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EXPLANATION OF HIGH SCHOOL STUDENTS' SMOKING BEHAVIOR: A STRUCTURAL EQUATION MODEL APPROACH WITH THE THEORY OF PLANNED BEHAVIOR

Dilek Sultan Acarli,
Melek Yaman Kasap

Abstract. *Smoking is a worldwide problem that threatens people's health. The average age of smokers has decreased with each passing day. Thus, studies focusing on preventing children or teenagers from starting smoking or studies aiming to help people quit smoking are one of the most effective ways of the fight against smoking. In order to prevent smoking behavior of young people it is necessary to thoroughly examine the reasons of such behavior. In this study, smoking behavior of high school students was examined in the framework of Planned Behavior Theory, which is a socio-psychological theory (TPB, Ajzen, 1985). With the structural equation model, which was constructed by taking TPB components into account, factors affecting students' smoking behavior were determined. Theory of Planned Behavior has explained the smoking behaviors of the participants in 72%. It was seen that the most important TPB component that affects students' behavior is attitude, which is followed by subjective norm and perceived behavior control, respectively. The results indicate that one should work on attitude first and foremost, and thus on behavioral beliefs in order to make changes in the students' tendency to smoke, in other words, in their behavior.*

Key words: *health education, smoking, structural equation model, theory of planned behavior.*

Dilek Sultan Acarli,
Melek Yaman Kasap
Hacettepe University, Turkey

Introduction

Tobacco consumption is a significant problem in Turkey, just as it is in so many other countries. In addition to such consumption forms as shisha and cigar, cigarettes are the most common (Eriksen, Mackay & Ross, 2006). Considered to be a global health issue, smoking is a primary risk factor for such problems as cardiovascular diseases, cancer, and respiratory tract diseases, which have the highest mortality rate. Since cigarettes cause the death of more than 5 million people every year and unless the existing smoking behavior changes, it is indicated that it will exceed 8 million in 2030 (World Health Organization, 2008). In Turkey, more than 100,000 people die due to smoking-related illnesses, and it is estimated to reach 240,000 by 2030 (Bilir, Cakir, Dagli, Erguder & Onder, 2010; Erguder, 2009).

It is stated that 1.4 billion people smoke in today's world (Eriksen, Mackay & Ross, 2006). Although tobacco consumption varies in each country, it is observed that the number of smokers in developed countries is in decline due to anti-smoking and awareness-raising campaigns, and it is still rather high in developing countries (Aslan & Bilir, 2006). Tobacco consumption has increased recently in Turkey, and it is still a very widespread habit. As far as smoking is concerned, Turkey is the 3rd among European countries and the 7th in the world (Erguder, 2009). Frequency of smoking every day among people over 18 in our country is estimated to be 33.4%. While male smokers make 50.6%, the ratio is 16.6% for women (Republic of Turkey, Prime Ministry General Directorate of Family and Social Researches, and Turkish Statistical Institute, 2006). Smoking is rather widespread among children and teenagers (Ogel et al., 2000; Ogel et al., 2004; Karlikaya, 2002; Nilden Arslan et al., 2012). The rate of smoking at least one cigarette throughout their lives in the 10-12 age group is given to be 16% (Ogel et al., 2004). Turkish results of Global Youth tobacco research shows that 8.4% of young people in Turkey smoke, that there is an increase in the number of young people who are smokers, and that 30% of students have started smoking before the age of 10 (Ministry of Health, General Directorate of Basic Health Services, 2010; Erguder, Cakir, Aslan, Warren, Jones & Asma, 2008).

People start smoking usually in childhood or adolescence. In the study, it was shown that 71% of smokers in the 30-39 age group have started smoking at 18 or earlier (Burt & Peterson, 1998). The number of smokers who have started in later ages is rather low (Chassin, Presson, Rose & Sherman, 1996). The earlier someone starts smoking, the higher the risk for that person to become an addict. Starting smoking at an early age increases the risk of facing serious health problems both in childhood and adolescence as well as in later years (Hollederer, 2001). Therefore, activities/programs towards helping young people quit smoking constitute one of the most effective ways of the fight against smoking (Goksel, Cirit & Bayindir, 2001).

