

Public Health and Psychology

Smoking Behavior Prevention in Adolescents

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This research paper seeks to address a major social problem among Georgian youth, tobacco use.

The tobacco epidemic is one of the most important and urgent public health challenges facing governments and civil societies around the world. The cycle of tobacco dependence typically begins with the initiation of tobacco use during adolescence. The average age of tobacco use is age before 20; people start smoking before 20 years of age. This research was based on the Unified Theory of Behavior Change. A unified theory of adolescent risk behavior was explicated that integrates five major theories of human behavior. The theory emphasizes intentions to perform behaviors, knowledge and skills necessary for behavioral performance, the salience of the behavior, environmental constraints and facilitators, habit and automatic processes, expectancies, social norms, self concept and image considerations, self efficacy and emotions and affective reactions. Data were collected from 300 adolescents from Georgian schools in Tbilisi, Georgia. Results were calculated using SPSS.

According to research conducted in 2014 year, from 300 adolescent respondents 100 female and 200 male, 70 percent of male adolescents and 40 percent of female adolescents smoke. The adolescent smoking rate remains unacceptably high. This research shows that 40% of respondents, both smokers and non-smokers think that those who smoke cigarettes will smoke marijuana too and also, as research has shown, 37% of cigarette smokers smoke marijuana regularly, several times in a week. This data gives us a strong argument to say that smoking cigarettes may lead to drug addiction and that cigarette smoking itself can increase the rate of cancer and various illnesses among adolescents. The social and health consequences of adolescent tobacco use have been well documented in Georgia. In 1997, 1100 smokers had lung cancer; 1300 – other types of cancer, 9000- bronchitis; 13000 –respiratory diseases, and 105.000- heart diseases. In 1998, 800 people died because of smoking, which accounts 21% of all deaths. The Unified Theory offered by the American National Institute of Mental Health seeks to determine reasons why adolescents begin to smoke. This data then will be used to help devise messages and create strategies to reduce the number of adolescent smokers, and thus reduce mortality and cancer rates among adolescents.

The Unified Theory of Behavior

The National Institute of Mental Health (NIMH) sponsored a workshop to develop a common theory. The core variables of the model are organized into two sequences. The first sequence focuses on the immediate determinants of behavior and is illustrated in Figure 1. Behavior is influenced by five core variables. First, an individual must intend to or be willing to perform the behavior for the behavior to occur. Unless the individual intends to enact the behavior or is willing to do so, it is unlikely that they will actually perform the behavior. There is a large empirical literature that supports the idea that a person's intention to perform a behavior is a strong predictor of future behavior (Ajzen, 2009). Despite the above-mentioned claim, it is not always the case that an individual's intention to perform a behavior translates into the behavior. Sometimes people do not do what they intend to do. The other components of the theory in Figure 1 are intended to account for this.

According to Figure 1, in order for a person's intention to translate into behavior, the individual must have the requisite knowledge and skills to enact the behavior. Even if one has decided to perform a behavior, if the individual does not possess the ability and skills to do so, then behavioral performance will not result. Second, there must be no environmental constraints that render behavioral performance impossible. To the extent that there are environmental facilitators as opposed to inhibitors present, then the intention will be that much more likely to translate into behavior. Third, the behavior must be salient to the individual so that the person does not forget to enact it. For example, many people intend to take their medications on a given day, but simply forget to do so. Finally, habitual and automatic processes may influence behavior. For example, by force of habit, a person might drive the same route to work even though he or she intended to drive a new route.

These five variables interact in complex ways to determine behavior. In general, a positive behavioral intention is a necessary but not sufficient condition for behavioral performance to occur. Behavior is most likely to occur when each of the variables coalesce toward behavioral performance.

The second aspect of the framework focuses on the determinants of an individual's willingness, intention, or decision to perform a behavior. There are five major factors that serve as the immediate psychological determinants of one's decision to perform a behavior and these are illustrated in Figure 2. The focus of the present research is on the constructs in this Figure, so we discuss each in turn.

Beliefs and Expectancies.

