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CHANGES IN ATTITUDE AND SELF-REPORTED SMOKING BEHAVIOR OF YOUTH WITH DIFFERENT SOCIOECONOMIC STATUS PRE- AND POST-IMPLEMENTATION OF WHO TOBACCO CONTROL POLICIES IN UKRAINE DURING 2005-2011

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ABSTRACT

This study examines an attitude to tobacco control policy and self-reported behavior of youth in reference to pre-post adaptation of WHO tobacco control policies in Ukraine during 2005-2011 with and without the consideration of their socioeconomic status. The study utilizes the data from Global Youth Tobacco survey (GYTS) which was gathered in Ukraine in 2005 and 2011. The results of study reveal a statistical significant difference in both attitude and self-reported behavior pre- and post-adaptation of WHO tobacco control policies. The difference, however, has a small size effect which implies of the need to more effectively implement the policies directed toward increasing taxes, tobacco products advertisement regulation, and smoke free environment law. There is a need of strengthening public health policy efforts in anti-smoking interventions, themes, and approaches. The findings also show that youth of different levels of socioeconomic status do not differ in their attitude toward tobacco control policies and do not differ in their self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control policies. Youth of different levels of socioeconomic status, however, differ in their self-reported observation of anti-smoking advertisements and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies which signals of a need for a targeted approach for different socioeconomic status groups to equally increase the positive outcome of policies for all socioeconomic status groups. Therefore, the consideration of socioeconomic status should be embedded.
into the preferred policy tools for the individuals with different socioeconomic status to bear the desired policy outcome. A future agenda, therefore, will be to find means for overcoming difficulties in identifying socioeconomic status groups in Ukraine, obtaining behavioral data on the different socioeconomic groups, developing strong and simple approaches in reaching vulnerable socioeconomic groups, and implementing long-term strategies. This study, therefore, helps to address an important gap in the policy development literature and provides the recommendations on the effective tobacco control policies practical implementation.
DEDICATION

To my mom Antonina Aleksandrovna Volkova
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CHAPTER I
INTRODUCTION

Introduction and Importance of Study

Public attitude and self-reported behavior to WHO tobacco control policies implemented in Ukraine in 2005-2011 have not been studied extensively. Moreover, up to date there has been done no research on public attitude and self-reported behavior to WHO tobacco control polices in Ukraine with the consideration of socioeconomic determinants. Lastly, there has been done no research on how socioeconomic status influences the attitude and self-reported behavior of youth in pre- and post-implementation of WHO tobacco control policies.

International research on WHO tobacco control policies has largely assumed changes in individual’s attitude and behavior pre- and post- implementation. Evidence from longitudinal research indicates that after WHO tobacco control policies implementation the support for policies increased and attitudes toward tobacco control policies improved both among smokers and nonsmokers (Hocking, Borland, Owen, and Kemp, 1991). Moreover, the anti-smoking policies result in decreases in tobacco consumption (Laforge, et al., 1998). In addition, previous research on socioeconomic status has largely assumed that it influences individual’s attitude and behavior towards tobacco control policies implementation. Scholars Adler and Newman (2002), Wardle
and Steptoe (2003) found that socioeconomic status impacts individual attitude and behavior.

It can be assumed that socioeconomic status in Ukraine impacts individual attitude and behavior of individuals pre- and post-implementation of WHO tobacco control policies. This can be stated due to the assumption that Ukraine has a varied socioeconomic status of the population. In fact, some findings by the international scholars revealed that Ukraine has a varied socioeconomic status of the population, while studies of some Ukrainian scholars state that there is absence of socioeconomic disparities in Ukraine. Moreover, in their research on tobacco control policies, Ukrainian researchers either do not consider socioeconomic status variable or consider only one component of this determinant which is education.

This study posits that there are changes in attitude and self-reported smoking behavior of youth pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011. Moreover, this study posits that there is a presence of a varied socioeconomic status of the population, in particular youth, in Ukraine that influences individual’s attitude and behavior towards tobacco control policies implementation. This approach is an innovative step in studies of public attitude and behavior to tobacco control policies in Ukraine as it makes two unique contributions. First, this study is the first to examine attitude and self-reported behavior of youth to tobacco control polices in Ukraine with and without the consideration of socioeconomic determinants pre- and post-implementation of WHO tobacco control policies. Second, the study opens up the idea that socioeconomic determinants may influence the individual’s attitude and behavior on tobacco control policies implementation in Ukraine. Studying attitude and behavior of
youth toward tobacco control policies in Ukraine pre- and post-implementation of these policies with and without the consideration of socioeconomic status will help to understand the possible reasons of poor outcomes of tobacco control policy implementation in Ukraine.

Ukraine adopted WHO tobacco control policies in 2005 and ratified them in 2006. The following policies were implemented beginning 2006: smoking ban in public places, and tobacco advertising bans on TV, radio, (outdoor and point of sale advertising was, however, practiced). In 2009 outdoor tobacco advertising was banned and in 2010 the printed media was banned. In 2008-2010 there were introduced several increases of tobacco excise tax. In 2011, the Ministry of Health of Ukraine announced the adoption of pictorial health warnings on tobacco products, to be introduced in 2012.

The laws introduced in the period 2005-2011 include the Law on Measures to Prevent and Reduce the Use of Tobacco Products and their Harmful Impact on Public Health adopted in 2005. One of the main objectives of the Law was to “determine the legal and organizational bases of the national policy aimed at preventing tobacco smoking among children and young people” (Tobacco control in Ukraine, 2009, p.41). This law had a provision that the Cabinet “ensures the implementation of the consolidated national policy to prevent and reduce the use of tobacco products and their harmful impact on public health, and develops and approves relevant programs” (Tobacco control in Ukraine, 2009, p.41).

In spite of efforts made to curb the tobacco usage, Ukraine still has numerous barriers in tobacco control policy implementation. Prior to the ratification of Framework Convention on Tobacco Control in 2006 tobacco use was the leading cause of premature
death in the country (Andreeva, 2005). Mainly due to premature mortality with tobacco use as a leading cause, Ukrainian population decreased during two decades before the new policy measures. After the ratification of Framework Convention on Tobacco Control smoking prevalence among Ukrainian men decreased but stays as high as 50% and 34% people who work indoors experience secondhand smoke (GATS National Report, 2010). Ukrainian public remains among the largest tobacco consumers in the world. There is an urgent need in the effective tobacco control measures implementation, otherwise the disease burden in Ukraine will stay high. Moreover, most likely it be influenced by the high rates of smoking in youth (Giovino, et al., 2012).

It can be hypothesized that individual’s attitude and behavior influence pre-and post-tobacco control policies implementation. It can also be hypothesized that socioeconomic determinants in Ukraine influence on individual’s attitude and behavior on pre- and post- tobacco control policies implementation. Thus, it is imperative for the policymaking institutions in Ukraine to capture the variables that represent critical actors in policy implementation process if they wish to effectively implement the tobacco control policies. The argument behind the second assumption is that individuals of low, middle and high socioeconomic status in Ukraine more likely respond differently to policy implementation tools. 

