

CRITICALLY EVALUATING THE IMPACT OF ANTISMOKING CAMPAIGN ADVERTISEMENTS ON ANTISMOKING BELIEFS AND SMOKING INTENTIONS OF YOUTHS: EVIDENCE FROM BANGLADESH

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ABSTRACT

The aim of this paper is to explore the impact of antismoking campaign advertisements on antismoking beliefs and smoking intentions of youths in Bangladesh. The population of the study comprised of all undergraduate and graduate male students of universities and other educational institutions in southern part of Bangladesh. Data were collected by a structured questionnaire from 241 undergraduate and graduate level male students from 7 universities in Bangladesh. Results show that attitude toward antismoking campaign advertisements has a significant negative impact on smoking intentions. Moreover, antismoking campaign advertisements have significant influence on second-hand smoking belief and smoking addictiveness belief but have insignificant influence on tobacco company deception belief. However, antismoking beliefs have no significant moderating impact between attitude toward antismoking campaign advertisements and smoking intentions.

Keywords: Antismoking Campaign Advertisements, Smoking Addictiveness Belief, Tobacco Company Deception Belief, Second Hand Smoking Belief, Smoking Intentions, Bangladesh.

INTRODUCTION

It is a fact that smoking is a leading cause of various preventable illness and mortality in both developed and developing countries which is a matter of serious concern for the public health of the world. Tobacco kills around 6 million people each year. More than 5 million of those deaths are the result of direct tobacco use while more than 600 000 are the result of non-smokers being exposed to second-hand smoke. Nearly 80% of the more than 1 billion smokers worldwide live in low-and middle-income countries, where the burden of tobacco-related illness and death is heaviest.¹ About 4.7 crore people use tobacco in Bangladesh. Of them, 55 percent male use bidi and cigarettes while 29 percent women use smokeless tobacco products like jarda, gul and sada pata.² The smoking endemic is severe in Bangladesh. According to WHO, Every year 2.5 lakhs Bangladeshis die due to tobacco and the rate of death are 28 per hour. Forty two percent of the country's men are addicted to tobacco while 78.8 percent of the male slum

dwellers in Dhaka and its adjacent areas are tobacco smokers. Ninety five percent of the total drug addicts of the country smoke tobacco while in last five years the number of smokers has increased by 25 lakh.³ Tobacco-related illnesses such as cancer, cardiovascular and respiratory diseases are already major problems in Bangladesh as in most countries of this Region. Tobacco related cancers account for about half of all cancers among men and one-fourth among women. Due to a very high prevalence of chewing tobacco use in various forms, Bangladesh has significant incidences of oral cancers in the world. Heart attacks in Bangladesh, as compared to western countries, occur at younger ages. Most of the victims of heart attacks below the age of 40 are smokers. Smoking largely attributes to chronic obstructive pulmonary diseases. Tobacco is the second leading cause of all non-communicable diseases. Tobacco poses a major challenge not only to health, but also to economic development. A study conducted by WHO Bangladesh indicates that tobacco control is economically beneficial for Bangladesh especially for the poor. Tobacco use is a major drain on the national financial resources, and further impoverishes the poor (National Strategic Plan of Action for Tobacco Control, 2007). Bangladesh has historically experienced high production and consumption of tobacco products, resulting in a heavy burden of tobacco-related illnesses. The Government of Bangladesh (GoB) enacted the Smoking and Using of Tobacco Products (Control) Act in 2005. Smoking is now prohibited in selected public places and on public transports. A ban on advertisement of tobacco products was also imposed, together with health warnings on product packaging. Despite the enactment of the Act, gaps and loopholes have prevented it from becoming fully effective. Following suggestions from WHO, tobacco control activists, civil society and WHO, the GoB amended the law in 2013 to make it more FCTC-compliant and the rules have also been updated in 2015 (WHO, 2017).

The Government and Voluntary associations of Bangladesh are running Antismoking campaigns with the support from renowned international organizations for many years. For Instance, BATA (Bangladesh Antismoking campaign Association) arranges various seminars focusing on bad influence of tobacco. ADHUNIK (Amora Dhompan Nibaron Kori) is an anti-smoking tobacco forum which is active to raise their voice against smoking. Coalition against Tobacco (CAT) is another antismoking campaign organization that takes different activities against Smoking throughout the country. Recently, a new antismoking campaign named 'DHOA' has been launched with the partnership of Ministry of Health and Family Welfare, World Health Organization and the Campaign for Tobacco Free Kids⁴ (bdnews24.com, 2016).