Beliefs and expectancies refer to an adolescent's perceived advantages and disadvantages of performing the behavior in question. Any given perceived advantage or disadvantage has two components. First, there is an *expectancy*, which refers to how likely the individual thinks it is that performing the behavior will, in fact, lead to the advantage or disadvantage in question. The second component is an *outcome evaluation*. This refers to how positive or negative the advantage or disadvantage is perceived as being. Adolescents perceive multiple advantages and

disadvantages of performing a behavior. For each of the consequences potentially associated with a behavior, there is expectancy and an outcome evaluation for each. The decision or intention to engage in a behavior will be some function of these multiple expectancies and outcome evaluations (Ajzen, 2009).

Psychologists and decision theorists are in disagreement about the nature of the function relating expectancies and outcome evaluations to behavioral decisions. As a general rule, individuals will be more likely to decide to perform a behavior if they perceive it as definitely leading to highly positive consequences and definitely not leading to negative consequences. Individuals will be less likely to decide to perform a behavior if they perceive it as definitely leading to highly negative consequences and definitely not leading to positive consequences (Ajzen, 2009).

Social Norms

A second class of variables relevant to the analysis of behavioral intentions is social norms. Two types of normative influence can contribute to social pressures to perform a behavior, injunctive norms and descriptive norms (Cialdini, 2003). Injunctive norms encompass perceptions of behavioral approval or disapproval of different referents, such as one's mother, one's father, or one's boyfriend or girlfriend. For a given behavior, there are multiple referents who may be salient to the adolescent and these referents can have conflicting opinions. The overall normative pressure to perform the behavior is some function of these differing opinions.

The second type of normative influence, descriptive norms, refers to perceptions of how many of one's peers are performing the behavior. Rather than focusing on approval/disapproval, descriptive norms focus on perceived behavioral base rates (e.g., most of my friends are smoking). There are different base rates for different referent groups. For example, the perceived base rate for one's circle of friends might differ from the perceived base rate for peers in one's grade at school. The overall base rate factor, BRF, is represented by a combination of these multiple base rates. The psychological literature on base rates is complex: Sometimes higher perceived base rates lead to increases in

behavioral intent, and sometimes lower base rates do. A useful theory for understanding the impact of base rates on behavior is Deviance Regulation Theory (Blanton, 2001). Despite this complexity, numerous studies have implicated the potential importance of perceived behavioral base rates and these have been found to be only slightly to moderately correlated with measures of injunctive norms.

Self Efficacy

A third class of variables relevant to behavioral decisions is that of self efficacy, or the extent to which adolescents feel they can be successful at performing the behavior if they decide to try (Ajzen, 2009). The primary determinants of a global judgment of self-efficacy are perceptions of the obstacles that impede behavioral performance and one's judged ability to overcome those obstacles. Individuals may perceive multiple obstacles. Associated with each obstacle is a belief that the obstacle can be overcome. The overall judged self-efficacy is some combination of these perceptions. In general, people will be less likely to decide to perform a behavior if they do not think they have the ability or means to do so.

Self Concept

Adolescents tend to be concerned about the images that they project to others. Adolescence also is a time when youth are actively involved in identity formation. Adolescents want to carve out and transition to an adult identity that they can embrace and that is positively viewed by others. We conceptualize self-concept and image based considerations using the framework of social prototypes (Myers, 2012). Social prototypes refer to images that individuals have of the kind of person who performs the behavior in question (e.g., the image of the kind of person who smokes). Of interest is how positively or negatively this image is perceived as being. In general, the more positive the image is perceived as being, the more likely it is the adolescent will perform the behavior.