This study will examine attitude and behavior of individuals of three categories of policy tools, in particular, regulatory instruments (smoke free indoor environment legislation and bans on tobacco advertising), financial means (tobacco taxation), and communicative tools (warning about dangers of tobacco) pre-and post-implementation of WHO tobacco control policies. In addition, when looking at these policy tools, this study
will be focusing on the idea that two components of socioeconomic determinant, occupation and education, play an important role in individuals’ approval or disapproval of public policy. Many researchers have devoted time to study the topic of socioeconomic status influence on the individual’s attitude and behavior within policy implementation; however, as of now none have considered whether the combination of occupation and education play role in young people’s’ approval or disapproval of smoke free indoor environment legislation, bans on tobacco advertising, tobacco taxation, and warning about dangers of tobacco in Ukraine. Two questions will be analyzed using Global Youth Tobacco Survey (GYTS) Ukraine 2005 and 2011 survey data. The first question examined will be whether youth differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies in Ukraine. The second question examined will be whether youth differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices, the third question addressed will be whether there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies, and the fourth question addressed will be whether the effect of the adaptation of WHO tobacco control policies change across socioeconomic status on the three previous study aims.

**Relation to Current Research**

This study is contextualized within an area of current research on attitude and self-reported smoking behavior of youth with different socioeconomic status in pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011. First, given that the study will look at the current research on attitude and self-reported
smoking behavior of the individuals, it is necessary to discuss the policy instruments that alter the individual’s attitude and behavior and their categories in accordance with traditional and alternative approaches to policy instruments and schools of thought within these approaches. The literature on effectiveness as one of the public policy goals in choosing policy instruments and the theoretical background of policy instruments for tobacco control will be addressed. In particular, the literature review will encompass Rational Choice Theory and Theory of Planned Behavior which is the most often used and documented theory on behavior change and belongs to Rational Choice Theory. A short review of the basic assumptions of theories and models of habitual behavior, in particular, Attitude-Behavior – Context Model, Theory of Interpersonal Behavior, and Motivation-Opportunity-Abilities will also be addressed. Second, the literature regarding the international research on attitude and behavior changes of adults and youth in the world toward WHO tobacco control policies over time in relation to smoke-free indoor environment, warning about the dangers of tobacco, bans on tobacco advertising, and tobacco taxation will be addressed. It is important to discuss research evidence on changes of the individual’s attitude and behavior after the implementation of WHO tobacco control policies and the international research related to the attitude and behavior changes of youth in the world toward WHO tobacco control policies with and without consideration of socioeconomic status. Two aspects of socioeconomic status education and occupation considered for this study will be included in the review. The research will review the literature regarding any evidence that socioeconomic status changes attitude and behavior of the individual toward WHO tobacco control policies implementation. Lastly, the literature related to tobacco control policies 2005-2011 legislation in Ukraine
and challenges of their implementation will be reviewed and the research evidence of attitude and behavior changes of adults and youth in Ukraine with and without consideration of SES toward WHO tobacco control policies implemented will be discussed.

**Policy Instruments and Their Theoretical Background for Tobacco Control**

Public policies are comprised of policy instruments or tools that governments use to influence citizen behavior and achieve policy purposes (Elmore, 1987; Rist, 1998; Salamon, 1989; Doern and Wilson, 1974; Dahl and Lindblom, 1953; Ostrom, 1998; Howlett, 2005; Bemelmans-Videc, Rist, and Vedung, 2011). Policy instruments are comprised of various categories that scholars separate them into (Bemelmans-Videc, 1998; Schneider and Ingram, 1990; Stone, 2002; van der Doelen, 1998). Because of the historical predominance of the instrumental approach to policy, there exists a vast number of scholarly typologies of instruments or tools. The variety of instruments within the typologies produces a variety of effects on the behavior of the individuals. In order to determine whether policy categories “have consequences for policy participants, in the sense of citizen responses to policy tools, the behavioral assumptions of policy need to be studied” (Schneider and Ingram, 1990, p. 512), therefore, the focus of this study will be made on the classification categories that emphasize the behavioral assumptions underlying these instruments. Moreover, the emphasis of the literature review will be on the individual behavior changes due to the implementation of policy tools rather than on the collective group behavior, in particular, on the outcome of the individual behavior changes due to the implementation of policy tools. The basic argument for this statement is that policy instruments considered for this study are derived from the Rational Choice
Theory which considers an individual unit of analysis and deals only with the aggregation of individual action rather than Organizational Theory which considers a collective (organizational or inter-organizational) unit of analysis. The basic assumption underlying the approach chosen is that “public policy almost always attempts to get people to do things that they might not otherwise do; or it enables people to do things that they might not have done otherwise” (Schneider and Ingram, 1990, p. 513).

The large vein of research regarding traditional approach to policy distinguishes between three analytical approaches to them: the classical, the instrument-context, and contextual approaches. The classical approach assumes that “the nature of instruments structures the course of policy processes” (de Bruijn and Hufen, 1998, p. 15). The instrument-context approach, however, assumes that implementation activities are determined by both the characteristic of instruments and context in which they are implemented. Within the contextual approach the analysis “does not concern instruments, but instead policy systems, policy networks, decision-making arenas or implementation processes (de Bruijn and Hufen, 1998, p. 16). The approach stems from the works of Hood (1983), Geelhoed (1983), Mayntz (1983), Salamon and Lund (1989), Kaufman and Rosewitz (1983), Bressens and Klok (1987), Linder and Peters (1989), Hufen (1990), Wamsley and Miward (1985), Glasbergen (1989), Kiser and Ostrom (1985), Hupe (1990), Hufen (1990), and Van der Doelen (1989). De Bruijn and Hufen (1998) suggested three types of policy instruments: regulatory (that normalize the behavior of social actors), financial incentives (that have a non-coercive nature and can influence people’s behavior more effectively in some policy fields, but, on the other hand, can give a choice of changing behavior which in some cases is undesirable by the government)
and information transfer (which is based on conviction instead of coercion and is popular because it fits the relationship of a modern society, but can preset a problem that the information presented may not change the behavior). Advantages of the instrumental approach include theoretical insights, an enlightenment function, and providing an insight to into a variable that is relevant to various policy processes; disadvantages, on the other hand include gaps in the typology of policy instruments, insufficient attention to the complexity of environment, reification, and the outcome in which the increase of knowledge of instruments gives more understanding of the policy implementation process, but not of the possibilities of controlling that implementation process.

A different stream of argument examines the alternative approaches to policy instruments and is presented in the works of Linder and Peters (1998). These scholars built their arguments on the works of Dahl and Lindblom (1953), Phidd and Doern (1978), Hood (1983), Lowi (1972), Pressman and Wildavsky (1973), and Ingram and Schneider (1990) and identified four distinct schools of thought within these approaches as well as the implications for the instrument choices within these approaches. The four schools of thought are: ‘instrumentalist’ (appeals to technical rationality), ‘proceduralists’ (assumes that no one tool is universally applicable, the choice of them is a result of an adaptation process), ‘contingentists’ (assumes that instruments should be chosen according to the characteristics of instruments which are able to solve the problem), and ‘constitutivists’ (believes that it is important to understand the context for the instruments to be used in and the subjective meaning of those instruments which includes symbolic and ethical aspects as well as values and perceptions). Within these approaches Browne and Wildavsky (1983), Hjern and Hull (1982) advocate a ‘proceduralists’ approach,

De Bruijn, Ten Heuvelhof, and Marsh (1998) argued that there exists the so-called second-generation instruments which are more effective for the implementation in target groups: communication instruments (can restrict and broaden knowledge and exchange information), multilateral instruments (assume mutual commitments), and incentives (can be positive, for example, subsidies and negative, for example, taxes, and then the target audience decides whether to react to a particular incentive or not, and, therefore, to alter their behavior according to the government’s policy or not). These instruments are indirect, rely on ‘third parties’ for the implementation of policy, and are voluntary and relative by nature.

