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The Effects of Negative-Framed Antismoking Public Service Announcements Pertain to Health Risks on High School Students

Sağlık Riskleri İle İlgili Negatif Çerçeveli Sigara Karşıtı Kamu Spotlarının Lise Öğrencileri Üzerindeki Etkileri

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Abstract

The major aim of this study was to determine the opinion of high school students regarding negative-framed antismoking Public Service Announcements (PSAs) on health risks. The data were collected from 884 students attended in twelve high schools in Ipekyolu district of Van Province, Turkey. The findings showed that the PSAs affected the manners of the students positively in smoking cases such as intending to quit smoking, being more conscious about the harms of smoking and warning smokers. The effects of PSAs were found to be more effective on male students than female, non-smoker students than smoker parent on students who have non-smoker parents than those who have at least one smoker parent. The results indicated that special attention should be given to individual factors when producing such kinds of PSAs.

Keywords: *Antismoking Public Service Advertising, Smoking Behaviours, High School Students*

Öz

Bu çalışmanın amacı, sağlık riskleri ile ilgili negatif-çerçeveli sigara karşıtı kamu spotlarına yönelik lise öğrencilerinin görüşlerini belirlemektir. Çalışmanın verileri Türkiye'de bulunan Van ilinin İpekyolu ilçesindeki on iki liseden, 884 öğrencinin katılımı ile toplanmıştır. Bulgular, kamu spotlarının sigarayı bırakmaya niyet etmek, sigaranın zararları hakkında daha fazla bilinçlenmek ve sigara içenleri uyarmak gibi sigara içilmesine karşılık olumlu davranışlara neden olduğunu göstermiştir. Erkeklere karşılık kadınlarda, sigara içenlerden ziyade içmeyenlerde, ebeveynlerinden en az birinin sigara içtiği öğrencilere kıyasla ebeveynlerinden hiç biri sigara içmeyen öğrencilerde, kamu spotlarının daha etkili olduğu bulunmuştur. Sonuçlar, bu tür kamu spotları üretilirken, bireysel faktörlere önemli derecede dikkat edilmesi gerektiğini göstermiştir.

Anahtar Kelimeler: *Sigara Karşıtı Kamu Spotları, Sigara İçme Davranışları, Lise Öğrencileri*

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Introduction

Tobacco kills more than 7 million people each year. More than 6 million of those deaths are the result of direct tobacco use while around 890 000 are the result of non-smokers being exposed to second-hand smoke (World Health Organization, 2018). An estimated 100,000 people die each year from smoking-related diseases in Turkey, if necessary precautions are not taken, within the next 20 years this number is expected to rise to 250,000. (Enginyurt et al., 2016). More than half of smokers initiate smoking before 18 age in Turkey. Average smoking initiation ages is 16.6 for males and 17.8 for females in Turkey (Global Adult Tabocco Research Turkey 2012, 2014). In addition to the health-related damages, smoking causes economic and environmental problems. Furthermore, smoking has undesirable social consequences. Given all these considerations, the effective anti-smoking campaigns towards encouraging adolescents to stop and deter future smoking have increasingly been imperative (Jung and Villegas, 2011). If one considers the detrimental health and social effects of smoking, it becomes increasingly important to develop effective anti-smoking campaigns that encourage adolescents to cease current tobacco use and deter future smokers from beginning. (Smith and Stutts, 2006). Many techniques for reducing smoking rates have been enacted, including bans on smoking in public places, restrictions on cigarette advertising, and taxation of cigarettes (Jung and Villegas, 2011). Some social targets promotions are used as an effective tool in achieving this aim (Kurtz, 2008). Advertising has also a positive broader social role (Kotler and Keller, 2012). For betterment of society, public service announcements (PSAs) which are generally considered as a form of social marketing, have functions such as informing, persuading or reminding the consumers in order to bring about attitudinal and behavioural change among the general public or a specific population segment (Grewal and Levy, 2014; Narang et al., 2012). PSAs, have recently been used as one of the major ways regarding the restriction of smoking (Lee and Park, 2012; Jung and Villegas, 2011; Narang et al., 2012).