The impact of image positivity of the prototype should be qualified by the adolescent's self esteem. The lower the self esteem of adolescents, the more they will be motivated to enhance their image by performing a behavior that projects a positive image. Thus, we predict an interaction between self esteem and the perceived positiveness of the image projected by the behavior in question: As self esteem decreases, the impact of perceived image positivity on decisions to perform the behavior should increase. (Myers, 2012)

Affect and Emotions

The important role that emotions have on adolescent decision making has become increasingly recognized in recent years (Myers, 2012). Whereas many of the previous variables are cognitive-based, this class of variables emphasizes the affective aspects of behavioral decisions. Emotions typically are viewed as constructs distinct from mood states and more stable affective conditions, such as depression. Emotions tend to be more intense and more short-lived. Many theories of emotion emphasize two core facets, the degree of arousal and the affective direction of that arousal, positive or negative (Myers, 2012). In general, individuals who have a strong negative emotional reaction to performing a behavior will be less inclined to do so and those who have a strong positive emotional reaction to performing a behavior will be more inclined to do so (Niedenthal, 2006).

In sum, how do adolescents decide to perform a behavior? According to Figure 2, they do one or more of the following: (1) they think about the advantages and disadvantages of performing the behavior; (b) they consider the normative pressures to perform the behavior, including whether important others approve or disapprove of their actions as well what their peers are doing; (c) they take into account their ability to perform the behavior and the obstacles that may impede behavioral performance; (d) they consider the social images they will project if they perform the behavior; and (e) they consider how the behavior "feels" to them emotionally and affectively. Not all of these factors are considered for all decisions. Sometimes only a subset of them are taken into account. Some decisions are driven solely by emotions, others solely by what

important others think the adolescent should do, or various combinations of one or more of the factors. Nor are adolescents viewed as deliberately and thoughtfully considering the above factors each time they are faced with a choice. Rather, somewhat crude, psychological summaries of these constructs reside in memory that can be activated instantly and without conscious thought.

Even if an adolescent makes a decision to perform a behavior, the decision will not necessarily translate into behavior. Using Figure 1, whether the decision translates into the behavior depends on (f) whether the adolescent has the knowledge, skills and abilities to perform the behavior, (g) the environmental constraints and facilitators operating to impede or facilitate behavioral performance, (h) the salience of the behavior to the adolescent and the behavioral cues to action and (i) habit strength and automatic processes.

Generalized versus Situation Specific Influences

When an adolescent is considering smoking, there are a set of generalized perceptions that impact the action the adolescent decides to take and there are situation-specific perceptions that augment or alter these generalized perceptions. For example, an adolescent may, in general, be negatively disposed toward smoking, but the specific situation in which she finds herself may lessen that disposition somewhat by her seeing situation-specific advantages of performing the behavior. The “generalized” perceptions the adolescent brings to a situation derive from previous experiences in similar situations, observational learning, and information from peers and other sources. Such perceptions can be readily targeted by behavioral interventions. The situation-specific perceptions are more difficult to impact because they tend to be idiosyncratic to each situation. The variables in Figures 1 and 2 can be thought of as having both a general, relatively stable component as well as a more transitory, situation-specific component. Ideally, one can address both when trying to predict and understand behavior, although often it is only possible to assess generalized perceptions. Generalized perceptions are important because they can be

readily targeted in intervention programs and can exert considerable influence on behavior. The present research focuses on such perceptions.

Method

Quantitative research methods, namely direct interviews technique was used for research on Georgian adolescents.

Respondents

The respondents included 300 adolescents recruited from grades 10 and 11 from six different middle schools in Tbilisi, Georgia. 100 of them were female and 200 were male.

Measures

Measures were collected using questionnaires. The content of the measures was based on a pilot study of 83 adolescents representative of those in the main study. The pilot study adolescents were interviewed with open-ended questions. It encompasses both qualitative and quantitative research.

Behavioral Intentions

Behavioral intentions to smoke were assessed based on responses to three statements, each using a five point agree-disagree scale. The items were (1) I think I am ready to smoke, (2) I would smoke now if I had opportunity, and (3) I plan on smoking in the next six months. The scale metric was 1 = strongly disagree, 2 = moderately disagree, 3 = neither agree nor disagree, 4 = moderately agree and 5 = strongly agree.

Expectancies

Adolescents responded to statements using the same 5 point agree-disagree scale. Example items include (1) If I smoke at this time in my life, I would feel more "grown up," (2) If I smoke at this time in my life, I would be more popular, (3) If I smoke at this time in my life, it would be morally wrong, (4) If I smoke at this time in my life, it would interfere with school, and (5) If I smoke at this time in my life, it would harm my health.