Numerous studies have attempted to investigate the impact of antismoking campaign advertisements on smoking intention and Antiantismoking beliefs in both developed and developing countries. (Preacher and Hayes, 2004; Hussain, Rahman, Latif & Chowdhury, 2015; Tan & Liu, 2009). Several of these studies have showed that anti-smoking campaigns have strong influence on smoking intention, antismoking campaign beliefs and perceptions, anti-smoking awareness, smoking behaviour etc. (Preacher and Hayes, 2004; Tan & Liu, 2009; Hu, Sung and Keeler, 1995a; Pierce et al., 1998). Nevertheless, not all antismoking campaign advertisements have shown the same effects.

Government and N.G.O s in Bangladesh are running various anti-smoking campaigns in which Anti-smoking advertisements are an important part and huge amount of budget is allocated for these campaigns advertisements. Azad, Hossain & Parveen, (2010) showed that smoking is associated with poor overall health and a variety of short-term adverse health effects

among young people and may also be a marker for underlying mental health problems, such as depression among adolescents. According to Bangladesh Bureau of Statistics among youth generation in this country (Age 13-18), 4% currently smoke cigarettes (Boys 3%; Girls 1%); 42% of youth (Age 13-18) are exposed to second-hand smoke in public places and 35% of youth are exposed to second hand smoke at home (Azad, Hossain & Parveen, 2010). Therefore, still now, smoking is prevalent among many youths in Bangladesh and this is crucial to know the impact of these anti-smoking advertisements on the attitude, smoking intention and Antismoking campaign beliefs of youths in Bangladesh to formulate the right antismoking policy. However, there exists a dearth of research work on the impact of antismoking campaign advertisements on smoking intention and Antismoking campaign belief from the perspective of Bangladesh. Thus, this study attempts to investigate the impact of antismoking campaign advertisements on Smoking intention and Antismoking campaign belief in Bangladesh by providing the answers to the following research questions:

- RQ1 Does Attitude toward antismoking campaign advertisements have significant influence on smoking intentions?*
- RQ2 Does antismoking beliefs have significant influence on smoking intentions?*
- RQ3 Does attitude toward antismoking campaign advertisements have significant influence on antismoking beliefs?*
- RQ4 Does antismoking beliefs mediate the relationship between smoking intention and attitude toward antismoking campaign advertisements?*

The rest of the article is laid out as follows: After the introductory section, the researcher presents literature review relating to impact of antismoking campaign advertisements on antismoking beliefs and smoking intentions. Research methodology is discussed next, followed the presentation of research findings. The final part includes discussions and managerial implications of the study.

LITERATURE REVIEW

Wakefield et al. (2010) reviewed empirical studies, encompassing community trials and field experiments, and evaluated government-funded anti-smoking campaigns, ecologic studies of population impact of anti-smoking advertising, and qualitative studies that have examined the effects of anti-smoking advertising on teenagers. They concluded that anti-smoking advertising appears to have more reliable positive effects on those in pre-adolescence or early adolescence by preventing commencement of smoking. They found that Anti-smoking advertising can influence youth smoking, but whether it does in the context of individual anti-smoking campaigns needs to be the subject of careful evaluation.

Tangari et al. (2007) presented two studies that examine similarities and differences with respect to how adults and adolescents process and respond to information in an ant tobacco ad campaign. The results show that antismoking ad campaign reactions explain substantial additional variance in beliefs about tobacco industry deceptiveness, smoking addictiveness, harmfulness of second-hand smoke, and restrictions on smoking at different public venues. The findings also show that the campaign variables as a whole are positively related to intentions to

quit smoking.

Preacher and Hayes (2004) shows that attitudes related to the campaign, prior trial behaviour, and social influence directly influence intent, and advertising campaign attitudes interact with social influence and prior trial behaviour to attenuate adolescent intent to smoke.

Siegel (2000) found a significant effect of exposure to television's anti-smoking advertising on progression to establish smoking during a 4-year period that was specific to younger adolescents but found no significant effect of exposure to radio or outdoor advertisements. He also found that youths exposed to antismoking television advertisements were more likely to have an accurate as opposed to an inflated perception of youth smoking prevalence. The effect was significant only to younger adolescents. The study indicated that TV was the most widely used medium for anti-smoking campaigns. Thus youths were most likely to be informed through watching.

Pierce et al. (1998) assessed the efficacy of the California tobacco control program that commenced in 1989 and included antismoking advertising (18 percent of total dollar expenditures), school-based programs (32 percent), and community-based antismoking efforts (40 percent). The advertising and community interventions targeted both adolescents and adults. In the pre-program years, per capita cigarette consumption was declining in both the United States and California, but more so in California. In the early program years (1989-1993), the rate of decline intensified significantly in California relative to both the previous trend in that state and the U.S. trend at that time. In the later program years (1994-1997), both California and the United States experienced a significant weakening in the rate of decline relative to the prior period.

Cowel et al. (2009) have examined racial/ethnic differences in the association between exposure to the 'truth' antismoking campaign and youth's beliefs and attitudes about cigarette companies and their intent to smoke in USA on 31,758 youth aged 12-17 from seven waves of the Legacy Media Tracking Survey (LMTS), conducted in the USA between December 1999 and July 2003. They found that Exposure to the truth campaign was positively associated with increased ant tobacco beliefs and attitudes among youth overall.