Overall media consumption rates indicate that electronic media, especially television, are more likely than print media to reach youth for antismoking advertising (Johnston et al., 2005). While most media effects were not significant, smoking declined more for subjects exposed to television advertisements than those exposed to print or internet advertisements. This appears to reinforce the fact that television is still the media king among adolescents, at least with respect to advertising effectiveness of anti-smoking messages (Smith and Stutts, 2003).

Most extant work on message framing distinguishes message frames predominantly along the outcome valence dimension and has studied positive vs. negative frame. Positive messages highlight positive consequences (i.e., gains) of complying with the ad advocacy, for example, “Don’t smoke. Quitting smoking reduces your chances of having a heart attack.” In contrast, negative messages highlight negative consequences (i.e., losses) of not complying with the ad advocacy, for example, “Don’t smoke. Smoking increases your chances of having a heart attack” (Zhao and Pechmann, 2007). Most antismoking PSAs stress negative outcomes (Villaruel, 2013; Smith and Stutts, 2003; Jung and Villegas, 2011).

The major purpose of this study is to investigate the negative framed antismoking PSAs on health risks in television on smoking behaviours of high school students. Researches addressing high school students regarding anti-smoking by means of PSAs aren't present in extent our knowledge in Turkey, which raises the significance of the study.

The dependent variable was reducing smoking while the independent variables were PSAs, gender, smoking status and smoking status of the parents.

The literature section of this study focuses on the effects of anti-smoking public spots on consumers. In the method section, the explanations on how and where the survey study was carried out, how the scale was prepared and the reliability and validity of the scale are explained. The result section contains significant findings. Furthermore, the validity of hypotheses is given. The discussion section includes the comparison of findings with the previous research results and some interpretations while some solutions are made in conclusion and recommendation section. Limitation section gives deficient part of research, which could give a way to expand the research to a wider area and subjects.

Literature

Fergusson and Horwood (1995) revealed that smoking increased in proportion to age and therefore, it was importance to take some precautions measures towards preventing the transition of young people with different age groups (ranged from 10 to 12, 12 to 14 and 14 to 16 years) to smoke.

Antismoking advertisements is reported to be effective among the high school students in negating or neutralising pro-smoking influences such as cigarette advertisements and peer pressure (Smith and Stutts, 2003). Villaruel (2013), who conducted a research among college students with focus group discussion, reported that while a few students regarded the ads as repetitive and annoying because they already knew the consequences of smoking, the majority were in opinion that the ads had positive effects on their smoking behaviours and they could have considered quitting early.

A study evaluating the effectiveness of the Health Education Authority for England's antismoking television advertising campaign conducted by McVey and Stapleton (2000) concluded that TV campaign was effective in reducing smoking prevalence through encouraging smokers to stop and helping prevent relapse in those who had already stopped. Televised antismoking PSAs can be effective at reaching adolescents and can effectively reduce adolescent smoking (Shadel et al., 2009; CDC, 2002).

Effects of antismoking announcements may vary by diverse factors such as gender, status of smoking and smoking status of parent. A study conducted by Smith and Stutts (1999) with 246 adolescents in a medium-sized metropolitan area in the Southwest U.S., reported that adolescent females believe that smoking is significantly more dangerous and addictive compared to males. Charlton and Blair's (1989) study, which involved a sample of aged 12 and

13 years, 1125 boys and 1213 girls in northern England found that while for boys no variables investigated had any consistently statistically significant correlation with the uptake of smoking; for females, four variables were found to be significant: having at least one parent who smoked, having positive views on smoking, cigarette brand awareness and a best friend who smoked. Media campaigns were reported to be more effective for female adolescents compared to males (Worden et al., 1996; Johnston et al., 2005).