Behelmes-Videc, Rist and Vedung (1998) introduced a term ‘carrots, sticks, and sermons’ referring to subsidies and taxes as ‘carrots’, regulation as ‘sticks’, and education as ‘sermons’. Subsides or taxes (‘carrots’) are a use of funds by government for the purpose of influencing the party’s behavior with a view to achieving some level of activity or provision (Leeuw, 1998, p. 78-79). Regulatory instruments are used “to define norms, acceptable behavior, or to limit activities in a given society. The law, backed up with the threat of sanction, represents the ‘stick’ used to prescribe or prevent certain types of human behavior” (Lamaire, 1998, p 59). Information as a public policy tool (‘sermon’) “covers government-directed attempts at influencing people through transfer of knowledge, communication of reasoned argument, and moral suasion in order to achieve a policy result” (Vedung and Van der Doelen, 1998, p. 103). ‘Sticks’, ‘carrots’, and
‘sermons’ have their opportunities and limitations which play the role of stimulative and repressive modes. Stimulating rewarding modes (for example, information programs) enlarge the alternatives of behavior by promoting the political support and legitimacy of policy. The repressive or punitive modes (for example, prohibitions) limit the alternatives of behavior that is contributing to the change of behavior in the desired way and to the goals of the policy (Vedung and Van der Doelen, 1998, p. 143).

Schneider and Ingram (1990) made their contribution to the research literature in providing a systematic attention to policy instruments and their behavioral characteristics through which policy instruments produced their effects on the target populations. The scholars suggested five policy tools: authority (statements by authority that permit, prohibit, or require action), incentive (assume that individuals need to be influenced, encouraged, or coerced by some tangible positive or negative payoffs so that to induce compliance and encourage utilization), capacity (assume that individuals will have incentive or motivation to change the behavior if they are properly informed and have the necessary resources), symbolic and hortatory (assume that if individuals see that their behavior is consistent with their beliefs and values, and these values are positive, they are inclined to compliance with behavior desired from a policy perspective and promoted by government officials as important), and learning (assume that they can be used when the basis for an action is unknown or uncertain). In applying scholars’ categorization to the tobacco control policies it can be assumed that individuals are given the discretion in the selection of policy tools to encourage their participation. Policy evaluation in this case will improve policy design, and therefore, policy outcome.
As seen from the literature review above there is a variety of classifications of policy tools. Taking to consideration that “nowhere in the international literature on policy analysis and public administration is to be found a uniform generally embraced classification of policy instruments” (Vedung, 1998, p. 22), this study adopts three categories of policy tools, or another words, three families of policy tools by Van der Doelen (1998) as basic ones for the research. The choice of these categories of policy tools is based on the argument of this research that these categories explain the underlying motivational strategies of the tools in the most classic and comprehensive way.

**Effectiveness as One of the Public Policy Goals in Choosing Policy Tools**

Effectiveness of a policy is defined as “the degree to which the chosen policy instruments themselves contribute to attainment of the policy goals” (Van der Doelen, 1998, p. 131). Within the multitude of policy tools categories suggested by scholars starting from 1970s and up to today the choice among tools for the implementation falls into an art of policy design.

Vedung (1998) believes that for policymakers it is important “to have a good overview of the generic forms of these instruments, because the issue of choosing the appropriate combination is one of the most intricate and important in strategic political planning” (p. 21). A multitude of research is done to study the effectiveness of policy tools and their target audience. The in-depth review of the research on the effectiveness of policy tools and their target audience will be discussed in chapter two and presented by the works of Vedung (1998), Etzioni (1975), Bemelmans-Videc (1998), Veld (1998), Bressers (1998), Salamon (2002), Dias, Marques, Ruseva, Nurse, and Dias (2012). The
problem, however, is that “specific evidence on the effectiveness of different public health policy and legal instruments is currently limited, which makes it difficult to recommend one tool over another” (Dias, Marques, Ruseva, Nurse, and Dias, 2012, p. 22). Therefore, further evaluation is needed to inform the future effectiveness of different instruments and tools.

**Theoretical Background of Policy Instruments for Tobacco Control**

All three categories of policy instruments used in this study (regulatory instruments, financial means, and communicative tools) stem from Rational Choice Theory (RCT). That theory assumes that people make conscious and rational decisions, and therefore, scholars viewed these policy instruments through the lenses of Rational Choice Theory. The core of Rational Choice Theory is that “social interaction is basically an economic transaction that is guided in its course by the actor’s rational choices among alternative outcomes. An action is taken only after its benefits and costs have been weighed” (Zey, 1998, p. 2). Rational choice theorists assume that “social actions and outcomes are the consequences of individual choice and that they correspond to individual intentions” (Zey, 1998, p. 28). The scholars who criticize Rational Choice Theory argue that the theory has many fallacies, in particular, it is explained “without reference to other social facts”, and it sees “human action primarily in economic terms and is not concerned with the ethics that lead to rational decisions” (Zey, 1998, p. 11). Human behavior, however, is a lot more complex and human actions should not be viewed primarily in economic terms, but should consider ethics and values, emotions and habits that lead to a specific behavior. Another non-flawless assumption of the rational choice theorists is that “their models apply equally to all people under analysis –
decision-making rules and preferences are stable across individuals and time” (Zey, 1998, p. 34).

**Theory of Planned Behavior**

The Theory of Planned Behavior (TPB) is the most often used and documented theory on behavior change, and belongs to Rational Choice Theory. It has been used successfully to predict and explain a wide range of health behavior including smoking. The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA). The assertion of TRA is that “the most important determinant of behavior is behavioral intention. Direct determinants of individuals’ behavioral intention are their attitude toward performing the behavior and their subjective norm associated with the behavior” (Montaño and Kasprzyk, 2008, p. 70). Ajzen and Madden (1986) introduced TPB in which they added perceived control over the behavior based on the idea that behavior is determined by both motivation (intention) and ability (behavioral control). Perceived control over the behavior considers situations where the individual may not have complete volitional control over a behavior. Volitional control means that individuals can exercise a large degree of control over the behavior. Montaño and Kasprzyk (2008) noted that relative weights of attitude, subjective norm, and perceived control factors in determining intentions varies for different behaviors and populations (p. 71). This argument can be applicable to this research which studies changes in attitude and self-reported smoking behavior of youth with different socioeconomic status. The major strength of TPB approach is that “hypothesized causal relationship among model components are clearly specified, and measurement and computation are delineated by Ajzen and Fishbein” (Montaño and Kasprzyk, 2008, p. 72). Proponents of TPB argue that
attitude plays the most important role among other factors in behavior change (Egmond and Bruel, 2007, p. 5). The critique of TPB, on the other hand, includes the following arguments: human behavior is influenced by social, moral, altruistic, and self-interest factors, habits and routines which is a procedural rationality according to Simon (1957) which bypasses cognitive deliberation, in addition, emotional and affective responses may confound cognitive deliberation (Egmond and Bruel, 2007, p. 5).