The negative effect of tobacco consumption on human health, its burden on the economy and the hazard it gives to the environment, necessitate a fight against the use of tobacco products on an international level. To this end, Tobacco Control Framework Agreement was signed (Bilir, 2009). Turkey is among the countries which signed this agreement. Within the scope of this agreement, various significant steps have been taken by the government, such as prohibiting smoking in public places, public service ads, raising taxes on tobacco products, and banning tobacco ads, and Turkey has become one of the leading countries in fight against tobacco. It is ominous that the rise in the number of smokers among the youth increases and the age to start smoking decreases in spite of all these precautions. Given the young population of Turkey, it is necessary to increase the number of studies targeting this group. Thus, the responsibility falls onto education institutions and people working in these institutions that have access to children and the young. Because education institutions are most effective in equipping students with proper behavior and because they are sites where students acquire knowledge and become self-aware, these institutions as well as the educators working there, can provide significant support in the fight against smoking from an early age. In order for such studies to succeed, it is important to determine the factors that predict the behavior and to examine various variants related to smoking among the young. Programs and prevention studies that are designed keeping these factors in mind are thought to be more effective. Thus, in this study, smoking behavior of high school students was examined via planned behavior theory, and their smoking behavior as well as factors affecting it, was aimed to be determined. The results to be obtained from this study are thought to contribute to school programs, that will be designed to prepare students to a smoking-free life and to various other precautions. Although there have been many studies done in Turkey on smoking, there are very few which are done within a valid theory that explains behavior. It is thought that this research will contribute to literature because of this.

Theoretical Framework

In this study, Theory of Planned Behavior (TPB, Ajzen, 1991; 2005) was used to investigate students' smoking behavior. TPB is considered to be one of the most effective socio-psychological theories that explains the attitude-behavior relationship. It is known that TPB has been successfully applied to such disciplines as social psychology, psychology, sociology as well as topics related to biology such as health education, environmental education, biology education, and that it has provided results that can be interpreted well in terms of factors affecting intention of the behavior (Norman et al., 1999). Among those related to health can be considered cigarette consumption (Norman et al., 1999), sexual health behaviors, such as prophylaxis from AIDS, using condoms (Albarracin et al., 2001; Plies & Schmidt, 1996; Reinecke, 1997), weight loss (Schifter & Ajzen, 1985), healthy diet (Armitage & Conner, 1999; Conner et al., 2002), and diet education (Yaman, 2003).

In general, TPB is a theory that propounds that individuals' behaviors are under the control of certain factors, that they result from certain reasons, and that they come into being in a planned way. According to this theory, in order for a behavior to come into being, there must be an intention towards that very behavior in the first place. The stronger the intention towards a certain behavior, the more likely it is for that behavior to surface (Frey et al., 1993). The intention of the behavior is under 3 variants (Ajzen, 2005; Ajzen & Fishbein, 1980; Bamberg & Schmidt, 1993).

Attitude Towards Behavior denotes the evaluation of the realization of behavior as good or bad by the person who is going to exhibit that behavior.

Subjective Norm denotes the social pressure the individual perceives towards the realization or unrealization of that said behavior.

Perceived Behavior Control denotes to what extent the individual finds it difficult or easy to exhibit the behavior. In cases where behavior control is out of an individual's control and where it can be objectively detected, this factor can directly explain the behavior.