Smith and Stutts (1999) noted that adolescent non-smokers believed that smoking was significantly more dangerous compared to those who smoked. Peracchio and Luna (1998), who conducted a study with 48 male and 58 female high school students aged between 15 to 18 years, reported that teenage smokers did not have concrete internal images of the negative health effects of smoking while non-smokers seemed to have such images.

Reppucci et al. (1991) in their study which, was administered to 358 sophomores (54 smokers and 304 non-smokers; average age 15.2 years) in Virginia, concluded that smokers often processed tobacco-related information in a less objective and more biased manner, namely, they were overly optimistic in judging their risks for health problems due to smoking. Wolburg (2006) in his qualitative study, which was conducted with 110 college students, concluded that non-smokers generally held greater expectations for the efficacy of the current antismoking messages but smokers' denial, defensiveness, and rationalizations got in the way of sincere contemplation of a healthier lifestyle. Freeman, Hennessy and Marzullo (2001) found that smoking status can determine how an individual will respond to an antismoking message. Young adults (82 smokers and 105 non-smokers, age from 18 to 22 years average age 20.09 years) were shown eight anti-smoking commercials and were asked to evaluate effectiveness of these commercials. Non-smokers consistently rated antismoking commercials as more effective than did smokers.

Mak et al. (2012) in their study, which was conducted with 6,553 Hong Kong students aged 13-18 concluded that parental smoking was risk factor for smoking or intention to initiate/reinitiate smoking and adolescents were likely to initiate the smoking habits of their parents. Botvin et al. (1993) disclosed that one of environmental and psycho-social risk factors predispose adolescents towards starting to smoke cigarettes was parental smoking.

A study which lasted 10 years found that regular smoking was strongly associated with the smoking behaviour of family, besides among family and peer the mother's baseline smoking emerged in multivariate analysis as the most important long term predictor of daily smoking (Oygard et al. 1995). Logan and Marlatt, 2004 emphasized that parents had a great deal of influence over their children's attitudes and beliefs about smoking. Therefore, we consider parent smoking behaviour effect their children attitudes pertain to antismoking PSAs.

Wechsler et al. (1998) considered the individuals who have smoked a cigarette in the past 30 days as smokers (also review Prevention Morbidity and Mortality Weekly Report, 2013; CDC, 2000). Individuals who have never smoked a cigarette were considered non-smokers. Some

have rejected this criterion on the grounds that many youth smoke irregularly and cannot provide accurate information in regard to the 30-day referent. Researchers taking this position advocate a question asking whether a person has smoked 100 cigarettes in his or her lifetime. We use first criterion for 2 reasons. First, the length of recall and use criteria are much simpler than a lifetime, specific number of cigarettes. It makes little sense to argue that one can recall a lifetime of experience better than the events of the previous 30 days. Second, a single lifetime criterion applied at each age does not measure progression, because it reveals nothing about when an individual started or stopped smoking the 100 cigarettes (Sly et al. 2001).

The main purpose of PSAs is to reduce smoking. Since it is important whether PSAs are effective in reducing smoking by taking into account gender, status of smoking and status of parents smoking, hypotheses have been established by taking these variables into consideration.

Three major hypotheses assumed in terms of aim of this study were as follows:

Hypothesis 1: Negative-framed antismoking PSAs on health risks would be more effective on females than males in reducing smoking.

Hypothesis 2: Negative-framed antismoking PSAs on health risks would be more effective on non-smokers than smokers in reducing smoking.

Hypothesis 3: Negative-framed antismoking PSAs on health risks would be more effective on adolescent who had non-smoker parents than adolescents who had at least one smoker parent in reducing smoking.