Based on TPB theory it can be argued in that individuals direct their attitude toward the behavior (tobacco control policies) rather than toward the object (tobacco products). Moreover, individuals with different socioeconomic status may have different attitude and exercise different behavior toward tobacco control policies. It must be noted that this study focuses only on the attitude and self-reported smoking behavior of the individuals and in depth study of subjective norm and perceived behavior control components are beyond the research scope of this paper.

The behavioral change as a process reviewed above occurs when the problem appears new to the individual, in particular, when the individual encounters tobacco control policies: smoke-free environment legislation, bans on tobacco advertisements, tobacco taxation, and warning about dangers of tobacco. If a problem is not new or occurs regularly, then an individual has a repeated or habitual behavior. Various research exists on habitual behavior in reference to tobacco control policies (Egmond and Bruel, 2007; Verplanken, Aarts, Van Knippenberg, and Moonen, 1998). Several scholars also developed the integrated perspective theories/models which in one or another way include TPB. For example, Stern (2000) developed Attitude-Behavior – Context Model,

**Attitude and Behavior Changes Pre- and Post-Implementation of Tobacco Control**

Tobacco industry marketing and public health tobacco-control activities are two of the major influences of cigarette smoking behavior (Pierce, 2007). The tobacco industry uses various strategies to target individuals, especially youth as new tobacco consumers. These strategies include designing packaging as an advertising vehicle to appeal to young people and encourage them to smoke, and designing flavorings to improve the smoking experience and increase its attractiveness (Series, 2010, p.4). On the other hand, there exists the substantial evidence indicating that tobacco-control activities, in the frames of the so-called MPOWER policies, play an important role in changing attitude and behavior of current tobacco users as well as potential tobacco users. (MPOWER policies stand for: Monitor tobacco use and prevention policies; Protect people from tobacco smoke; Offer help to quit tobacco use; Warn people about the dangers of tobacco; Enforce bans on tobacco advertising, promotion and sponsorship; and Raise taxes on tobacco). Therefore, policies such as clean air laws, advertising bans, and media campaigns and higher cigarette taxes can effectively lead to the reduction of smoking rates, reduction of smoking initiation rates, and dramatic improvement of health when individuals change their behavior in compliance with tobacco control policies (Hopkins et al., 2001; Levy, Gitchell, and Chaloupka, 2004; Taylor, Hasselblad, Henley, Thun, and Sloan, 2002; Hahn et al., 2008; Ng et al., 2014; Levy et al., 2012; Invernizzi, Ruprecht, Mazza, De Marco, and Boffi, 2004; Shiell and Chapman, 2000; Goodman, Haw, Kabir, and Clancy, 2009; Tan and Glantz, 2012; Flay, Ockene, and Tager, 1992;
Youth protection against tobacco is part of the World Health Organization’s (WHO) Framework Convention on Tobacco Control (FCTC). An intensified effort is needed to lessen the harm caused by tobacco products use because, according to the research, “the majority of smokers currently start smoking at around 15 years of age” (Series, 2010, p.4). Moreover, those who start smoking at a younger age (before 18 years old) are more likely to become established heavy users of tobacco products and less likely to be able to quit (Kuper, Adami, and Boffetta, 2002). The primary argument in favor of focusing on youth anti-tobacco strategies is the potential for changing their smoking behavior before they become addicted, at transition when intervention may prevent or limit the shift from occasional to routine use, and after they become addicted (Jacobson, 2001, p. 41).

Wherever the effective legislative, executive, administrative or other measures are undertaken, the evidence presents changes in smoking behavior (Burns, Shanks, Major, Gower, and Shopland 2000; Tauras, 2004; Wakefield and Forster, 2005; Siegel et al., 2005; Huang, Lin, Chen, and Tsai, 2013; Pierce, 2007; Levy, Romano, and Mumford,
2005; Emery et al., 2005; Siegel, Albers, Cheng, Biener, and Rigotti, 2005; White, Webster, and Wakefield, 2008; Biener, Ji, Gilpin, and Albers, 2004; Terry-McElrath et al., 2005; Hopkins et al, 2001; Elders, Perry, Eriksen, and Giovino, 1994; Lantz et al., 2000 Mashlyakivskyy, 2004; Tworek et al., 2010; Carpenter and Cook, 2008; Levy, Chaloupka, and Gitchell, 2004; Hopkins et al., 2001; Dobbins, DeCorby, Manske, and Goldblatt, 2008). On the other hand, there is evidence that tobacco advertising undermines the efforts of tobacco control policies (Lantz et al., 2000; Distefan, Gilpin, Sargent and Pierce; 1999). The research on tobacco and anti-tobacco advertising policy, therefore, has varying results (Flynn et al., 1992; Worden et al., 1996; Wakefield and Forster, 2005; Moodie, MacKintosh, and Hammond, 2010; Lantz et al., 2000).

Youth protection against tobacco has been challenging. Evidence demonstrates that information campaigns in media and smoking in public places bans and restrictions were less effective among youth than in adults, and pro-tobacco advertisements caused the likelihood of initiating a smoking behavior in youth and becoming regular smokers (Sowden and Arblaster, 1998; Chaloupka, 1999; Levy, Chaloupka, and Gitchell, 2004; Wakefield et al., 2000; Lovato, Linn, Stead, and Best, 2003; Slater, Chaloupka, Wakefield, Johnston and O’Malley, 2007; Hublet et al., 2009; Baška, Warren, Bašková, and Jones, 2009; Klein, Forster, Erickson, Lytle, and Schillo, 2009). The variety of challenges contributed to the poor implementation outcome of tobacco control policies. Therefore, there evoked an urgent need to find the effective policy for youth protection against tobacco products. The research on attitude and behavior changes of youth is an important step in the process of Word Health Organization tobacco control policies implementation.
Youth with Different Socioeconomic Status and Tobacco Control Policies

Implementation

International research on attitude and behavior changes of youth pre- and post-implementation of WHO tobacco control policies considers socioeconomic status (SES) to play an important role. Moreover, the construct of socioeconomic status is “central to understanding how individual’s attitude and behavior are shaped by processes that take place in key social contexts” (Ensminger et al., 2000, pp. 392-393). There is an evidence that socioeconomic status affects attitude and smoking behavior of youth (Hiscock, Bauld, Amos, Fidler, and Munafo, 2012). Taking to consideration these arguments, this study will examine the research evidence on attitude and behavior changes of youth with different socioeconomic status pre- and post-implementation of WHO tobacco control policies.