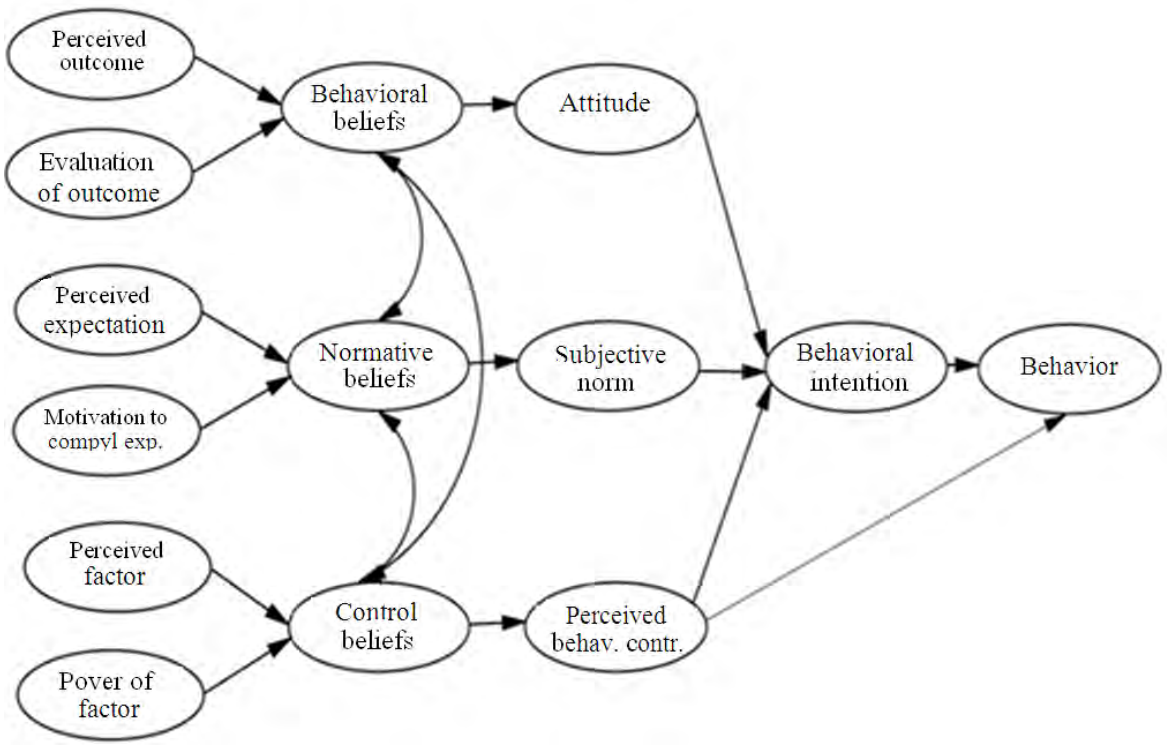

Figure 1: Theory of Planned Behavior (Adapted according to Ajzen, 2005).

Attitude towards behavior, subjective norm, and perceived behavior control are the main components that constitute the first part of the theory. The effect of these components over behavior varies according to the individual and the characteristics of behavior. Belief dimensions, which constitute the second part of the theory, also point to the fact that TPB is at the same time an "Expectation-Value Theory" (Frey et al., 1993). According to this theory, each variant in the beliefs dimension is composed of 2 sub-dimensions which can be considered as expectation and value, and they are evaluated according to the answers given in these sub-dimensions (Ajzen & Fishbein, 2008; Gagne & Godin, 2000).

Behavioral beliefs are determined based on the individual's predictions about the outcome of the behavior and how he/she evaluates this outcome.

Normative beliefs are the intersection of the expectation of people who are significant to the individual and his or her desire to meet these expectations.

Control beliefs are determined based on the individual's prediction of his/her internal (skill, knowledge, etc.) or external (money, time, etc.) proficiency to realize a certain behavior and his/her belief whether this behavior will facilitate or complicate a behavior.

Beliefs that form the cognitive and affective bases of attitude, subjective norm, and PBC play a central role in TPB. On the basis of beliefs there are effects of such variants as emotions, personal characteristics, intelligence, value, age, gender, education, knowledge, experience, income level, and ethnicity (Ajzen, 2005). Therefore, beliefs can vary from one individual to another, even within the same individual. If, for example, an individual thinks there are both positive and negative outcomes of a behavior, that person can experience indecisiveness in his/her attitude towards that behavior. Thus, internal consistency of belief dimensions is not required in scales that are designed via TPB (Ajzen, 2002).