Method

While developing the scale; Biener et al. (2006), Kim (2006), Smith and Stutts (2003), Smith and Stutts (2006), Sutfin et al. (2008), Xu et al. (2015), Wolburg (2006), Johnston et al. (2005) and Samu and Bhatnagar's (2008) studies have been used. First, 80 surveys were filled out and then the reliability and validity of the scale was examined. After the scale was found to be suitable for use, the remaining surveys were applied.

The cronbach alpha of the scale was, 723. The KMO value was found to be, 808 and the barlet ,000. As a result of factor analysis, 3 factors with eigenvalues above 1 were reached, explaining 54.2% of the total variance. Therefore, the scale has reliability and validity.

The research was conducted in Ipekyolu district of Van Province. Ipekyolu is the most populous district of Van Province. The total population of the study was 20.248 students attended at 27 schools in Ipekyolu district. The representing sample size was determined as 884 households with 95% confidence interval and approximately 3.5% acceptable error using the formula for limited population (Miran, 2003). Thus, the sample consisted of 4.36% of the population. 1092 question forms were collected, but of these forms 178 were excluded because they were considered unsuitable in terms of study target and 30 were not included due to the students of

never having run across to PSAs. The number of students at each school and grade available at the survey interval were taken into consideration and the questions forms collected proportionally. However, due to the permission given to 12th grade students to prepare to University Exam at preparatory courses, the subjects of this grade was less than our expectation.

Before conducting the questionnaires, the permission of executives were taken, then the major aim of the study and negative-framed antismoking (PSAs on health risks were explained to the students. The survey was conducted at classes with 15-20 students and the participation rate exceeded 95%. For the duration of each session, the surveyor ensured that participants completed the survey independently. Of total 27 high schools 4 were excluded since 2 allotted to mentally disabled and 2 had no students in 11th and 12th grades. So, the remaining 23 schools were ranked at alphabetical order and each next school were chosen, respectively.

Chi-square contingency test was used to determine the significance of relationship of some variables between students with different gender and characteristics such as smoking and non-smoking or the students whose parents were non-smokers and those who at least one of their parents were smoker (Akbay et. al., 2007).

Some descriptive statistics regarding some characteristics of sampling (subjects) are given at Table 1.

Table 1. Some Characteristics of Sample

Characteristic	Total	Grade 9	Grade 10	Grade 11	Grade 12
Total sample size	884	269(%30.4)	239(%27)	232(%26.2)	144(%16.3)
Gender					
Male	488(%55.2)	147(%30.1)	127(%26)	138(%28.3)	76(%15.6)
Female	396(%44.8)	122(%30.8)	112(%28.3)	94(%23.7)	68(%17.2)
Status of smoking					
Smoker	161(%18.2)	29(%18)	48(%29.8)	41(%25.5)	43(%26.7)
Non-smoke	723(%81.8)	240(%33.2)	191(%26.4)	191(%26.4)	101(%14)
Status of parents smoking					
Both smoke	94(%10.6)	32(%34)	21(%22.3)	23(%24.5)	18(%19.1)
Both don't smoke	474(%53.6)	141(%29.7)	141(%29.7)	114(%24)	78(%16.5)
Only mother smokes	67(%7.6)	21(%31.3)	19(%28.4)	20(%29.9)	7(%10.4)
Only father smokes	249(%28.2)	75(%30.1)	58(%23.3)	75(%30.1)	41(%16.5)

Results

Out of female and male smoker students 19.1 and 37.7 %, respectively thought that the PSAs had positive effect on their behaviours of less smoking, cessation of smoking and both less smoking and cessation of smoking in future. The percentage of female and male non-smoker students who thought that PSAs campaigns had made them conscious against the harmful effects of smoking were 60.3 and 57.1 %, respectively. On the other hand, 34.4 and 41.8 % of non-smokers female and male student, respectively thought that PSA had no effect on their behaviours of smoking (Table 2). The result indicated that PSAs had more positive effects on

male students in changing their behaviours towards smoking. There existed statistical significant differences between the female and male students who smoked regarding the effectiveness of PSAs on their behaviour of smoking ($p<0.01$) while the differences were insignificant for non-smoker female and male students ($p>0.01$).

