

RESEARCH ARTICLE

Effects of Self-Concept Levels and Perceived Academic Achievements of Turkish Students on Smoking Perceptions

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Abstract

Background: The objective of this study was to examine the effect of self-concept levels and perceived academic achievements of sixth, seventh and eighth grade primary school students upon their perceptions about smoking. **Method:** The data were collected with the Socio-Demographic Data Collection Form, Pier-Herris Self-Concept scale and Children's Decision Balance Scale. The study sample consisted of 374 students receiving education in the sixth, seventh and eighth grades of three primary schools, which were selected among primary schools of Izmir Provincial Directorate for National Education representing three socio-economic groups with a simple random sampling method. The data were collected in December 2012-January 2013. Percentages and the t test were used in the evaluation of the data. **Results:** While students with a positive self-concept had score averages of 7.12 ± 2.18 regarding the lower dimension of smoking pros and 29.0 ± 2.47 regarding the lower dimension of smoking cons, their counterparts with a negative self-concept had score averages of 8.61 ± 3.76 ($p=0.000$) and 28.1 ± 3.49 ($p=0.004$), respectively. According to self-perception, there was statistical difference between perceptions of students regarding smoking ($p<0.01$). While students perceiving themselves successful had score averages of 7.81 ± 3.13 and 28.5 ± 3.19 regarding the lower dimension of smoking benefit and harm, students perceiving themselves unsuccessful had score averages of 8.27 ± 3.39 ($p=0.333$) and 29.01 ± 2.05 ($p=0.235$), with no difference determined. **Conclusion:** Students with a positive self-perception had a low perception of smoking pros and a high perception of smoking cons. Perception of academic achievement did not affect the pros and cons perceptions of children regarding smoking.

Keywords: Self-concept - smoking - perception of academic achievement - smoking pros and cons perception

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Introduction

Being a very common addiction type, smoking is among the major public health problems of the world due to the negative effects of substances within the tobacco and its smoke upon the human health (Framework Convention on Tobacco Control, 2008; WHO, 2013).

Even though the spreading speed of smoking partially started to decelerate together with the decision of the General Assembly of the World Health Organization (WHO) concerning "smoking is harmful to health" in 1970, smoking is still one of the most important health problems in the world (Akdur, 2009; Bilir, 2009). Today, smoking is held responsible for the death of 6 million people and an economic loss of more than half trillion dollars worldwide every year. Besides, smoking is a risk factor for six out of eight diseases that cause the greatest rate of death worldwide. Majority of these diseases and deaths (86%) are encountered in developing countries like Turkey (WHO, 2013). If the present tendency of smoking continues without an intervention, it is estimated that it will cause the death of 1 billion people in this century, the

death rate will exceed 8 million in 2030 and 80% of these deaths will be encountered in developing countries like Turkey (WHO, 2011; 2013). In case that the consumption rates of cigarettes decrease at a rate of 50% worldwide, the death of at least 200 million people caused by smoking will be prevented until 2050 (Framework Convention on Tobacco Control, 2008). In Turkey, on the other hand, approximately 100 thousand people lose their life due to diseases caused by smoking every year (Activity Report of the Ministry of Health, 2012).

Over 16 million people still smoke in Turkey (Activity Report of the Ministry of Health, 2012). Turkey is ranked as the third in Europe and seventh in the world in terms of the consumption of tobacco (Activity Report of the Ministry of Health, 2012). Considering the state of daily smoking according to countries, Turkey is ranked as the 9th with a rate of 25.4% (Annual Statistic of the Ministry of Health, 2012). These rates show the significance of the problem of smoking for Turkey (Annual Statistic of the Ministry of Health, 2012).

There are several main reasons for the increase of its prevalence in the world and in Turkey. Among

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these reasons, the most important one is that the age to start smoking has inclined to decrease in the last fourty years. Young people who start smoking at an early age have a high possibility of smoking regularly and a low possibility of smoking cessation (Ministry of Health, 2013). According to the report of Health Research 2010, 27.1% of men and 6.1% of women in the age group of 15-24 are smoke consumers in Turkey (Youth with Statistics, 2012). The studies show that as the age of students to start smoking decreases or the duration of smoking increases, the amount of cigarettes being consumed in a day increases and boys smoke at a greater rate than girls (Celik et al., 2000; Goksel et al., 2001). Thus, it is very important to decrease the rates of children to try and use cigarettes. The most efficient method in decreasing these rates is to bring positive health behaviors and determine the factors affecting the rate of starting to smoke (Oztürk and Amstron, 2010).