In this study, it is aimed to identify the factors affecting students' smoking behaviors, to describe the relationship between these factors in detail and to support the qualitative research results. For this purpose, smoking behavior of secondary school students was examined within the frame of Planned Behavior Theory, and as such, the following questions were tried to be answered:

1. What are the students' intentions toward smoking?
2. What are the behavioral beliefs that explain students' attitudes toward smoking?
3. What are the normative beliefs that explain students' subjective norms towards smoking?
4. What are the control beliefs that explain students' perceived behavior control towards smoking?
5. Which factor (attitude towards behavior, subjective norm, perceived behavior control) affect students' intentions to smoke the most?
6. To what extent do students' intentions and perceived behavior control explain their smoking behavior?

Methodology of Research

The study is a quantitative one, and data were gathered via "Questionnaire Aiming to Explain Students' Smoking Behavior" designed by the researchers (Kilic & Yaman Kasap, 2014) during the 2013-2014 academic year.

Sample of Research

Sample of research consists of 3783 secondary school students enrolled at different schools in Ankara. Students are between 14 and 19, and the average of age is 16. 51.7% of these students are female, while 48.3% are male. 1207 of these students (31.9%) attend 9th grade, 856 of them (22.6%) attend 10th grade, 1037 of them (27.4%) attend 11th grade, and 683 of them (18.1%) attend 12th grade. 2244 of the students (59.3%) indicated that there is/are smoker(s) in the family, and 1476 of them (39%) said there are no smokers in their family. Moreover, 3062 students (80.9%) stated they do not smoke, and 721 students (19.1%) stated they do. For those who stated that they smoke, the duration of their being smokers varies between 1 month and 12 years.

Data Collection and Instrument

In the study, "Questionnaire Aiming to Explain Students' Smoking Behavior" which was developed by the researchers in accordance with Theory of Planned Behavior (Ajzen, 2005) (Kilic & Yaman Kasap, 2014), was used. The questionnaire consists of an introduction, which has questions related to demographic information, and 7-likert-type scales all of which are the main components of TPB, namely, Attitude Toward Behavior (7 items), Subjective Norm (2 items), Perceived Behavior Control (3 items), and their sub-components, namely, Behavioral Beliefs (14 items), Normative Beliefs (9 items), and Control Beliefs (13 items). In accordance with the recommendation of the Ajzen (2002), it was preferred to use 7- likert-type scales. Moreover, there is an item each to determine the students' smoking intentions and smoking behavior.

As stated before, Theory of Planned Behavior, at the same time an Expectations-Value Theory (Frey et al., 1993); in other words, for each dimension, first the existing expectation's perception and then the importance of this expectation for the individual, is interrogated. Taking this into consideration, before moving onto analyses, data to be used in the study was obtained by multiplying the digits corresponding to the answers given to items in the beliefs section. For example, with the item "if I smoke, my skill will wrinkle" in the beliefs dimension, students' views on the result of the behavior, and with the question "How important is it for you to have wrinkles on your face" importance of the results were determined. In the analysis section, the value obtained by the multiplication of the answers to these questions was treated as a single item. Thus, the values of the items in the beliefs dimensions took values varying between 1 (1x1) and 49 (7x7). The articles in the questionnaire were designed in accordance with the theoretical basis of the Theory of Planned Behavior (Ajzen, 2005). Taking into consideration the directions for article development in the theory, it was assumed that the articles are effective and sufficient in measuring the sub-variables of the theory.

Data Analysis

Using AMOS18, a structural equation model was developed in order to see to what extent and how the dimensions in the questionnaire explain smoking behavior. Given the fact that the study has a big sample, the following information in literature were used as reference for the model's appropriateness test: Schermellel-Engel et al (2003) determined that the fact that Root Mean Square Error Approximation (RMSEA) in the appropriateness

tests of the model is smaller than 0.08, the fact that Standardized Root Mean Square Residual (SRMR) is bigger than 0.10, and the fact that Comparative Fit Index (CFI) is bigger than .90 are all acceptable consistency criteria. Moreover, the fact that Non-Normed Fit Index (NNFI, or Tucker-Lewis-TLI) is bigger than .90 was taken to be an acceptable criterion (Tucker & Lewis, 1973). In the evaluation of regression coefficients in the models, criteria suggested by Ajzen and Fishbein (1980) were taken into consideration. According to this, 0-0.3 was evaluated to be a weak regression coefficient, 0.3-0.5 a moderate regression coefficient, and 0.5 and over was considered to be a high regression coefficient.