Table 2. The Effect of PSAs in TV Regarding the Harmful Effects of Cigarettes on the Status of Smoking

Statements	Female	Male	Total
I used to smoke, But, after viewing PSAs I quitted smoking.	5	9	14
I smoke, after viewing PSAs I decreased smoking.	3	12	15
I smoke, but after viewing PSAs, I think the cessation of smoking.	4	18	22
I smoke, but, after viewing PSAs I both decreased smoking and think the cessation of smoking.	2	13	15
I was thinking to smoke in future but, I gave up after viewing PSAs.	23	18	41
I don't smoke, these PSAs made me more conscious about the harmful effects of smoking.	266	161	427
I smoke and these PSAs didn't affect my smoking.	25	42	67
I don't smoke and these PSAs didn't make any change in my behaviour regarding smoking.	152	118	270
Total	**480**	**391**	**871**

Out of 487 and 392 female and male students 74.3 and 61.5 %, respectively warned the smokers against the harmful effects of smoking (Table 3). The female students could be said to be keener in this regard. Regarding the warning of students about the harmful effects of smoking after viewing PSAs, the difference was statistically significant between the female and male students ($p<0.01$).

Table 3. After viewing PSAs, the number of students who warn smokers to cease smoking

After viewing PSAs concerning the harmful effects of smoking, do you warn smokers to cease smoking			
	Yes, I do	**No, I don't**	**Total**
Female	362	125	487
Male	241	151	392
Total	**603**	**276**	**879**

The female students' rate who thought that PSAs were effective in ceasing, preventing and decreasing of smoking were 43.2, 53.6 and 69.1 %, respectively (Table 4). These ratios were 48.7, 59.3 and 74.24 % for male students, respectively. It is clear that the thoughts of female and male students are the same in this regard and more than half of students have the positive opinion in preventing the initial smoking or decreasing it. There existed no statistical significant difference between the female and male students concerning the PSAs effectiveness on the cease, prevent or decrease of smoking at the level of 0.05 significance.

Out of all students, 72.6 % non-smokers and 65.8 % smokers believed that the PSAs were effective in decreasing the smoking. These rates were 66.8 and 75.31 %, respectively for students who has at least one smoker parent and whose both parents are non-smoker (Table 4). As regards PSAs effectiveness on the decreasing smoking, smoker and non-smoker students

including students who have at least one smoker parent and whose both parents are non-smoker didn't differ statistically at the level of 0.05 significance.

Out of all students 80.7 % of smokers and 86.1 % of non-smokers agreed that the possibility were there to suffer the same sickness they saw in PSAs (Table 4). With respect to the risk of suffering the same sickness shown in the PSAs, there was found to be statistical differences between the smoker and non-smoker students ($p<0.01$).

As regards of PSAs of attracting attention, the female and male students didn't differ statistically, that is, thought the same ($p>0.05$). Nearly three quarter of female (77.0 %) and male (75.2 %) students thought that PSAs attracted attention (Table 4). From PSAs giving sufficient information point of view, significant differences didn't exist between grade levels ($p>0.05$).

There existed statistically significant differences between smoker and non-smoker students regarding the recalling PSAs when encountering a smoker and PSAs encouraging smoking ($P<0.01$) while difference was not significant in terms of PSAs causing worry on students health ($P<0.01$). The difference was found to be significant in terms of PSAs causing anxiety on students' family health who has at least one smoker parent and whose both parents are non-smoke. Female and male students differed statistically regarding struggle away after watching harmful effects of second-hand smoking ($p<0.01$).