Social Norms

To assess descriptive norms (base rates), respondents were asked to name how many same sex close friends they had and then to estimate how many of these friends were smoking. From these answers, the proportion of close friends who had smoked was computed. If a respondent reported having no close friends, the proportion was set to zero. Injunctive norms were assessed by asking respondents to rate how strongly specific referents would approve or disapprove of them smoking at this time in their life, using a five point scale from 1 = strongly disapprove, 2 = moderately disapprove, 3 = neither, 4 = moderately approve and 5 = strongly approve. The referents were (1) mother, (2) father, (3) friends, (4) best friend, (5) boyfriend or girlfriend, and (6) a relative other than one's parents. If a referent was not relevant (e.g., father, boyfriend/girlfriend), the respondent was instructed to skip the item.

Self Concept

The prototype of an adolescent who smokes was assessed by asking respondents to indicate their agreement or disagreement (on a five point scale) with statements about "girls" (or "boys" in the case of male respondents) who smoke. The statements were (1) Girls who smoke are confused about what is right and wrong, (2) Girls who smoke are popular with other girls, (3) Girls who smoke are popular with the boys, (4) Girls who smoke are more "adult" than other girls, and (5) Girls who smoke are irresponsible. An overall evaluation of the prototype was

obtained by asking respondents to respond to the following item on a five point negative to positive scale: “Overall, my impression of girls who smoke is....”

Self esteem was measured using a short version of the classic Rosenberg self esteem scale. Rosenberg (1965) reported a test-retest reliability coefficient equal to 0.93, while Fleming and Courtney (1984) report a test-retest correlation of 0.82 and a coefficient alpha of 0.88. Convergent and predictive validity of the Rosenberg measure of self-esteem has been reported by Baker and Gallant (1984) and by Demo (1985). We identified five items for use in a short form version. They are (1) On the whole, I am satisfied with myself; (2) All in all, I am inclined to feel that I am a failure; (3) At times I think I am no good at all; (4) I certainly feel useless at times; and (5) I take a positive attitude toward myself.

Self Efficacy

Self efficacy was measured using three items, each responded to on a five point agree-disagree scale: (1) It would be easy for me to smoke if I wanted to, (2) If my friend was pressuring me to smoke, it would be easy for me to say no.

Affect and Emotion

Four emotional reactions were assessed, each using a five point agree-disagree scale: (1) When I think about smoking, I feel scared, (2) When I think about smoking, I feel nervous, (3) When I think about smoking, I feel happy, and (4) The thought of smoking cigarettes is disgusting.

Results

Results were obtained using descriptive statistics and regression analysis. In Georgia, 70 percent of male adolescents and 40 percent of female adolescents smoke. Among the factors reviewed in our research, the highest correlation has been observed between smoking behavior and self-efficacy. This means that adolescents get cigarettes whenever

they want. It was also observed that there is a high correlation between smoking and adolescent expectancy that cigarettes serve as a means to enjoy and achieve a certain level of popularity. Finally, it was also found that adolescents do not think that smoking will seriously harm their health.

The regression analysis delivered the following picture:

Factors	Regression Analysis		
Attitude	-0.301	Behavior Intention	.633 Behavior
Self-efficacy	0.192		
Popularity	.354		
Lung Disease	-.185		
Means to enjoy	.418		

References

- Ajzen, I., & Fishbein, M. (2009). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.
- Bandura, A. (1975). *Social learning theory*. Englewood Cliffs, N.J: Prentice Hall.
- Blanton, H., Stuart, A. E., & Vandeneijnden, R. J. J. M. (January 01, 2001). An Introduction to Deviance-Regulation Theory: The Effect of Behavioral Norms on Message Framing. *Personality and Social Psychology Bulletin*, 27, 7, 848-858.
- Cialdini, R. (2003). *Influence: Science and practice*. Boston: Allyn & Bacon.
- Myers, D. G., Spencer, S. J., & Jordan, C. H. (2012). *Social psychology*. Toronto: McGraw-Hill Ryerson.
- Niedenthal, P. M., Krauth-Gruber, S., & Ric, F. (2006). Psychology of emotion: Interpersonal, experiential, and cognitive approaches. New York : Psychology Press.