In scholarly research socioeconomic status has various definitions. For example, socioeconomic status is “the position that a person occupies in the structure of society due to social or economic factors” (Galobardes, Shaw, Lawlor, Lynch, and Smith, 2006, p.7). The choice of socioeconomic status measures depends on causal pathways and relevance of the indicator for the populations and outcomes under study (Shavers, 2007, p. 1021). For this study education and occupation measures are chosen to be used to examine the effects of socioeconomic status on WHO tobacco control policies implementation in Ukraine during 2005-2011. The basis for this choice is that “occupation and education are distinct but related concepts measuring multiple aspects of social class” (Ensminger et al., 2000, p. 386), and “education has been called the most
basic component of SES because of its influence on future occupational opportunities and earning potential” (Adler and Newman, 2002 p.61).

**Education Aspect of Socioeconomic Status**

This study argues that more educated individuals will be more likely to support health information dissemination, the regulation of tobacco products advertisement and tobacco free environment, and support tobacco taxation. It can be hypothesized that the higher the education of the individuals, the greater the percentage of those who support WHO tobacco control policies implementation. In fact, multiple evidence shows that the higher the education of the individuals, the greater their support for the tobacco control policies (Tobacco Control in Ukraine, 2009; Deaton, 2002; Adler and Newman, 2002; Shavers, 2007; Siahpush, McNeill, Hammond, and Fong, 2006; Pampel, 2003; Kovess et al., 2013). Evidence also shows that the lower the education of the individuals, the less likely they support the tobacco control policies (Shavers, 2007; Jarvis and Wardle, 1999; Bobak, Jha, Nguyen, Jarvis, and Mundial, 2000; Pierce, Fiore, Novotny, Hatziaandreu, and Davis, 1989; Gallus et al., 2014; Deaton, 2002; Sims et al., 2010; Andreeva and Krasovsky, 2011).

**Occupation Aspect of Socioeconomic Status**

The occupation aspect of socioeconomic status argument suggests that working people rather than non-working people will be more likely to support tobacco control policies. Evidence shows that working people rather than non-working people will be more likely to support health information dissemination, the regulation of tobacco products advertisement and tobacco free environment (Whitlock et al., 1998; Wilkinson
Youth and Socioeconomic Status

The research evidence on youth and SES in terms of tobacco control policies is scarce and contradicting. There is an evidence that low socioeconomic groups of youth have a higher prevalence of smoking compared with high socioeconomic groups of youth (Lowry, Kann, Collins, and Kolbe, 1996; Laaksonen, Rahkonen, Karvonen, and Lahelma, 2005; Melotti, Heron et al., 2011). On the other hand, there is evidence that “adolescents living below poverty levels were less likely to be regular smokers” (Jacobson, 2001, p. 92). Research reveals that higher cigarette prices through increased excise taxes deter smoking initiation and consumption by youth because youth make choices about cigarettes based on the resources available to them (Levy, Chaloupka, and Gitchell, 2004; Lewit, Hyland, Kerrebrock, et al., 1997; Liang and Chaloupka, 2001; Tauras and Chaloupka, 2004; Tauras et al., 2005). Some other studies, however, report either no significant association, or mixed results on smoking prevalence and quit attempts (Hanson and Chen, 2007). Studies on attitude and behavior of youth with different socioeconomic status toward tobacco control policies is also challenging. The challenges for example include difficulties in establishing empirical links between some policies implemented and their impact on the behavior of the individuals, using different statistical analyses which come to opposite conclusions about some policies, difficulties in identifying and classifying narrow audience segments, and difficulties in obtaining behavioral data on the target audiences (Jacobson, 2001). Scholars assert that in order for
public health strategies be effective, it requires significant resources and skillful execution (Jacobson, 2001, pp. 165-166, 173).

**Attitude and Behavior Changes toward WHO Tobacco Control Policies in Ukraine**

Ukraine adopted WHO tobacco control policies in 2005 and in 2006 Ukraine became a Party to the WHO Framework Convention on Tobacco Control (FCTC). The Ministry of Health issued Decree 311 which adopted the Complex Plan aimed at preventing and overcoming smoking in Ukraine. At that time several tobacco control laws were introduced. The legislation, which covers the tobacco control issues adopted during the years 200-2011, will be discussed more in-depth in chapter two. It has to be stated that the enforcement of the adopted laws began in 2006 but was accompanied by multiple challenges. For example, a smoking ban in public places was introduced in the middle of 2006 and this measure was widely covered by the media but not strictly enforced. In reference to the ban on tobacco advertising: during the years 2005-2006 there were several attempts made by Members of Parliament to propose a total ban on tobacco advertising but they were not successful. At the same time efforts of the tobacco industry towards promoting cigarettes proliferated: outdoor and point of sale advertising was widely practiced. In 2005–2007, “several local councils introduced local bans on outdoor tobacco advertising, but they were challenged in court because bans can only be introduced under national legislation” (Tobacco control in Ukraine, 2009, p. 44). At the Healthy Nation Presidential Forum in 2007 a ban on tobacco and alcohol advertising was promised but it was not until 2008 when some proposals were considered and adopted. They included the ban on outdoor tobacco advertising and the ban on tobacco advertising in the print media (except special publications). The outdoor tobacco advertising was banned in 2009 and the
printed media was banned in 2010. In addition to the above stated challenges, there were also challenges in tobacco taxation implementation. In 2008-2011 several increases of tobacco excise tax were enacted, but that measure was not very effective. The price on tobacco products and tax policy were not comprehensive and the excise taxes on tobacco in Ukraine were among the lowest in Europe in 2010 (Tobacco control in Ukraine, 2009, p. 102).

Krasovsky et al. (2014) identified the main problem of complying with the WHO Framework Convention during the years 2005-2011: “despite the general obligations set out in Article 5 of the FCTC, neither the multi-sectoral national tobacco control program nor the national coordinating mechanism for tobacco control existed in Ukraine” (p.111). This is due to the fact that “governmental social program aimed at reduction of the harmful effects of tobacco on the public health for the period until 2012 was approved by the Decree of Cabinet of Ministers of Ukraine No.940 dated September 3, 2009, but in 2011 it was canceled” (p. 111). Because tobacco control public health activities were partially supported by the authorities, they were initiated mostly by experts and community activists (Krasovsky, et al, 2014, p. 111).

The above discussed challenges can be explained by different policy arenas in Ukraine within which these policies were introduced for the implementation. According to Schneider and Ingram (1990), different historical periods may show “bias toward particular policy instruments because they have different rationales about what government ought to do, how people can be motivated to do it, and the appropriate limits that should be placed on government manipulation of individuals” (p. 523). Ukraine is not an exception for the policy development nature of changes. Different political
regimes and presidential styles utilize different policy instruments. And different policy tools, in return, may produce different effect on citizen support for the political regime and presidential style. In other words, “policy tools reflect the political culture”, these tools create “their own culture, thereby increasing the probability of their own effectiveness” (Schneider and Ingram, 1990, p. 526).