Sachs (2010) selected five commercials of anti-smoking truth campaign and analysed them according to a rating system based on the 1998 Goldman and Glantz study and showed that the commercials used effective strategies and ignored less effective ones, but the most effective ones were not necessarily used most frequently. Not all youth respond in the same manner to commercials implementing a certain strategy, so it is important to use several different strategies within each advertisement to ensure they will be effective in targeting all youth.

Tan & Liu (2009) showed that the California anti-smoking media campaign not only significantly reduces the prevalence of smoking among adults and adolescents, but also brings significant long term benefits in smoking reduction, by inducing more future attempts to quit among adult smokers and deterring more initiating intentions among adolescents

Huang (2013) conducted two studies to provide evidence on the efficacy of tobacco control mass media campaigns and the relative effectiveness of different tobacco control messaging strategies in China and Taiwan. Study one evaluated the impact of a mass media campaign on Chinese smoker's knowledge of smoking harms and attitudes toward cigarettes as gifts. The results suggest that the campaign helped demoralize the socially engrained cigarette

gifting behaviour among Chinese urban smokers despite the relatively low recall and short campaign duration. Study Two explored how Taiwanese male smokers understood and responded to anti-smoking television advertisements with different message content and executional styles. The results suggest that anti-smoking television advertisements using personal testimonials that graphically and emotionally portray victim's smoking-attributed diseases may have the greatest potential to motivate Taiwanese smokers to think about quitting smoking.

Flynn, Worden & Secker-Walker (1992) found that a four year paid advertising campaign in Montana and New England was effective in reducing youth smoking. Smoking rates were 34% to 41% lower among students exposed to both the antismoking campaign advertising campaign and the school programmes in comparison to those exposed to the school programme alone. Flynn, Worden & Secker-Walker (1994) returned to these communities two years after the intervention and found that previous effects persisted. This campaign used the psychosocial approach aimed to correct perceptions of social norms, improve refusal skills, generate more negative views of smoking, and facilitate more positive views of not smoking.

Perry et al. (1989) conducted a sub study of the Minnesota Heart Health Program focused on smoking prevention and followed sixth graders in 1983 longitudinally to 1989. This study included school based education in the context of a community wide intervention that included a mass media campaign and other interventions to promote heart healthy behaviour among adults. School based interventions were conducted based on the psychosocial approach from 1983 to 1985. The mass media campaign was designed to reinforce these messages. This study found lower smoking rates and intensity in treatment groups relative to control communities that were sustained through the 12th grade. In the 12th grade, the weekly prevalence of smoking was roughly 40% lower in the intervention group than in the control community.

In the United States, the first state-wide antismoking mass media campaign was conducted in Minnesota from 1986, as a result of government funding of approximately \$2 million per year. Advertising designed to increase youth awareness of the negative social consequences of smoking and to correct normative expectations for smoking among adolescents were broadcast on television and radio and displayed in newspapers and on billboards. From 1986 to 1990, reported exposure to antismoking advertising was significantly higher among 9th graders in Minnesota than the control state of Wisconsin, but there were no changes in smoking-related beliefs or behaviour. The investigators suggest that the lack of effect may have been due to the lack of on-going and substantive school-based smoking prevention programs, and speculated that both media and school programs may be required to influence youth smoking (Murray, Prokhorov & Harty, 1994)

National Institute of Preventive and Social Medicine (2017) conducted a study to assess the usefulness of Graphic Health Warning (GHW) based anti-tobacco advertisements published in selected daily newspapers in Bangladesh. It was a cross-sectional study using quantitative and qualitative methods and was conducted from 8 December to 31 December 2016. Almost half of the key informants reported that the advertisements made tobacco users think about quitting tobacco. The study is a technical report and based on simple statistical analysis like frequency distributions from where it is not possible to analyse how much impact antismoking campaign advertisements make on smoking intentions.

METHODOLOGY

Research Method

This section will outline the research design, population and sampling, sampling techniques, sample size, sampling methods and data collection. Studies that establish causal relationships between variables may be termed as explanatory studies. The emphasis here is to explain the relationship between variables rather than simply to describe the phenomena studied (Saunders, Lewis and Thronhill, 2009). Since this research has a clear cause and effect relationship between the independent (attitude toward anti-smoking advertisements) and dependent and mediating (smoking intentions and Antismoking campaign beliefs) variables, it could be concluded that this research is explanatory in nature. The research method of this study is *quantitative* in nature. The researcher employed Survey strategy to answer the research questions of this study. The respondents have been asked closed ended questions on attitude toward anti-smoking advertisements, antismoking campaign beliefs and smoking intentions. Then the impact of Antismoking campaign advertisements on smoking intention and antismoking campaign beliefs have been investigated.