Personality traits are emphasized to be among the important factors in controlling negative behaviours like smoking. These traits shape the expectations, beliefs, goals and behaviors of the individual. Among these traits, self-concept is the primary one (Bandura, 1989 ; Bandura, 1998). It has been determined that children with a positive self-concept are more successful in school and display better health behaviors. Self-concept and sense of achievement are emphasized to be important in displaying positive health behaviors (Bandura, 1989; 1998; Bektaş and Ark, 2002). The studies being conducted also emphasize that self-concept and school achievement affect smoking and indicate that the rate of smoking decreases as the school achievement and self-perception increase (Bewley and Bland, 1977; Bryant et al., 2000; Townsend et al., 2007; Henry and Huizinga, 2007; Pennanen et al., 2011).

Another important factor affecting the rate of children to use/try smoking as much as self-concept and sense of achievement is the benefit/harm perceptions regarding smoking (Bektaş et al., 2010). A high benefit perception regarding smoking enables children to start smoking and continue this habit in the future (Plummer et al., 2001; Chen et al., 2006; 2008). It is observed that self-concept and achievement perceptions of children might affect the rate of smoking and while there is a limited number of studies in literature regarding how the self-concept and perceived academic achievement affect their perceptions about smoking, (Bektaş et al., 2010), there is no study on this subject in Turkey.

This study was conducted to determine how the self-perceptions and perceived academic achievements of children affect the benefit and harm perceptions regarding smoking.

Materials and Methods

Aim

This study was planned in a descriptive and cross-sectional way to examine the self-concepts and academic achievement perceptions of the sixth, seventh and eighth grade primary school students upon the pros/cons perceptions regarding smoking.

Sample

The study was conducted in three primary schools of İzmir Provincial Directorate for National Education in December 2012-January 2013. Population consisted of primary schools of İzmir Provincial Directorate for National Education. 173 students in a primary school with a moderate socio-economic level, 389 students in a primary school with a high socio-economic level and 495 students in a primary school with a lower socio-economic level in the sixth, seventh and eighth grade, who were selected with the simple random sampling method among primary schools of İzmir Provincial Directorate for National Education representing the upper-middle and lower-economic group, comprised the population.

The number of samples was determined as at least 60 students by accepting the Type I error as 0.05 and Type II error as 0.20 (80% power) in the NCSS-PASS program based on the study score averages of Bektaş and Oztürk (2002; 2009). Since the calculated number of samples would remain incapable in revealing the relation between variables, the sample consisted of totally 300 students in two sections that were selected randomly from the sixth, seventh and eighth grades of each school.

Children who accepted to voluntarily participate in the study, had parent's consent, were fluent in reading/ learning and present at school on the day of the study were involved in the study. 374 students matching the study criteria comprised the study sample. The rate of reaching the sample was calculated as 72.9%. Regarding the reasons for not being involved in the sample, 17.1% of children respectively stated as the absence of parent's consent form, absence of the student at school on the day of the study, presence of students who did not want to participate in the study and filling some forms deficiently.

Study variables

Independent variables of the study involve the self-concept and perceived academic achievement levels of students. Dependent variables, on the other hand, involve the benefit and harm perceptions of students regarding smoking.

Data collection tools

Socio-demographic data collection form: it involves questions about the age, gender, grade, school, perceived academic achievement, smoking trials of children, as well as smoking states of family members and educational status of parents.

Piers-Harris self-concept scale: Piers-Harris Self-Concept Scale was developed by Piers and Harris in 1969. The original name of the scale is "Piers-Harris Children's Self-Concept Scale". The scale was tested in terms of validity and reliability by Çataklı and Oner (1986) in Turkey (Oner, 1996). The scale could be performed on individuals aged 9-20. It is an easy test to answer, which could be applied by the individual. The scale involves 80 questions. It is required to answer either "yes" or "no" for each question. While the highest score to be obtained from the scale is 80, the lowest score is 0. While the high score being obtained from the scale shows that individuals have positive thoughts and emotions for themselves, low

score shows the opposite. The scale that is performed on primary school students with intervals of two and four months has a constancy coefficient of 0.77. The standard error of the scale is 0.77; however it was determined as 6.0 when constancy coefficient was used. Internal consistency being determined with the alpha correlation of the Kuder-Richardson 20 formula is 0.87 (Oner, 1997). Perceived achievement levels of children were used to determine the break point in the process of separating the self-perception of children as positive and negative.