Moreover, applying the tool categories suggested by Wildavsky (1987) in reference to the political cultures, it has to be noted that the political regimes of Ukraine in 2005-2011 utilized all three categories of tools associated with the political cultures, in particular, authoritarian, individualistic, and egalitarian. By fact WHO tobacco control policies, which are evidence-based, consider all three categories of tools associated with these three political cultures, that is consider the differences of socioeconomic status of the individuals in their approach so that to encompass all target audiences of the policy. This suggests an assumption which this study seeks to prove: individuals in Ukraine represent a variety of socioeconomic status and react accordingly to the variety of policy tools introduced by the government. The argument of this study is that tobacco control policies were adopted in Ukraine as sine qua non for tobacco control, but no analysis was conducted to evaluate the outcome of these polices with the consideration of the variety of socioeconomic status of the population, in particular, youth. Evaluation of the impact of the WHO Framework Convention on Tobacco Control and its measures, however, is essential for defining the effective policies for youth in Ukraine and this study is aimed at filling in the gap in this knowledge.
Evidence of Attitude and Behavior Changes toward WHO Tobacco Control Policies in Ukraine

Scholars have devoted much effort to studying the outcomes of tobacco control policies over the world. Most of the studies of tobacco control policies, however, have been conducted for high-income countries, and fewer studies have been conducted in low-and middle-income countries where smoking rates are high (Johnson et al., 2006; Andreeva and Krasovsky, 2011). It is necessary, however, to study the tobacco control policies in low-income countries and for different demographic groups because effects of tobacco control policies differ in low-income countries, and they also differ for different demographic groups (Levy, Chaloupka, and Gitchell, 2004).

Surveys undertaken in Ukraine after WHO tobacco control policies were introduced present some contradictory outcomes. Some scholars, for example, believe that smoke-free policies which were supported by media campaign since 2006 were effective and the smoking prevalence among youth decreased by 17% from 2008-2012; also the smoking prevalence decreased due to the increase of average tax from 2008-2010 (Andreeva and Krasovsky, 2011; Krasovsky et al., 2014). On the other hand, there is an evidence that policies introduced were partial and were not fully enforced, and, therefore, were ineffective (Tobacco control in Ukraine, 2009). For example, results of a survey conducted after WHO tobacco control policies were implemented revealed that “being exposed to outdoor tobacco advertising was associated with an increased chance of early smoking initiation and continuation” (Andreeva, Krasovsky and Semenova, 2007, p. 7).

The results of several surveys on knowledge, attitude, and behavior conducted in Ukraine in 2005 demonstrated that respondents supported the need for detailed
information about health impact of smoking on tobacco packs: “this measure was supported by 86% of population” (Andreeva, 2005, p.9). Results of the same survey revealed that the majority of the population (57%) supported a total ban on tobacco advertising. This support was more frequently expressed by non-smokers and ex-smokers, older age groups, and lower socioeconomic groups of the population (Andreeva, 2005). Results of the same survey in reference to the tobacco taxes show that respondents supported the increase of tobacco taxes (30%) and, as a consequence, 27% of smokers expected to smoke less and 14% of smokers expected to give up smoking (Andreeva, 2005). In fact, studies on tobacco taxation revealed that tobacco tax increase since late 2008 (which accounted to a 50% price increase compared to one year earlier) led to a decline in smoking prevalence (Andreeva and Krasovsky, 2011, p. 4). Some other research evidence from the years 2009 and 2010 state that the higher tobacco taxes have significantly reduced tobacco consumption in Ukraine in those years (Ross, Stoklosa, and Krasovsky, 2012). Results of a population survey concerning the regulation of tobacco advertising conducted in 2009 (three years after the WHO tobacco control policies were implemented) revealed that the majority of the population supported a ban on tobacco advertising (Tobacco control of Ukraine, 2009, pp. 45-59). Moreover, the research evidence on ban of outdoor tobacco advertising shows that since 2009 it could somewhat influence smoking prevalence decline (Andreeva and Krasovsky, 2011, p. 4).

Youth in Ukraine and Tobacco Control Policies

In order to determine the effective tobacco control policies for youth in Ukraine there has to be established a clear picture of attitudes and behavior changes of youth toward tobacco control policies implemented. However, there is no sufficient evidence on
research on attitude and behavior changes of youth in Ukraine toward WHO tobacco control policies implemented during the years 2005-2011. Some evidence exists on self-reported smoking behavior by youth about smoke-free indoor environment, in particular, research conducted by Andreeva, Krasovsky and Semenova (2007) shows that “smoking regulation within households which only allowed smoking outdoors was associated with a lower smoking incidence among young people” (p. 7). These scholars argue that “encouraging people to eliminate tobacco smoke exposure in their homes can be an effective measure in preventing the initiation of smoking among young people” (Andreeva et al., 2007, p. 7). Some evidence also exists on the warning about the dangers of tobacco that shows that youth are less likely to pay attention to the information on the dangers of the use of tobacco than adult smokers (Andreeva and Krasovsky, 2011, pp.10-11). Consistent with these findings, evidence on pro-smoking advertisements seen by youth shows that tobacco advertising is more frequently seen by younger age groups rather than adults (Andreeva, 2005).

**Youth in Ukraine with Different SES and Tobacco Control Policies**

There is no available evidence on research on attitude and behavior changes of youth in Ukraine with different socioeconomic status toward WHO tobacco control policies implemented in 2005-2011. This study argues that youth of different levels of socioeconomic status will report different pre-post change in attitude towards increasing taxes on tobacco products, tobacco products advertisement regulation, and smoke free environment law. Youth of different levels of socioeconomic status will report different pre-post change in self-reported observation of anti-smoking and pro-smoking advertisements. The socioeconomic status perspective also suggests that youth of
different levels of socioeconomic status will report different levels of pre-post change in
self-reported smoking behavior. These analyses suggest pre- and post-implementation of
WHO tobacco control policies and socioeconomic status are determinants of youth’s
attitude and behavior toward WHO tobacco control policies.

**The Research Issue**

While much research exists describing various determinants of attitude and
behavior toward WHO tobacco control policies, there is still a lack of research at present
regarding effect of pre- and post- WHO tobacco control policies implementation
determinant and socioeconomic status determinant in Ukraine. Do youth in pre- and post-
WHO tobacco control policies implementation respond differently toward increasing
taxes on tobacco products, regulating tobacco products advertisement, and supporting
tobacco free environment? Do youth of different socioeconomic status report different
behavior in observation of anti-smoking and pro-smoking advertisements pre- and post-
adaptation of WHO tobacco control polices? Do they self-report different smoking
behavior pre- and post-adaptation of WHO tobacco control policies? Studies have yet to
look at whether there is a distinguishable difference in attitude and behavior of youth pre-
and post- WHO tobacco control policies implementation with and without different
socioeconomic status.

Research done by Hyland et al., in USA, Canada, UK, and Australia found that
“as stronger secondhand smoke policies are enacted; attitudes and compliance in support
of such policies among smokers increase over time” (2009, p. 647). Evidence from
another longitudinal research indicates that, “among smokers and nonsmokers, support
for smoke-free workplaces increases, and attitudes toward such restrictions improve, after
implementation “(Hocking, Borland, Owen, and Kemp, 1991, p. 643). Research done by Ukrainian scholars on pre- and post-implementation of smoking regulation (smoking outdoors) among youth in Ukraine found that smoking regulation was associated with a lower smoking incidence (Andreeva, Krasovsky and Semenova, 2007).