Population, Sampling Method and Sample Size Selection

The population of this study will consist of all the undergraduate and graduate male students of Southern part of Bangladesh. The researcher selected 400 respondents by simple random sampling from these 7 universities and educational institutions of Khulna division, Barisal division and Patuakhali district. The researcher has sent interviewers to each respondent. The interviewers showed and discussed anti-smoking ads' to the respondents before providing them the survey questionnaire.

Data Collection Instrument/Questionnaire, Measurement and Data Analysis

A structured questionnaire has been used to collect data regarding the Impact of Anti-smoking advertisements on antismoking campaign beliefs and smoking intentions. The questionnaire consists of three sub sections as explained below.

Section 1

This section contains demographic and behavioural data such as age, Education level, address, contact number and smoking behaviour.

Section 2

This section consists of statements which measure the respondent's attitude toward anti-smoking advertisements.

Section 3

This section focuses on measuring the antismoking campaign beliefs and smoking intentions.

Measures

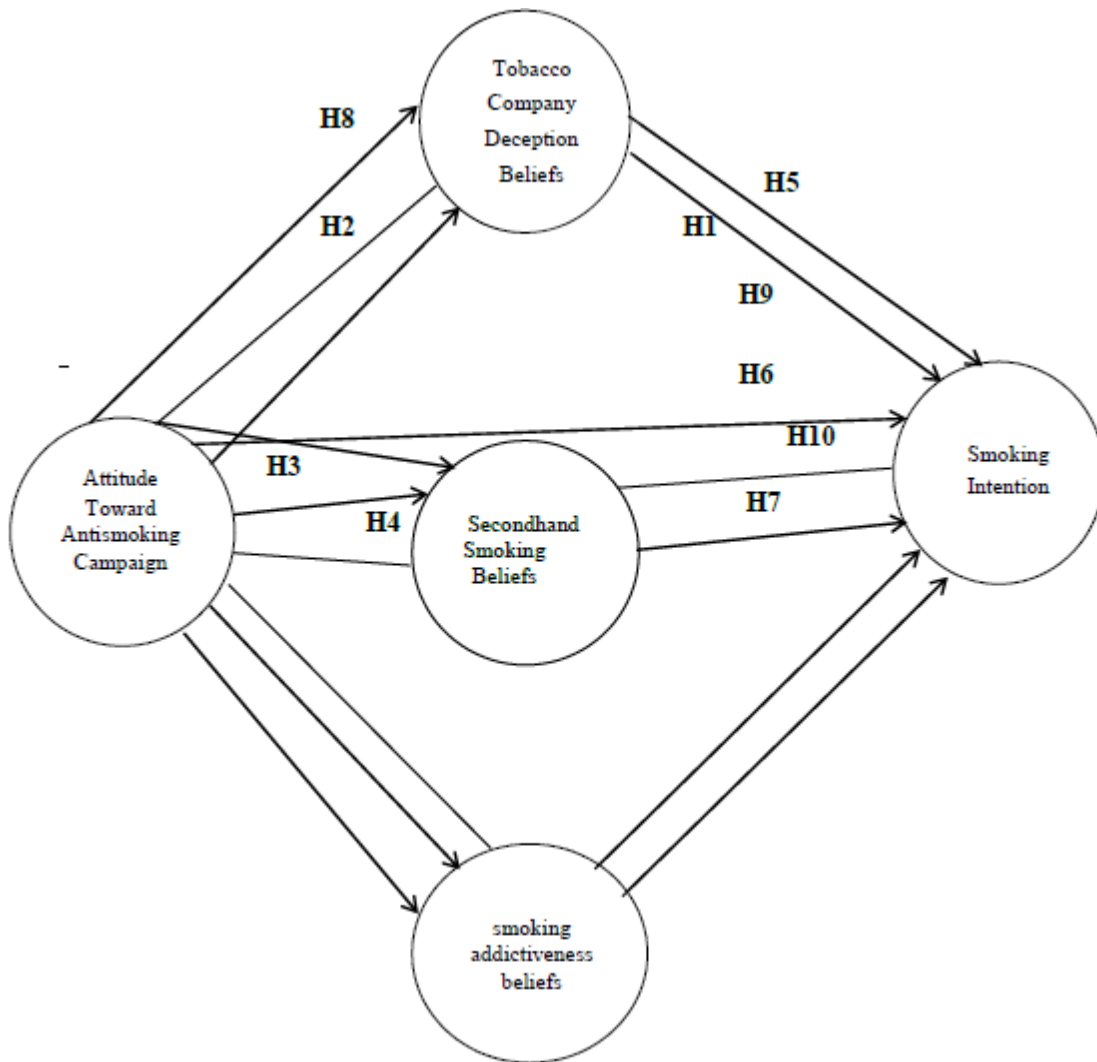
The study consists of five constructs: Attitude toward Antismoking campaign advertisements, smoking intention, tobacco-company deception beliefs, second-hand smoke beliefs and smoking addictiveness beliefs. To measure the attitude toward anti-smoking advertisements items have been adapted with modification from Bajde and Vida (2008). In addition, items have been adapted from Preacher and Hayes (2004) to measure tobacco-company deception beliefs, second-hand smoke beliefs and smoking addictiveness beliefs. Furthermore, to measure ‘smoking Intention’ the measure of Preacher and Hayes (2004) has been adapted with slight modification.