Children's decision balance scale: the original Decision Balance Scale (DBS) was developed by Velicer, DiClemente, Prochaska and Brandenburg in 1985 as 24 items in order to evaluate the perceptions of adults about the harms and benefits of smoking. Children's DBS was developed by Pallonen, Prochaska, Velicer, Prokhorov and Smith in 1998 as 12 items based on the adult scale. Children's DBS consists of 12 items about the benefits and harms of smoking as the subscale of benefit involving six items and the subscale of harm involving six items. It is a likert scale that is scored between 1 and 5. Regarding the scale scoring, the answer "No" is given one (1) point, "Very little" two (2) points, "Sometimes" three (3) points, "Usually" four (4) points and "Yes" five (5) points. Score distribution of the lower dimensions of harm and benefit in Children's DBS varies between 6-30. The scale has no total score and each subscale is graded within themselves. Velicer (1985) determined the Cronbach alpha value as 0.87 for the lower dimension of harm and 0.90 for the lower dimension of benefit in Children's DBS. The scale was tested in terms of validity and reliability by Bektaş, Öztürk and Armstrong (2010) in Turkey with students (n:292) having an age average of 11.9 ± 1.67 in the fourth, fifth, sixth, seventh and eighth grades and the internal consistency analysis was determined as $\alpha=0.74$ in the lower dimension of benefit and $\alpha=0.78$ in the lower dimension of harm. Test-retest reliability of Children's DBS Form was determined as 0.85 for the lower dimension of benefit and 0.70 for the lower dimension of harm. Regarding the total item scores of the lower dimensions of Children's DBS, a statistically significant relation was determined between 53-0.74 for the correlation coefficients of the lower dimension of benefit (Pearson Product-Moment Correlation) and 0.57-0.74 for the lower dimension of harm. Opinions of eight experts were received for the content validity and a coherence was determined between experts (Kendall $W=0.220$ $p=0.167$). The scale was also tested in terms of language validity. Two factors explained 50% of the total variance. Factor loads of DBS varied between 0.31-0.79 for the lower dimension of benefit and 0.39-0.69 for the lower dimension of harm. Fit indexes of DBS are RMSA 0.076, GIF 0.93, NIF 0.90, CFI 0.93 and IFI 0.93. Children's DBS Scale was applied to determine the benefit-harm perceptions of children regarding smoking.

The study data were collected by researchers through distributing forms to students, who had permissions from both the Ministry of National Education and their parents, accepted to voluntarily participate in the study and knew how to read-write in the classroom, which was applied in each class for a duration of one course. Before

filling the scales, students were explained about the scales by researchers. Students were asked not to write any information about the identities of forms so that they could answer the scales confidently. Students were informed that answers in the scales would not be seen by families and teachers. Completed forms were collected by researchers.

Evaluation of the data

The data were evaluated by using the percentage calculations, mean and significance test for the difference between two averages. Significance level was determined as 0.01.

Ethical dimension of the study

In order to conduct the study, an ethical committee permission was obtained from the Evaluation Commission Presidency of Dokuz Eylül University Non-Invasive Clinical Researches with the decision number 2012/21-25 dated 07.06.2012 and protocol numbered 611-GOA. Following the obtainment of the ethical committee permission, another permission was obtained from İzmir Provincial Directorate for National Education to conduct the study. Written consents of parents and verbal consents of children were received to enable the children to participate in the study.

Results

Regarding students who participated in the study, 33.5% (n=125) are sixth graders, 35.8% (n=134) seventh graders and 30.7% (n=115) eighth graders. While 54.8% (n=205) of students are female, 45.2% (n=169) are male and they have an age average of 12.9 ± 0.9 . Regarding mothers, 38.2% (n=143) are primary school, 20.1% (n=75) secondary school, 29.7% (n=111) high school and 12% (n=45) university graduates. Regarding fathers, 23.5% (n=88) are primary school, 26.2% (n=98) secondary school, 30.5% (n=114) high school and 19.8% (n=74) university graduates. 31.8% (n=119) of mothers, 51.6% (n=193) of fathers and 10.4% (n=39) of siblings/brothers-sisters smoke. 2.9% (n=11) of children who participated in the study smoke. While 86.1% (n=322) of students perceive themselves academically successful, 96.8% (n=362) state that smoking is more frequent in unsuccessful children.

Table 1 shows the comparison between the score averages of the lower dimensions of smoking benefit and harm according to the self-concept perceptions of students. While students with a positive perception of self-concept had a score average of 7.12 ± 2.18 regarding the lower dimension of smoking benefit, students with a negative perception of self-concept had a score average of 8.61 ± 3.76 . No statistically significant difference was determined between the score averages of the lower dimension of smoking benefit in students with a positive self-perception and students with a negative self-perception ($t=4.176$, $p=0.000$).