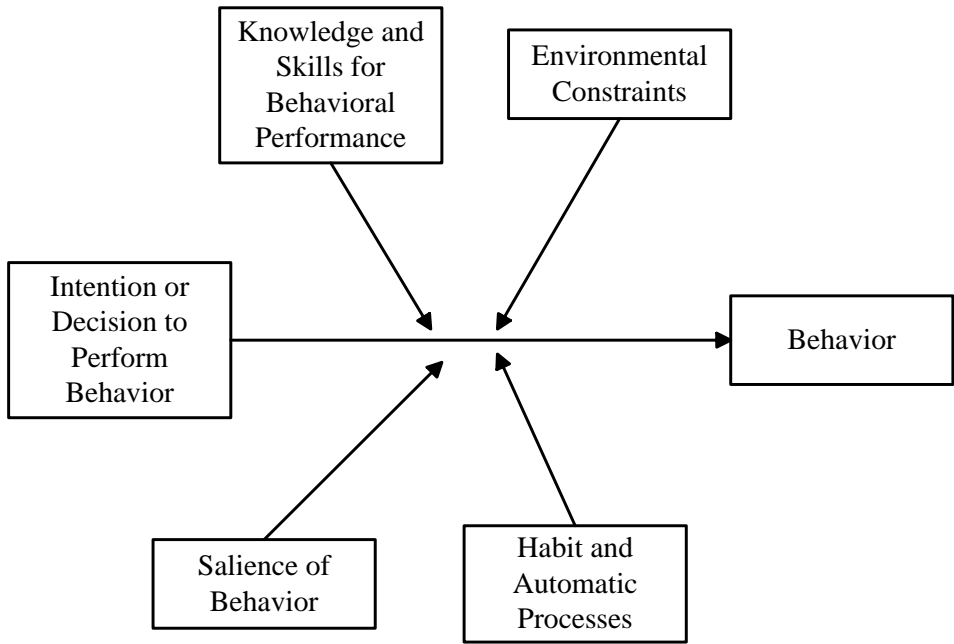


Figure 1

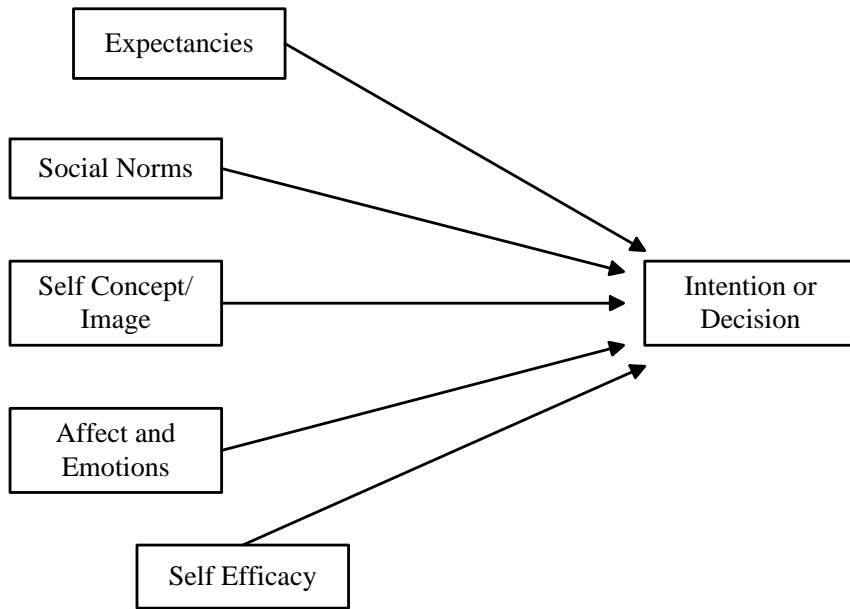


Figure 2