Results of Research

It was determined that 3062 of the students do not smoke, and 721 of them smoke in varying degrees. Students were asked as to how they evaluate their possibility to become smokers, and 3062 non-smokers indicated that they have no tendency to start smoking in the future, and 721 smokers indicated, in varying degrees, that they would tend to smoke in the future as well. However, when the average of intentions is taken into consideration, it was seen that generally, students' intention to smoke is rather low (M= 1.64; SD=1.52). Through the model designed by using the data gathered via the questionnaire, hypotheses about the factors affecting students' intention to smoke and their smoking behavior were tested.

At the end of the first analysis, suggested modification indexes were examined, and after making the necessary modifications, the program was rerun and analyzed. At the end of the analysis, it was seen that fix indexes were at acceptable levels and/or above them (RMSEA= .05, SRMR= .08, GFI= .93, CFI= .93, and TLI= .93) (Figure 2).

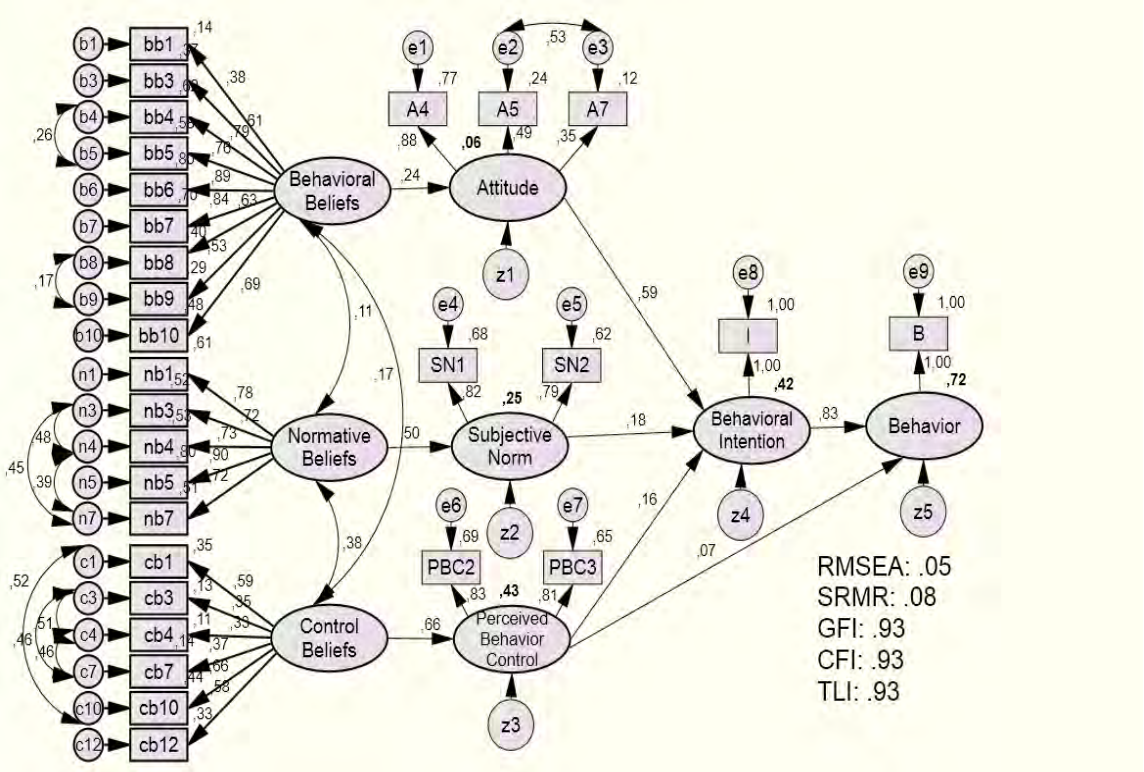

Figure 2: structural equation model for explaining students' smoking behavior (Standardized Analysis Values).