Research on attitudes, knowledge and behavior conducted in Ukraine in 2005 did not consider tobacco control outcomes by socioeconomic groups. The justification for not considering socioeconomic groups in the national survey analysis was the following: the measurements of social class traditional in such studies were not easily applicable to the data collected from the Ukrainian population (Andreeva and Krasovsky, 2011). Socioeconomic differences in attitude and behavior, however, can affect the policies implementation. These differences are “an important public health concern” (Vereecken and Vandegehuchte, 2003, p. 142).

Given that socioeconomic status includes several determinants, in order to obtain a better understanding of policy outcomes, the following determinants are considered for this study: education and occupation. These two determinants are indicators of the independent dimensions of social class can help to describe the mechanisms of attitude and behavior between of people with different socioeconomic statuses (Durkin, Islam, Hasan, and Zaman, 1994). Scholars Lien, Friestad, and Klepp (2001); Durkin, Islam, Hasan, et al. (1994); Liberatos, Link, and Kelsey (1988); Mueller and Parcel (1981) consider occupation and education indicators may provide different pieces in the puzzle of researching the mechanisms behind the observed variation of attitude and behavior toward tobacco control policies between groups with different socioeconomic status.
The findings could fundamentally alter the outcomes of WHO tobacco control policies in Ukraine. If attitude and behavior of youth toward policies differ in pre-and post-WHO tobacco control policies, the future implementation of these policies can be improved through adjusting the approach to these policies considering the findings. Moreover, if attitude and behavior of youth differ due to their socioeconomic status, the implementation of these policies may be improved through adjusting the approach to these policies considering the particular socioeconomic status of youth.

**Method of Inquiry**

The research approach used in this study will be to conduct a statistical analysis on existing official surveys undertaken as part of Global Youth Tobacco Survey (GYTS) series administered in Ukraine. The Ukraine GYTS was completed in 2005 and 2011. GYTS was a school-based survey of students in forms 7 through 9. It includes data on prevalence of cigarette and other tobacco use as well as information on five determinants of tobacco use: access/availability and price, exposure to secondhand smoke (SHS), cessation, media and advertising, and school curriculum. A two-stage cluster sample design was used to produce representative data for all of Ukraine. At the first stage schools were selected with probability proportional to enrollment size. At the second stage classes were randomly selected and all students in selected classes were eligible to participate.

The empirical analysis will consist of two parts. First, the study will look at descriptive statistics of all variables that describe the sample by year (pre-post WHO) and SES categories. Frequencies across the groups will be tested using the Chi-square test, differences in means across the groups will be tested using t-test. Second, the study
will seek to test if there was an adaptation of WHO tobacco control polices over time and whether that adoption changed across socioeconomic status. To test this a Multivariate Analysis of Covariance (MANCOVA) will be conducted. Further, to test the hypotheses, the MANCOVA model will specify the pre-post adaptation of WHO tobacco control polices variable, the socioeconomic group variable, and an interaction of those two variables as independent variables. The model will also include any demographic variables that vary across the groups in the descriptive analysis as potential confounders. If for any of the independent variables (including the interaction) the multivariate test is statistically significant, then a univariate ANOVA will be conducted; if the independent variable has more than three groups (i.e., the SES variable) then post-hoc test of differences across groups will be conducted using Tukey’s Honestly Significant Difference (HSD) test.

Through this analysis, the study will seek to determine if socioeconomic status of young people in Ukraine is a proxy for attitude and behavior of youth toward WHO tobacco control policies implemented in Ukraine and whether these attitude and behavior differ over time in reference to WHO tobacco-control policies implemented in Ukraine. Quantitative survey responses will allow for the studying of the hypotheses to be discussed in chapter two.

**Significance of the Study**

The study facilitates understanding of youth’s attitude and behavior patterns toward tobacco control policies implementation, provides an indication of the effectiveness of tobacco control strategies in the time between 2005 and 2011 and how these strategies should be changed, and points to programmatic and research needs. The
reason of study is to achieve maximum effectiveness of tobacco control policy and to identify the best tobacco control policy for Ukraine.

The results of the analysis will serve as evidence to explain whether the effect of pre- and post- WHO tobacco control policies changes, as well as whether the effect of socioeconomic determinants on individual’s attitude and behavior changes in reference to WHO tobacco control policies implementation in Ukraine. The results will provide the policy makers and attentive population with a valuable information on the implementation of policy options in the public interests (Demine, 2001). National institutions in area of tobacco use control, government of Ukraine at all levels, research and academic institutions, non-governmental organizations, business groups that promote help for relieve from nicotine dependency, mass media, schools and universities are among those who will benefit from the results of study in terms of implementation tobacco control policies.

In chapter two, a more thorough analysis of the current literature will be examined. Focus will be placed on international and Ukrainian research on attitude and behavior changes of individuals toward three categories of WHO tobacco control policy tools: regulatory instruments, financial means, and communicative tools over time and the consideration of socioeconomic status in the implementation of these tobacco control policy tools. In chapter three, the methodology and data will be discussed in more detail. Chapter four will present the results of the empirical analysis, and chapter five will conclude the study with a discussion of the results and their implications.
CHAPTER II
LITERATURE REVIEW

Introduction

This study examines attitude and self-reported smoking behavior of youth with different socioeconomic status in pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011. This study also argues that there are changes in attitude and self-reported smoking behavior of youth pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011. Moreover, this study posits that a presence of a varied socioeconomic status of youth in Ukraine influences their attitude and behavior towards tobacco control policies implementation.

The need to address the research issue of attitude and behavior of individuals toward tobacco control policies in Ukraine comes from the “most urgent and immediate priority” intervention which is tobacco control as identified by World Health Organization (Beaglehole et al., 2011). Tobacco use has long been a leading contributor to premature death, and causes about 9% of deaths worldwide (World Health Organization, 2012). Six million people die from tobacco use and exposure to tobacco smoke which is one death every six seconds (World Health Organization, 2013). In Ukraine the mortality is as high as 942 per 100,000 per year with smoking-related deaths accounted for 60% of the gender gap (McCartney, Mahmood, Leyland, Batty, and Hunt, 2011).
The World Health Assembly developed an intervention to curb tobacco epidemic. In 2003 it adopted the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) which entered into force in 2005. The WHO Convention was developed “as a scientific, evidence-based approach to global tobacco control” (Taylor and Bettcher, 2000, p. 925). A technical assistance package of six evidence-based policies that was developed by World Health Organization is called MPOWER. (MPOWER policies stand for: Monitor tobacco use and prevention policies; Protect people from tobacco smoke; Offer help to quit tobacco use; Warn people about the dangers of tobacco; Enforce bans on tobacco advertising, promotion and sponsorship; and Raise taxes on tobacco). These policies suggest that each nation should impose taxes on cigarettes of 75% or more of the retail price, require large, bold and graphic health warnings, provide broad access to cessation treatments, conduct a well-funded mass-media campaign, and enforce comprehensive smoke-free indoor air laws and advertising/marketing restrictions. These suggestions are based on multiple studies conducted over the last fifty years which provide an evidence on the effectiveness of these strategies. The optimum policies on tobacco control, “if fully implemented worldwide, would have an enormous effect on reduction of premature mortality” (World Health Organization, 2011). For the purpose of this study changes in attitude and self-reported smoking behavior of youth with different socioeconomic status pre-and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011 will be studied in reference to the following evidence-based policies within WHO framework discussed above: protecting people from tobacco smoke (smoke free indoor environment); warning about the dangers of tobacco; enforcing bans on tobacco advertising, promotion, and
sponsorship, in particular, bans on tobacco advertising; and raising taxes on tobacco (tobacco taxation).