The researcher has used frequency distributions, Reliability analysis (Cronbach alpha value and Composite reliability), validity analysis (average variance extracted) and Structural Equation Modelling to analyse the data. Frequency distribution has been used to show the demographic characteristics of the sample. Cronbach alpha value and composite reliability have been used to measure the reliability of the questionnaire. To examine the hypothesized relationships the researcher used Structural Equation Modelling. Statistical Package for Social Science (version 23) and AMOS (23) have been utilized to analyse the data.

HYPOTHESES OF THE STUDY

- H1 There is a Significant Impact of Attitude toward Antismoking campaign advertising on Smoking Intentions of Bangladesh Youths.*
- H2 There is a Significant Impact of Attitude toward Antismoking campaign advertising on tobacco company deception beliefs of Bangladesh Youths.*
- H3 There is a Significant Impact of Attitude toward Antismoking campaign advertising on Second hand Smoking beliefs of Bangladesh Youths.*
- H4 There is a Significant Impact of Attitude toward Antismoking campaign advertising on smoking addictiveness beliefs of Bangladesh Youths.*
- H5 There is a Significant Impact of Tobacco company deception belief on smoking intention of Bangladesh Youths.*
- H6 There is a Significant Impact of Second hand Smoking beliefs on smoking intention of Bangladesh Youths.*
- H7 There is a Significant Impact of smoking addictiveness beliefs on smoking intention of Bangladesh Youths.*
- H8 The impact of antismoking campaign advertising on smoking intention is mediated by tobacco company deception beliefs of Bangladesh Youths.*
- H9 The impact of antismoking campaign advertising on smoking intention is mediated by Second-hand Smoking beliefs of Bangladesh Youths.*
- H10 The impact of antismoking campaign advertising on smoking intention is mediated by smoking addictiveness beliefs of Bangladesh Youths.*

CONCEPTUAL FRAMEWORK



**FIGURE 1
CONCEPTUAL FRAMEWORK**

The purpose of this study will be to determine the impact of Anti-smoking advertisements on Smoking intention and Antismoking campaign beliefs of Bangladeshi Youths. The above Figure 1 presents the theoretical framework

RESULTS AND DISCUSSIONS

Table 1

RELIABILITY AND VALIDITY ANALYSIS				
Constructs	Number of Items	Cronbach Alpha Values	Average Variance Extracted	Composite Reliability
Tobacco Company Deception Beliefs	4	0.774	0.581	0.847
Second-hand Smoke Beliefs	3	0.737	0.644	0.844
Smoking Addictiveness Beliefs	4	0.615	0.443	0.759
Intent to Smoke	3	0.855	0.738	0.894
Attitude toward Anti-smoking Advertisements	4	0.735	0.530	0.867

Reliability and Measurement Validity Analysis

Table 1 shows the constructs and reliability statistics. The reliability of all of the constructs is high. The Cronbach alphas and composite reliability indexes of all the constructs except smoking addictiveness belief are above the acceptable levels of 0.70. The Cronbach alpha and Composite Reliability of smoking addictiveness belief is above 0.60 which is satisfactory.

To verify the discriminant validity and convergent validity of the variables, confirmatory factor analyses (CFA) were conducted. The measurement models showed a good fit between the model and the data. Although the chi square was significant, the CFI was above 0.90, the GFI was above 0.90, the RMR was lower than 0.09 and the RMSEA was approximately 0.07 ($\chi^2=208.127$, $df=124$, $RMR=0.064$, $GFI=0.916$, $CFI=0.931$, $RMSEA=0.053$, $AGFI=0.884$). The significance of the *t*-values for each path coefficient of the CFA model was evaluated to ensure convergent validity; the construct's estimated average variance extracted (AVE) was above 0.50 except smoking addictiveness belief ($AVE=0.443$).

Structural Model Assessment and Hypothesis Testing

Structural equation modelling (SEM) with AMOS 23.0 was used to test the structural model and support the hypothesis. Goodness-of-fit indices revealed that the values were significant, the RMR was 0.080, GFI was 0.902, AGFI was 0.870, RMSEA was 0.061 and CFI was 0.904. All of these indices confirmed the acceptability of the model.

