friends. Having good friends led to proper behavior and would gain recognition from friends too (Merton, 1957), no need to smoke. In contrast, adolescents with low average grade points, no intention of life tend to pay less attention in class and sometime skipped school. Besides, if their parents and others smoked at home, being bad model, they would try to imitate such behavior. Even worse when they make friends with those using substances and once try smoking, they would become at last addicted to it.

The results support the hypothesis and confirm that substance use behavior of friends is an important factors that influence cigarette use of adolescents. This influence is much stronger than their own characteristics and substance use of parent.

Recommendations

The study on factors related to cigarette use of American adolescents yield results which could be utilized and applied. Recommendations based on the findings are as following:

Policy recommendations

- 1) The results suggested that poor educational performance, low intention of life and skipping school had associated significantly with cigarette use of adolescents who thus become a high-risk group. Policy on narcotics control should be explicitly formulated by the government and concerned organizations. Essential knowledge and understanding on factors leading to cigarette use should be provided to the risk group in order that they create self-awareness and be well prepared in choosing their way of life. In addition, preventive measures should also be defined to prevent this risk group from using cigarette. As a result, they will be more knowledgeable, understanding and aware of the dangerous outcome and impact of the cigarette use to the nation.
- 2) As revealed by the findings, adolescents who use substance also had friends using substance. They might be asked to use it too. If they want to be recognized and belong to the group, they might use it. It is important that Government organizations should therefore implement the policy in providing essential knowledge to the young generations to assist them on how to choose friends and avoid making friends with those using substance who may ask them to try it.
- 3) Negative behavior of parents and closed relatives such as using alcohol and cigarette was misleading to adolescents to try the cigarette. The government should also implement the policy to provide the knowledge to adolescents' parents and guardians as well, possibly through various media. It should emphasize on their awareness and understanding that parents' behavior could be either positive or negative models to adolescents that may lead them to using cigarette. Proper behavior of parents could also help one way or another, keeping adolescents away from cigarette.

4) Adolescence is the period of growing, changing, and learning but lacking of considerable maturity. Prevention and control of cigarette use among adolescents cannot be implemented solely and separately by each agency alone, but need practical and cooperating networks from all societal sectors.

- Parents should take primary role in promoting and creating adolescents self understanding and awareness. Parents' effort is needed to encourage adolescents awareness regarding educational attention, intention of life as well as positive behavior, all of which may help preventing adolescents from substance use. For parents is regarded as a safeguard shield to keep adolescents away from cigarettes. Besides, parents should cooperate with schools in supporting adolescents.

- Schools should play active role in providing adolescents the knowledge on the nature and extent of the harmful impact of cigarette, and how to prevent themselves from using it. Any forms of support should be made available at school.

- Inter-sectoral networks should be built up and strengthened at every level including governmental agencies, the community, schools, temples and families, to enable defining the knowledge, process, methods and cooperation in narcotics control among adolescents.

Recommendations for Further Research

The researcher suggests that further studies on cigarette use should be carried out by compiling data from relevant surveys and secondary data annually collected by related agencies. The data include quantity and characteristics of substance use, causes of use, its effects and impact. Intervention and evaluation of related projects concerning the substances would be consistent with the government policy in provision and support of studies, research, monitoring and evaluation of the plan and projects aiming at technically solving the narcotics problems. And that practical solutions of narcotics problems are principally developed based on actual information which is scientifically and systematically analyzed. Subsequently, Thailand would have baseline data on narcotics, which is rather actual for decision making, policy and measures formulation as well as finding practical solution. Hence, government budget could be saved and effective outcome upon policy and measures is achieved.

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