The result obtained from the structural equation model in Figure 2 can be summarized by these regression equalities:

1. Intention Toward Behavior= (A x.59) + (SN x.18) + (PBC x.16)
2. Behavior= (Intention Toward Behavior x.86) + (PBC x.07)

Given this regression equation, it can be said that intention of behavior, which is a dependent variant, is under the influence of attitude, subjective norm, and perceived behavior control, respectively. The difference in attitude by itself explains the differentiation in the intention of the behavior in 35% ($.59^2$), the difference in subjective norm does it in 3,3% ($.18^2$), and the difference in perceived behavior control does it in 2,6% ($.16^2$). When these ratios are examined by taking into consideration Ajzen and Fishbein's (1980) criteria for regression coefficients, the effect of attitude over the intention of the behavior can be considered to be high, the effect of subjective norm can be considered to be moderate, and the effect of the perceived behavior control can be considered to be low. Moreover, that there are positive, meaningful relations as low/moderate between these three main dimensions is another finding of the model (r_1=.11; r_2=.17; r_3=.38). Average and standard deviation values of theses main dimensions and the variants which form these dimensions as well as the factor loads of variants are given in Table 1.

Table 1. Factor loads of variants of the main dimensions in the structural equation model, their average and standard deviation values.

	Factor Load	Average	Standard Deviation
Attitude Toward Behavior *(Average: 2.15; SD:1.56; Explanation percentage R^2=.06)*			
a4. Smoking is relaxing	.88	2.66	2.18
a5. Smoking is bad	.49	6.03	1.88
a7. Smoking is harmful	.35	6.19	1.83
Subjective Norm *(Average:1.5; SD: 1.2; Explanation percentage R^2=.25)*			
SN1. People/Institutions important for me support my smoking.	.82	1.53	1.36
SN2. People/Institutions whose views are important to me expect me to smoke.	.79	1.48	1.30
Perceived Behavior Control *(Average:3.05; SD:2.11; Explanation percentage R^2=.43)*			
PBC2. I can smoke easily whenever I want.	.83	3.06	2.35
PBC3. If I want to smoke, I have the means to do so.	.81	3.04	2.27

When the model is examined, it can be seen that the variant percentage of intention of behavior that is explained by the independent variants attitude, subjective norm, and perceived behavior control is (R^2) .42, in other words, Theory of Planned Behavior explains the students' smoking behavior in 42%. When the second regression equation is examined, it is noteworthy that while the intention in itself explains the differentiation in behavior in 69% ($.83^2$), the effect of perceived behavior control is rather low ($.07^2$= %0.5).

Beliefs dimension, which constitutes the second level of Planned Behavior Theory, is a central part, and it explains the reasons underlying the main dimensions. When the model is examined, it can be seen that variant percentages of the main dimensions – attitude, subjective norm, and perceived behavior control – explained by belief dimensions are 6% ($.24^2$), 25% ($.50^2$), and 43% ($.66^2$), respectively (R^2). Factor loads, average and standard deviation values concerning variants that constitute beliefs dimension are given in Table 2.

Table 2. Factor load, average, and standard deviation values of the ıtems in beliefs dimension.

	Factor Load	Average	Standard Deviation
Behavioral Belief: If I smoke, the following results that I care about take place			
bb1. I have bad breath	.38	39.76	14.16
bb3. My skin gets wrinkles	.61	38.18	15.20
bb4. My risk of having cancer increases.	.79	41.61	13.49
bb5. It may kill me	.76	40.12	14.67
bb6. I suffer from shortness of breath	.89	41.44	13.42

	Factor Load	Average	Standard Deviation
bb7. My teeth get yellow	.84	41.31	13.27
bb8. I have headache	.63	36.39	16.50
bb9. I become an addict	.53	36.18	16.72
bb10. My health worsens	.69	40.52	14.24
Normative Beliefs: People/Institutions I care about expect me/do not expect me to smoke			
nb1. My friends	.78	9.60	11.94
nb3. My parents	.72	6.57	7.39
nb4. Teachers	.73	5.93	7.77
nb5. My girlfriend/boyfriend	.90	7.15	9.37
nb7. My relatives	.72	5.87	7.70
Control Beliefs: The following situations I think I may encounter facilitates/complicate my smoking			
cb1. My financial situation is enough to buy cigarettes	.59	28.13	17.49
cb3. I will get fined if I smoke in certain places	.35	25.06	17.41
cb4. If I smoke, I would face smoking ban at school.	.33	25.01	17.62
cb7. If I smoke, I would face smoking ban indoors.	.37	26.55	17.61
cb10. My allowance is enough to spend money on cigarettes.	.66	24.40	18.05
cb12. There are family members at home who are smokers.	.58	19.13	18.07