Table 4. The Opinion of Students About Some Variables of PSAs by Gender, Grade Level, Smoking Status of Students and Parents of Students

Variable definitions	Agree	Partly Agree	Not Agree	No Opinion	X^2	p-value
PSAs are effective as cease the smoking.					6.638	0.84
Girls	40	171	222	55		
Boys	51	142	170	33		
PSAs are effective as prevent to smoking.					3.211	0.360
Girls	85	177	168	58		
Boys	83	152	120	41		
These PSAs are effective as decrease smoking.					3.460	0.326
Girls	99	238	116	35		
Boys	94	200	79	23		
PSAs are effective as decrease smoking.					6.671	0.83
Smoker	38	68	38	17		
Non-smoker	155	370	157	41		
PSAs are effective as decrease smoking.					16.75	0.53
At least one parent smoker	86	188	103	33		
Both Parent non-smokers	107	250	92	25		
All smokers may to catch diseases like people who suffer from smoking related diseases in these PSAs.					14.11	0.003*
Smoker	90	40	16	15		
Non-smoker	513	110	46	54		
PSAs attract attention.					1.046	0.790
Girls	159	217	84	28		
Boys	134	164	74	24		
PSAs inform with respect to smoking detriments adequately.					11.48	0.244
Grade 9	69	122	55	23		
Grade 10	63	90	62	24		
Grade 11	66	92	65	9		
Grade 12	38	62	31	13		
When I see a smoker, I recall these PSAs.					18.92	0.00*
Smoker	38	46	61	16		
Non-smoker	268	229	166	60		
PSAs encourage smoking.					41.88	0.00*
Smoker	20	22	94	25		
Non-smoker	21	46	561	95		
PSAs cause worry regarding my health.					7.643	0.054
Smoker	55	43	47	16		
Non-smoker	252	127	253	91		
PSAs cause worry regarding my family health.					70.43	0.00*
At least one parent smoker	236	79	68	27		
Both Parent non-smokers	157	90	173	54		
After watch second-hand smoking harms in PSAs, I struggle away from smoking areas.					25.05	0.00*
Girls	322	94	51	21		
Boys	199	95	74	28		

*** indicate statistical significance level at the 0.01.**

The result didn't support our first hypothesis that PSA on health risks would be more effective than females than males in reducing smoking. Findings showed that more male (5.1%) than female students thought that PSAs on health risks were effective in reducing smoking.

Our second hypothesis assuming that PSAs on health risks would be more effective for non-smoker on smoker students was supported by findings. The rate of non-smoker students who

thought PSAs on health risks were effective in reducing smoking, were 6.8% higher than smoker students.

The third hypothesis which assumed that PSAs pertain to health risks would be more effective on students who had non-smoker parents than those who had at least one smoker parent were also supported by our findings. The result showed that more than 8.5 % students with non-smoker parents thought that PSAs on health risks were effective in reducing smoking.

Table 5. Whether Hypotheses are Accepted

First Hypothesis: Negative-framed antismoking PSAs on students who had non-smoker parents than those who had at least one smoker parent, health risks would be more effective on females than males in reducing smoking.	Rejected
Second Hypothesis: Negative-framed antismoking PSAs on health risks would be more effective on non-smokers than smokers in reducing smoking.	Accepted
Third Hypothesis: Negative-framed antismoking PSAs on health risks would be more effective for adolescent who had non-smoker parents than adolescents who had at least one smoker parent in reducing smoking.	Accepted

Discussion

Our findings which demonstrate the surveyed students are influenced by antismoking PSAs and have a favourable change in their smoking behaviour such as intention to quit smoking is consistent with previous researches (Villaruel, 2013; McVey and Stapleton, 2000; Biener et al., 2006; Terry-Mcelrath et al., 2007; Smith and Stutts, 2006; Kim, 2006; Xu et al., 2015). Also the findings that show the students are becoming conscious about harmful effects of smoking are in line with the previous research (Kim, 2006). The findings indicated that antismoking PSAs were more effective for non-smoker students compared to smokers, which is in consistent with prior studies (Freeman, Hennessy and Marzullo, 2001; Wolburg, 2006, Sutfin et al., 2008; Cowell et al. 2009; Johnston et al., 2005). It can be said that the smokers generally respond defensively to antismoking messages.