Effect of Antismoking Campaign Advertisements on Smoking Intentions

H1 predicts that attitude toward antismoking campaign advertisements will significantly affect smoking intention. The hypothesized relationships of direct paths from attitude toward anti-smoking campaign advertisements on intention to smoking is significant and the standardized coefficient is negative (-0.355) which indicates that the impact of antismoking campaign advertisements on intention to smoking is significantly negative. Therefore, H1 is accepted. The finding is consistent with previous studies of antismoking campaigns which found that antismoking campaign advertisements can curb smoking intention among youths (Huang, 2013; Tangari et al., 2007, Preacher and Hayes, 2004; Cowel et al., 2009; Sachs, 2010; Murray, Prokhorov & Harty, 1994) (Table 2).

	Standardized Estimates	Significance Level
Attitude toward Antismoking Campaign Smoking \longrightarrow Intention to	-0.355	0.00
Attitude toward Antismoking Campaign \longrightarrow Tobacco Company Deception belief	-0.034	0.667
Attitude toward Antismoking Campaign \longrightarrow Second-hand Smoking belief	0.265	0.003
Attitude toward Antismoking Campaign \longrightarrow Smoking Addictiveness belief	0.359	0.001
Smoking Addictiveness belief \longrightarrow Intention to Smoking	-0.091	0.323
Second-hand Smoking belief \longrightarrow Intention to Smoking	-0.070	0.362
Tobacco Company Deception belief \longrightarrow Intention to Smoking	0.058	0.429
Attitude toward Antismoking Campaign \longrightarrow Smoking Addictiveness belief \longrightarrow Intention to Smoking	-0.033	0.395
Attitude toward Antismoking Campaign \longrightarrow Second-hand Smoking belief \longrightarrow Intention to Smoking	-0.018	0.368
Attitude toward Antismoking Campaign \longrightarrow Tobacco Company Deception belief \longrightarrow Intention to Smoking	-0.003	0.363

Effect of Antismoking Campaign Advertisements on Antismoking Beliefs

H2, H3 and H4 predict that antismoking campaign advertisements significantly influence antismoking beliefs. The results show that the impact of attitude toward antismoking campaign advertisements on smoking addictiveness belief is positively significant (standardized estimates 0.359, significance level 0.001) which means that antismoking campaign advertisements positively influence smoking addictiveness belief. The results show that attitude toward antismoking campaign advertisements positively influence second hand smoking belief (standardized estimates 0.265, significance level 0.003) which indicates that antismoking campaign advertisements positively influence belief toward second hand smoking. Therefore, Hypotheses 3 and Hypotheses 4 are accepted. However, attitude toward antismoking campaign advertisements on tobacco company deception belief is not statistically significant (Standardized estimates-0.034, significance level 0.667). So, Hypothesis 2 is not accepted. The findings are consistent with previous studies with an exception (Tangari et al., 2007; Preacher and Hayes, 2004; Sachs, 2010; Murray, Prokhorov & Harty, 1994). However, the previous studies have showed that antismoking campaign advertisements have significant positive impact on tobacco company deception belief which is not significant in the present study. A probable reason may be due to the regulatory restrictions the tobacco companies in Bangladesh can't conduct promotional activities of their products through mass media. Hence, youths are not so acquainted regarding the strategies of tobacco companies. Another reason may be that the antismoking campaign advertisements in Bangladesh don't contain any negative message regarding the

tobacco companies. Therefore, antismoking advertisements can't enhance tobacco company deception belief in the minds of target audience.

Effect of Antismoking beliefs on Smoking Intentions

H5, H6 and H7 predict that antismoking beliefs significantly influence smoking intentions. The results show that smoking addictiveness belief, Tobacco company deception belief and second-hand smoking belief have insignificant influence on smoking intentions. Smoking addictiveness belief and second hand smoking belief have negative impact on smoking intention (standardized estimates are -0.091 and -0.070) although the impact is insignificant. Therefore, H5, H6 and H7 are not accepted.

Mediating Effect of Antismoking Beliefs between Attitude toward Antismoking Campaign Advertisements and Smoking Intention

H8, H9 and H10 predicted that the attitude toward antismoking campaign advertisement on smoking intention is significantly mediated by Tobacco company deception beliefs, smoking addictiveness belief and second-hand smoking belief.

Although social science and consumer research journals are full of mediation analysis using Baron Kenny approach (1986) but this approach has been criticized for some of its technical and nontechnical flaws and researchers have proposed other methods which are superior to baron Kenny approach (1986) like Bootstrapping for mediation analysis. The 'Bootstrap' test proposed by Preacher and Hayes (2004) is almost always more powerful than Sobel's testing (Zhao, Lynch & Chen, 2010).