Discussion

The structural equation model constructed within the framework of this study explains behavior to a great extent; and it supports Ajzen's (2005) predictions in terms of showing specifically the relationship between intention and behavior. Students' intention to smoke explains their behavior in 72%, which is a significant percentage. Thus, it can be said that it has an appropriate institutional structure to thoroughly examine smoking behavior.

According to the analysis results, the most effective dimension of Theory of Planned Behavior students' tendency to smoke is *attitude*. This is followed by subjective norm and perceived behavior control, respectively. However, it was determined that the effect of subjective norm and perceived behavior control is rather low. The relationship between attitude and behavior has been considered in many studies, and these studies have shown that attitude is not always an important determinant of behavior (Ajzen and Fishbein, 1970; Ajzen and Fishbein, 1977; Eckes and Six, 1994). Since attitude is relatively domain-specific (Muthen, 2001), the effect of the investigated subject and the participants on behavior changes according to their conditions and experience (Regan and Fazio, 1977; Ajzen, 1991). The results obtained in this study put forth that attitude is a determinant factor in students' smoking intention. This shows that students' attitude, in other words, behavioral beliefs should be studied in order to make changes in the students' tendency to smoke, that is to say, in their smoking behavior. It was seen that students' behavioral beliefs focus on the biological effects of smoking. They regard the result of smoking first and foremost in terms of health. "The increase in the risk of getting cancer" (M=41.44) is the most frequently associated result with smoking behavior. Moreover, students are anxious that smoking will cause serious health-related and aesthetic problems such as "suffering from shortness of breath" (M=41.44), "getting yellow teeth" (M=41.33), "deterioration in health" (M=40.52), and "causing death" (M=40.12). It is thought that these anxieties are due to the information about the effects of smoking provided in the media. Indeed, it was seen that prominent expressions in students' behavioral beliefs are those that are mentioned in anti-smoking campaigns.

It is known that knowledge is an important factor that affects attitude (Anderson, 1988, Inceoglu, 1993). Especially, as far as health-related behaviors are concerned, knowledge level plays an important role in determining the attitude and shaping behavior (Gumus Dogan & Ulukol, 2010). Students' smoking behavior is closely related to the extent of their knowledge, of the possible results of their behavior. Those who start smoking at a very early age, especially, are not really aware of the risks attached to smoking, and even when the risks are known, young people are not really capable of really understand this knowledge (Aslan & Ozcebe, 2008). In other words, their

knowledge about the dangers of smoking is at best shallow, and they do need consciousness-raising. The results of the model obtained in this study also indicate that if students have knowledge of the dangers of smoking, they would develop a negative attitude towards smoking. When the effect of attitude over behavior is taken into consideration, this would significantly affect students' smoking behavior.

It was determined that subjective norm has a weak effect on students' intention to smoke. Although the effect of subjective norm is low, it can be said that the views of friends, boyfriends/girlfriends, and parents are at the fore. In other words, students think that these people expect them *not to smoke*. However, the low effect of subjective norm on smoking points to the fact that these expectations do not have an effect on their tendency to smoke. In some studies (Delener, 1995; Ozerkmen, 2004; Ozcebe, 2008), on the other hand, it is shown that parents and immediate family have an important effect on smoking behavior. It is known that social environment is highly influential on the individual's behavior during adolescence which is a period in which there is not only biological but also psychological and mental growth. However, in this study, as opposed to this, it was determined that they effect subjective norm on individuals' intention to smoke and thus their behavior. The results obtained from a qualitative study on young people's smoking behavior, which is designed by the researchers, also support this finding (Acarli & Yaman Kasap, 2014). It is thought that the supporting findings of these two studies are related to such emotions as feeling independent and all grown-up and rebellious, which are all characteristics of adolescence. In other words, as far as students' smoking is concerned, students do not behave in accordance with the expectations of their parents or social environment; their own decisions are more effective.