Our findings, which indicated antismoking PSAs affected the smoker students' smoking behaviour and intentions positively, were also in line with the previous researches (Smith and Stutts, 2003; Johnston et al., 2005; Andrews et al., 2004). Our findings showed that non-smoker students were keener about the risks of getting sick as shown in PSAs than smoker students, who had a higher tendency of PSAs in encouraging smoking. These results were consistent with the prior studies (Wolburg, 2006; Sutfin et al., 2008; Harris et al. 2012).

Our findings indicated that anti-smoking PSAs were more effective on male compared to female students regarding PSAs would decrease the smoking rates. This result was in line with

study conducted by Smith and Stutts, 2006, while it was not in consistent with the prior findings reported by (Smith and Stutts, 2003; Samu and Bhatnagar, 2008; Johnston et al., 2005; Worden et al., 1996).

Conclusion and Recommendation

Taking into consideration the strong opinion of students that antismoking PSAs cause favourable changes in their smoking behaviours such as intention to start, decrease or quit smoking, there exist opportunity to convince the students as regards the harmful health effects of smoking before starting smoking, becoming addictive and causing a high cost to them, their families and, community as a whole. Therefore, we strongly advise the continuing of these PSAs in TVs.

Given nearly a quarter of smoker students thought that anti-smoking PSAs encouraged smoking, then, special attention should be given for major reasons of it by producers, publishers and state authorities through some researches and PSAs should be re-designed.

As regards decreasing, ceasing or preventing the initial of smoking, antismoking PSAs were more effective on male compared to female students, which shows female students were much more defensive against these PSAs. Considering the male students, who had favourable smoking behaviour such as decreasing, cessation or preventing the initial of smoking were nearly twice of female students, specific researches should be made regarding why less female students respond to these PSA's positively. On the other hand, more female students warn smokers against harmful effects of smoking in comparison to male students.

Taking into consideration that decreasing of smoking, persuasiveness and warning against harmful effects of smoking were more effective on non-smoker students compared to smokers, it can be suggested that smokers respond defensively to antismoke messages. According to Wolburg (2006) non-smokers are generally unable to understand the appeal of smoking, and they hold greater expectations for the efficacy of the current antismoking messages. Smokers' denial, defensiveness, and rationalizations get in the way of sincere contemplation of a healthier lifestyle.

Given more students whose both parents are non-smokers believe that PSAs has an effect on reducing of smoking in comparison to those who at least has one smoker parent, there exist a great opportunity to convince the parents to cease smoking due to having positive effects on their child to reduce smoking.

Negative-framed antismoking PSAs on health risks in televisions cause different effects on smoking behaviour and intentions to start and/or quit smoking based on gender, status of smoking, and status of parents' smoking. This suggests that individual factors should receive greater consideration when anti-smoking ads are produced. On the other hand, studies should be considered regarding drunken, unsafe driving, dropping out of school, illegal drug use and

obesity. Similar studies should be considered for primary and university students as well as non-students teen and adults.

Limitations

Some limitations also need to be acknowledged. This study related to negative framed antismoking PSAs on health risks, therefore findings may not be generalized for some important areas such as social effects of anti-smoking PSAs and positive framed anti-smoking PSAs. PSAs on social effects of anti-smoking or positive framed anti-smoking PSAs should be conducted, which could be considered as a deficient area of research. Moreover, the comparison of different framed anti-smoking PSAs effects could also be investigated.

We don't want to generalize the findings due to collecting the data from only one district. Future researches may be considered on how high school students from various geographic locations around the country respond to anti-tobacco advertising. The effects of PSAs on students were investigated using TV medium in this study. Other mediums such as internet, radio and newspapers etc. could also be used in determining the attitudes of students.

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