We performed bootstrapping to analyse the mediation impact of antismoking beliefs between attitudes toward antismoking campaign advertisements and smoking intention. The results from

Bootstrapping shows that the impact of attitude toward antismoking campaign advertisement on smoking intention is not significantly mediated by tobacco company deception belief, smoking addictiveness belief and second-hand smoking belief. Therefore, H8, H9 and H10 are not accepted.

DISCUSSIONS AND IMPLICATIONS

Our study aims to investigate four research questions by conducting field survey on the youths of southern area of Bangladesh on the impact of attitude toward antismoking campaign advertisements toward antismoking beliefs and smoking intentions that is crucial for policy implications of counter marketing efforts of antismoking. The research questions are: RQ1: Does Attitude toward antismoking campaign advertisements has significant influence on smoking intentions? RQ2: Does antismoking beliefs have significant influence on smoking intentions? RQ3: Does attitude toward antismoking campaign advertisements has significant influence on antismoking beliefs? RQ4: Does antismoking beliefs mediate the relationship between smoking intention and attitude toward antismoking campaign advertisements?

Our results suggest that the answer to Research question 1 is completely yes because

attitude toward antismoking campaign advertisements has significant negative influence on smoking intention that means antismoking campaign advertisements can reduce smoking intention of youths. The answer to Research question 2 is no because tobacco company deception belief, smoking addictiveness belief and second-hand smoking belief have showed no significant influence on smoking intention. The results have showed that attitude toward antismoking campaign advertisements has significant influence on smoking addictiveness belief and second-hand smoking belief but has insignificant influence on tobacco company deception belief. Therefore, the answer to research question 3 is partially yes. Antismoking beliefs have showed no significant mediating relationship between Attitude toward antismoking campaign advertisements and smoking intentions, so answer to research question 4 is no. We discuss implications of these results in next section.

Implications of the Study

The study provides implications for anti-smoking advertisers, social marketers who are working on antismoking projects, the public health community, and public policy officials on the use of counter advertising to affect antismoking beliefs and smoking intentions of youths in Bangladesh. These implications appear from direct and indirect effects which we have found in the study.

Based on the direct and strong negative effect of antismoking campaign advertisements on smoking intentions the study suggests that antismoking campaign advertisements can be used to help reduce smoking intentions of Bangladeshi youths. The study also suggests that antismoking campaign advertisements can be used to strengthen antismoking beliefs like second-hand smoking beliefs and smoking addictiveness belief. However, antismoking beliefs have not shown any significant influence on smoking intentions. Nevertheless it does not mean that antismoking beliefs are not so important in counter marketing efforts of antismoking. Our results show that there is significant correlation between second hand smoking beliefs and smoking addictiveness beliefs with smoking intentions. (Tobacco company deception beliefs smoking intention (significance level=0.426) Addictiveness belief and smoking intention (Significance level=0.034) second hand smoking beliefs and smoking intentions (Significance level 0.004). Therefore, efforts should be made to affect antismoking beliefs through antismoking campaign advertisements.

The study suggests more budgetary allocations for anti-smoking campaign advertisements because these advertisements have direct negative impact on smoking intentions. Moreover, anti-smoking advertisements have direct significant contribution on antiantismoking beliefs which are significantly correlated with smoking intention. If policy makers on antismoking projects cut budgets on antismoking advertisements then it may create serious negative health consequences. As antismoking advertisement efforts have shown significant negative impact on smoking intentions so professional advertisers should be recruited to develop counter advertising measure and advertisements expertise from commercial marketing sectors in Bangladesh should be transferred on this social marketing practice contexts. The advertisements on antismoking themes should be shown in various advertisements media in an integrated approach to create a long run impact on an effective manner. Special attention must be given to shrewd tobacco advertising efforts because previous studies have shown that these types of

advertising efforts can lessen the impact of antismoking advertisement measures. The study shows that antismoking beliefs have no significant mediating impact between attitude toward antismoking advertisements and smoking intentions that means antismoking campaign advertisements can make direct impact on smoking intention and antismoking beliefs can't make such direct impact more or less stronger.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The study provides encouraging implications for social marketers and antismoking policymakers but suffers from some limitations which require to be considered to make further research works. The study has been conducted on a small sample and can't be generalized and the study should be conducted in a much bigger sample representing other areas of the country. The study has been focused on youth segment and is not representing the condition of other segments like matured and older segments. Controlling variables should be considered in future studies like pricing effect. The attitude toward affective and cognitive advertisements should be measured separately to find out the more effective type of advertisements for allocation of budget. Comparative study should be made by building comparative model on the alternative measures of smoking reduction like antismoking regulations, price increase etc. to make decisions on choosing most effective measures to curb smoking intentions and to know which measures are most effective.