While students with a positive perception of self-concept had a score average of 29.01 ± 2.47 regarding the lower dimension of smoking harm, students with a negative perception of self-concept had a score average

Table 1. Comparison of Benefit and Harm Perception Score Averages of Students Regarding Smoking According to Their Levels of Self-Concept Perception

Self-concept perception	Smoking Benefit $\bar{x}\pm SS$	Smoking Harm $\bar{x}\pm SS$
Positive (n=189)	7.12±2.18	29.01±2.47
Negative (n=185)	8.61±3.76	28.11±3.49
t	4.716	2.876
p	0.000	0.004

Table 2. Comparison of Benefit and Harm Perception Score Averages of Students Regarding Smoking According to Their Perceived Academic Achievement Levels

Perceived academic achievement	Smoking Benefit $\bar{x}\pm SS$	Smoking Harm $\bar{x}\pm SS$
Successful (n=322)	7.81±3.13	28.47±3.19
Unsuccessful (n=52)	8.27±3.39	29.01±2.05
t	0.969	1.189
p	0.333	0.235

of 28.11±3.49. No statistically significant difference was determined between the score averages of the lower dimension of smoking harm in students with a positive self-perception and students with a negative self-perception ($t=2.876$, $p=0.004$).

Table 2 shows the comparison between the score averages of the lower dimensions of smoking benefit and harm according to the perceived academic achievements of students. While students perceiving themselves successful have a score average of 7.81±3.13 regarding the lower dimension of smoking benefit, students perceiving themselves unsuccessful have a score average of 8.27±3.39. No statistically significant difference was determined between the score averages of the lower dimension of smoking benefit in students perceiving themselves successful and students perceiving themselves unsuccessful ($t=0.969$, $p=0.333$). However, score averages of the lower dimension of smoking benefit were higher in students (8.27±3.39) perceiving themselves unsuccessful compared to that of students perceiving themselves successful (7.81±3.13).

While the score average of the lower dimension of smoking harm was 28.47±3.19 in students perceiving themselves successful, it was 29.01±2.05 in perceiving themselves unsuccessful. No statistically significant difference was determined between the score averages of the lower dimension of smoking harm in students perceiving themselves successful and students perceiving themselves unsuccessful ($t=1.189$, $p=0.235$).

Discussion

This part emphasizes how the self and academic achievement perceptions of students affect their perceptions about smoking.

In this study, a statistically significant difference was determined between the score averages of the lower dimension of smoking benefit ($p=0.000$, Table 1) and

the score averages of the lower dimension of smoking harm ($p=0.004$, Table 1) in students with a positive self-perception and students with a negative self-perception

It was observed that while adolescents with a positive self-concept perception displayed more positive health behaviors, adolescents with a negative self-concept perception had greater rates of risky health behaviors such as smoking (Gerrad et al., 2000; Yorulmaz et al., 2002; Huntsinger and Luecken, 2004; Babington and Kelley, 2009; Kavas, 2009). Examining the literature, it is observed in many studies that adolescents with a negative self-concept perception have a greater frequency of smoking compared to adolescents with a positive self-concept perception (Bonaguro and Bonaguro, 1987; Kawabata et al., 1999; Yorulmaz et al., 2002; Snow and Bruce, 2003; Smith et al., 2004; Wild et al., 2004; Babington and Kelley, 2009; Kavas 2009). In the publication of "Smoking and 10 Facts" of 2010, the World Health Organization emphasizes that the most important third factor affecting smoking is the self-concept and self-respect. This report also emphasizes that individuals with a low self-respect have a greater rate of smoking (WHO, 2010). The aforementioned study results show an indirect parallelism with the findings of this study. Because while the literature generally examines how the self-concept perceptions of children affect their states of smoking, this study evaluates how they affect perceptions of children regarding smoking, which shows a difference. From this aspect, it has contributed to the literature as well. These study findings show an indirect parallelism with the literature since children with a high self-perception have low benefit perceptions and high harm perceptions regarding smoking. Because studies have showed that children with a high benefit perception and a low harm perception regarding smoking have a greater risk of smoking. Additionally, Bandura (1989) also emphasizes that personality traits of individuals direct their behaviours and he particularly focuses on the self-concept, which is among personality traits. He states that as the level of self-concept increases, the internal control focality of individuals increase, a change is observed on self-efficacy levels and individuals with high levels of self-efficacy and internal control focality could manage their behaviors better. Thus, individuals with a positive self-concept perception could control the environment and cope with stressing conditions better (Bandura, 1989). In addition to this, children with a positive self-concept perception display less negative health behaviors and motivate themselves to display positive health behaviors more (Bandura, 1989; 1998). These children could say no at a greater rate especially when they encounter with risky behaviors (Bektaş et al., 2010). As is emphasized in Bandura's (1998) theory, individuals with a high self-concept and academic achievement perception are expected to display negative health behaviors such as smoking less, and while the study findings show a compliance with the arguments of the social cognitive learning theory, it is observed that adolescents with a high self-perception have high benefit perceptions and low harm perceptions regarding smoking. It is seen that self-perception is an important factor