A dimension that is least effective on students' smoking behavior is perceived behavior control. When the averages of control beliefs are examined, it was determined that students think their financial means and other conditions are suitable for smoking. Among the items that explain students' control beliefs are "having enough financial means to buy cigarettes" (M=28.13), "smoking is banned indoors (M=26.55) and at school (M=25.01), and "the existence of fines for smoking in certain places" (M=25.06). However, findings obtained from the structural equation model show that perceived conditions are not significant decision mechanisms in students' smoking behavior. Research shows that for certain behaviors, Perceived Behavior Control is a dimension that directly affects behavior and that shapes it to a great extent (Bamberg & Schmidt, 1993; Kaiser, Hubner & Bogner, 2005; Kilic & Dervisoglu, 2013; Yaman et al., 2005). However, the direct influence of Perceived Behavior Control over behavior in this study was determined to be rather low. The reasons for this are thought to be the fact that there are many alternatives for a student to access cigarettes which facilitate his/her smoking. Sale of cigarettes one by one instead of in packs, friends offering a cigarette, and fines not being disincentive are some examples of these alternatives. In short, it was concluded that PBC does not have a direct influence on behavior, that those who have a positive attitude toward smoking are most likely to smoke, and that they would display such behavior in spite of the complications they may face.

Conclusions

Study results show that the most determinant dimension for students' smoking behavior is attitude, and that subjective norm and perceived behavior control are not important decision mechanisms for students' smoking behavior.

As a result, smoking behaviors of the individuals in the sample show great parallelism with their attitude toward smoking, and favorable or unfavorable conditions have no decisiveness on behavior. Thus, taking into consideration that attitude is a determinant of the behavior, while preparing programs and preventive measures against smoking is important for getting more effective outcomes. Items related to behavioral beliefs in the model show that when students know the hazardous effects of smoking they will develop a negative attitude toward smoking. Likewise, when the relationships in the model are taken into consideration, it is seen that students with a negative attitude toward smoking will be unlikely to become smokers. Thus, it will be useful to be in cooperation with the media in order for students to have knowledge and develop a negative attitude. Increasing the number of anti-smoking campaigns in the media and providing similar studies in school programs will be effective in preparing students for a smoking-free life. Moreover, it will be useful to assist biology and health-education classes with experiments that concretely see the negative effects of smoking for health, as well as with simulations and animation programs. Having such activities in education programs will increase students' awareness and knowledge of the dangers of smoking, and in return, it will benefit community health care, and thus its functionality. Consequently, study results show the need to take preventive measures and the need to develop programs, targeting students' attitudes.

In addition, why the effect of two variables, which was expected to be effective, especially on students' smoking behavior, is so low in a sample group that consists of high school students, should be the subject of other studies. In addition to the results obtained from the study, the following questions also arose in relation to further studies: why is the effect of subjective norm so low on the students' intention to smoke? In spite of various legal measures (e.g., increased taxes, prohibiting smoking indoors, etc.), why is the effect of perceived behavior control so low on high school students' intention to smoke? Seeking answers to these questions in further studies is important in order to use these variables as support in preventive programs which are to be developed to prevent smoking behavior.

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Dilek Sultan Acarli
(Corresponding author)
PhD., Hacettepe University, Faculty of Education, Department of Secondary Science and Mathematics Education, Biology Education Programmes, 06800 Beytepe/ Ankara, Turkey.
Fax: +90 312 297 86 00.
E-mail: dsultan@hacettepe.edu.tr
Website: http://www.beabd.hacettepe.edu.tr/

Melek Yaman Kasap
PhD., Professor, Hacettepe University, Faculty of Education, Department of Secondary Science and Mathematics Education, Biology Education Programmes, 06800 Beytepe, Ankara, Turkey.
Fax: +90 312 297 86 00.
E-mail: myaman@hacettepe.edu.tr
Website: http://www.beabd.hacettepe.edu.tr/