ENDNOTE

1. <http://www.who.int/mediacentre/factsheets/fs339/en/> electronically accessed in 3rd September, 2016.
2. <http://www.daily-sun.com/post/140622/%E2%80%98Tobacco-kills-people-silently%E2%80%99> Electronically accessed in 3rd September, 2016.
3. <http://www.thedailystar.net/smoking-kills-2-5-lakh-a-year-in-bangladesh-59692> Electronically accessed on 4th August, 2016.
4. <http://bdnews24.com/health/2016/07/13/new-campaign-urges-bangladeshis-to-support-smoke-free-laws> Electronically accessed on 4th August, 2016.

REFERENCES

- Azad, S.M.N., Hossain, M.M. & Parveen, R. (2010). Impacts of smoking habit by young generation in our society. *AIUB Journal of Business and Economics*, 10(1), 45-64
- Bajde, D. & Vida, I. (2008). The impact of ad characteristics on adolescent's attitudes towards antismoking ads. *Managing Global Transitions*, 6(1), 75-93.
- Cowell, A.J., Farrelly, M.C., Chou, R. & Vallone, D.M. (2009). Assessing the impact of the national 'truth' antismoking campaign on beliefs, attitudes and intent to smoke by race/ethnicity. *Ethnicity & health*, 14(1), 75-91.
- Flynn, B.S., Worden, J.K. & Secker-Walker, R.H. (1992). Prevention of cigarette smoking through mass media intervention and school programs. *American Journal of Public Health*, 82(6), 827-834.
- Flynn, B.S., Worden, J.K. & Secker-Walker, R.H. (1994). Mass media and school interventions for cigarette smoking prevention: Effects two years after completion. *American Journal of Public Health*, 84(7), 1148-1150.
- Huang, L. (2013). *Evaluation of mass media campaigns to change smoker's knowledge, attitudes and behaviours in*

- China and Taiwan*. University of South Carolina-Columbia.
- Hu, T.W., Sung, H.Y. & Keeler, T.E. (1995a). The state antismoking campaign and the industry response: The effects of advertising on cigarette consumption in California. *The American Economic Review*, 85(2), 85-90.
- Hussain, M., Rahman, A., Latif, A. & Chowdhury, A. (2015). Increasing the effectiveness of anti-smoking campaign by analysing the behaviour and attitudes of smoking persons & utilizing 4ps of marketing: A study on Sylhet city, Bangladesh. *Journal of Arts, Science & Commerce*, 6(1), 40-55
- Murray, D.M., Prokhorov, A.V. & Harty, K.C. (1994). Effects of a state-wide antismoking campaign on mass media messages and smoking beliefs. *Preventive Medicine*, 23(1), 54-60.
- National Strategic Plan of Action for Tobacco Control. (2007-2010). Ministry of health and family welfare, GOV of people's republic of Bangladesh.
- National Institute of Preventive and Social Medicine. (2017). Rapid assessment of usefulness of graphic health warning based anti-tobacco advertisements in national dailies.
- Perry, C.L., Kelder, S.H., Murray, D.M. & Klepp, K.I. (1989). Communitywide smoking prevention: Long-term outcomes of the Minnesota heart health program and the class study. *American journal of public health*, 82(9), 1210-1216.
- Pierce, J.P., Gilpin, E.A., Emery, S.L., White, M.M., Rosbrook, B., Berry, C.C. & Farkas, A.J. (1998). Has the California tobacco control program reduced smoking? *Journal of the American Medical Association*, 280(10), 893-899.
- Preacher, K.J. & Hayes, F.A. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments and Computers*, 36(4), 717-731.
- Sachs, K. (2010). Up in smoke: How antismoking advertisements have changed youth smoking habits. *The Elon Journal of Undergraduate Research in Communications*, 1(1), 58-69.
- Saunders, M., Thornhill, A. & Lewis, P. (2009). *Research methods for business students*. [Kindle DX version] Prentice Hall.
- Siegel, M. (2000). The impact of an antismoking media campaign on progression to established smoking: Results of a longitudinal youth study. *American Journal of Public Health*, 90(3), 380-386.
- Tan, W. & Liu, H. (2009). The effect of anti-smoking media campaign on smoking behaviour: The California experience. *Annals of Economics and Finance*, 10(1), 29-47.
- Tangari, A.H., Burton, S., Andrews, J.C. & Netemeyer, R.G. (2007). How do anti-tobacco campaign advertising and smoking status affect beliefs and intentions? Some similarities and differences between adults and adolescents. *Journal of Public Policy & Marketing*, 26(1), 60-74.
- Wakefield, M.A., Loken, B., & Hornik, R.C. (2010). Use of mass media campaigns to change health behaviour. *The Lancet*, 376(9748), 261-1271.
- WHO. (2017). *Making a difference: Tobacco control in Bangladesh*.
- Zhao, X., Lynch, J.G. & Chen, Q. (2010). Reconsidering baron and Kenny: Myths and truths about mediation analysis. *Journal of consumer research*, 37(2), 197-206.