affecting the perceptions regarding smoking. Benefit and harm perceptions regarding smoking, on the other hand, affect the rates of children to try and start smoking, which consequently reveals the importance of the self-concept perception in developing the strategies of trying and decreasing smoking.

No statistically significant difference was determined between the score averages of the lower dimension of smoking benefit ($p=0.333$, Table 2) and harm ($p=0.235$, Table 2) in students perceiving themselves successful and students perceiving themselves unsuccessful. As a result of this study, even though it was determined that perceived academic achievement of students did not statistically have an effect upon their benefit/harm perceptions regarding smoking, scores averages of the lower dimension of smoking benefit were determined to be higher in students perceiving themselves unsuccessful (8.27 ± 3.39), compared to that of students perceiving themselves successful (7.81 ± 3.13). This result actually shows that the academic achievement perception affects perceptions regarding smoking in an indirect way.

Unlike this study, a number of studies have determined significant relations between the academic achievement and behavior of smoking. It is determined that teenagers with a low academic success have a greater frequency of smoking and more positive perceptions regarding smoking (Bewley and Bland, 1977; Bryant et al., 2000; Henry and Huizinga, 2007; Townsend et al., 2007; Pennanen et al., 2011). Factors comprising the low achievement level such as the behaviors of skipping school, lesson and dropping out of school are determined to have significant relations with the behavior of smoking, as well (Bryant et al., 2000; Aloise-Young et al., 2002; Henry and Huizinga, 2007; Gokgoz and Kocoglu, 2007; Breslau et al., 2011). According to the report of the National Youth Risk Behavior Study of 2009 (YRBS, 2009), there is a negative relation between smoking and academic achievements. It is indicted that students with a low academic achievement have more common behaviors of smoking. The same report also makes suggestions for researchers to examine the relations between smoking and academic achievement in the future (YRBS, 2009).

Examining the aforementioned studies, it is observed that almost all of them examine the relation between academic achievement and smoking. However, there is no sufficient number of studies examining the effect of academic achievement upon the benefit and harm perception regarding smoking, which is an important factor that affects everything about smoking. Even though this study has determined no statistically significant difference between benefit and harm perceptions regarding smoking in students perceiving and not perceiving themselves successful; examining the score averages, it is observed that students perceiving themselves unsuccessful have higher benefit perceptions regarding smoking. Bandura (1989) emphasizes that individuals with negative perceptions about themselves such as failure have a decreased self-respect and form a negative self-respect in the course of time. Thus, these individuals are unable to realize their own skills sufficiently as their self-sufficiency levels decrease. Individuals who are unaware of their own

skills are unable to use positive coping methods when they encounter with stress and prefer negative coping methods such as smoking. Besides, individuals with positive perceptions about themselves form a positive environment for themselves and this positive environment prevents the development of negative health behaviors (Bandura, 1989; 1998). Taking all these traits into consideration, while the perceived academic achievement is expected to statistically affect perceptions regarding smoking, the most important reason for determining no difference between the perceptions of students perceiving and not perceiving themselves successful regarding smoking in this study is associated with the achievement perception of the child. Because while some actually successful students do not perceive themselves successful, some students with a lower academic achievement may perceive themselves successful due to their insufficient insight. This condition is thought to possibly cause the academic achievement perception not to affect perceptions regarding smoking.

In conclusion, as a result of the study, it was determined that self-perceptions of students affect their benefit/harm perceptions regarding smoking; on the other hand, the perceived academic achievement has no effect upon benefit/harm perceptions regarding smoking. Since self-perceptions affect perceptions regarding smoking, it is suggested to develop intervention programs aimed at increasing the self-concept levels of children. Since there is no difference between the perceptions regarding smoking according to the academic achievement states perceived by children, it is suggested to include new studies investigating how the academic achievement being perceived by children and their success levels of courses affect their benefit/harm perceptions regarding smoking.

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