This chapter consists of six sections. Following this introduction, the second section looks at the policy instruments that alter the individual’s behavior and their categories in accordance with traditional and alternative approaches to policy instruments and schools of thought within these approaches. The section will also review the literature on the effectiveness as one of the public policy goals in choosing policy instruments; and the theoretical background of policy instruments for tobacco control. In particular, the section will turn to the literature regarding Rational Choice Theory, and Theory of Planned Behavior which is the most often used and documented theory on behavior change, and belongs to Rational Choice Theory. The section will also present a short review of the basic assumptions of theories and models of habitual behavior, in particular, Attitude-Behavior – Context Model, Theory of Interpersonal Behavior, and Motivation-Opportunity-Abilities.

Section three will examine the literature related to international research on attitude and behavioral changes of adults and youth toward WHO tobacco control policies over time in relation to smoke-free indoor environment, warning about the dangers of tobacco, bans on tobacco advertising, and tobacco taxation. The section will present a literature overview regarding any evidence that implementing WHO tobacco control policies changes attitude and behavior of the individual. This section will also look at the international research related to the attitude and behavior changes of youth in the world toward WHO tobacco control policies with and without consideration of socioeconomic status. Two aspects of socioeconomic status education and occupation considered for this
study will be included in the review. The section will turn to the literature regarding any
evidence that socioeconomic status changes attitude and behavior of the individual toward
WHO tobacco control policies implementation.

Section four will examine the literature related to tobacco control policies 2005-
2011 legislation in Ukraine and challenges of their implementation. It will also look at the
research evidence of attitude and behavior changes of adults and youth in Ukraine with and
without consideration of SES toward WHO tobacco control policies implemented. It will
also discuss the controls used in study. Section five will summarize the hypotheses tested.
The final section will conclude the literature review by restating the addition that the
present study makes to the current literature on attitude and behavior of youth with different
socioeconomic status in pre- and post-implementation of WHO tobacco control policies.

Policy Instruments and Their Theoretical Background for Tobacco Control

Public policies are comprised of policy instruments or tools that governments use
to influence citizen behavior and achieve policy purposes (Elmore, 1987; Rist, 1998;
Salamon, 1989; Doern and Wilson, 1974; Dahl and Lindblom, 1953). In other words,
policy instruments or tools alter individual’s policy behavior (Howlett, 2005). By their
definition, “public policy instruments are the set of techniques by which governmental
authorities wield their power in attempting to ensure support and effect social change”
(Bemelmans-Videc, Rist, and Vedung, 2011, p. 3). Policy instruments are comprised of
categories. The scholarly literature encompasses the range of perspectives on policy tools
and the various categories that scholars separate them into (Bemelmans-Videc, 1998;
Schneider and Ingram, 1990; Stone, 2002; van der Doelen, 1998).
Because of the historical predominance of the instrumental approach to policy, there exists a vast number of scholarly design of a typology of instruments or tools. For instance, Gormley (1987) proposed the following three categories: coercive, catalytic, and hortatory tools. Bardach (1979) argued that there are four categories of policy tools: prescription, enabling, positive incentives, and deterrence. McDonnell (1988) and Elmore (1987) proposed another four categories: mandates, inducements, capacity, and system-changing tools. Lowi (1964) believed that four policy types are: distributive, redistributive, regulatory, and constituent; the focus of his work, however, was not a study of change of the individual’s behavior as a result of compliance with policy. Doern (1974) and Woodside (1986) proposed five categories: tax expenditures, regulation, subsidies, public ownership, and moral suasion.

The variety of instruments within the typologies produces a variety of effects on the behavior of the individuals. In order to determine whether policy categories “have consequences for policy participants, in the sense of citizen responses to policy tools, the behavioral assumptions of policy need to be studied” (Schneider and Ingram, 1990, p. 512). Therefore, the focus will be on the classification categories that emphasize the behavioral assumptions underlying these instruments. Moreover, as the research literature review unfolds, the emphasis will be on the individual behavior changes due to the implementation of policy tools rather than on the collective group behavior, in particular, on the outcome of the individual behavior changes due to the implementation of policy tools. The basic argument for this statement is that policy instruments considered are derived from the Rational Choice Theory, which considers an individual unit of analysis and deals only with the aggregation of individual action rather than Organizational
Theory, which considers collective (organizational or inter-organizational) unit of analysis. The basic assumption underlying the approach chosen is that “public policy almost always attempts to get people to do things that they might not otherwise do; or it enables people to do things that they might not have done otherwise” (Schneider and Ingram, 1990, p. 513). Below is the review of traditional and alternative approaches to policy instruments with the emphasis on the behavioral assumptions, as well as the review of the typology instruments.

De Bruijn and Hufen (1998), who advocated the traditional approach to policy instruments, distinguished between three analytical approaches to them: the classical, the instrument-context, and contextual approaches. Building off the acknowledgment by Hood (1983), Geelhoed (1983), Mayntz (1983), and Salamon and Lund (1989) that tools of government action have their own political economies affecting the context of this action, authors asserted that “the nature of instruments structures the course of policy processes” within the classical approach (de Bruijn and Hufen, 1998, p. 15). This approach assumes that instruments have their central activities, implementation problems and effects, and it leads to an instrumental theory. Referring to Kaufman and Rosewitz (1983) they argued that the obstacle of this approach, however, is “the problem of constructing a typology in which the categories are mutually exclusive” (de Bruijn and Hufen, 1998, p. 16). The instrument-context approach stemmed from the works of Bressens and Klok (1987), Linder and Peters (1989), and Hufen (1990). Scholars argued that implementation activities are determined by both the characteristic of instruments and context in which they are implemented. The difficulty of this approach is in defining the context itself. Bressen and Klok suggest using various public administration theories.
For the concept of contextual approach de Bruijn and Hufen (1998) referred to the works of Wamsley and Miward (1985), Glasbergen (1989), Kiser and Ostrom (1985), Hupe (1990), and Hufen (1990). The scholars argued that within this approach the analysis “does not concern instruments, but instead policy systems, policy networks, decision-making arenas or implementation processes (de Bruijn and Hufen, 1998, 16).

De Bruijn and Hufen (1998) suggested three types of policy instruments: regulatory, financial incentives and information transfer building on the idea of Van der Doelen (1989) who distinguished between legal, economic and communicative instruments. De Bruijn and Hufen (1998) argued that regulatory instruments normalize the behavior of social actors. For this purpose, “law standardizes governmental actions and offers social actors guarantees against government interventions, which at the same time can limit the regulatory ability of these types of instruments” (p. 17). This process requires monitoring and enforcement but not all governments can afford the implementation costs. This statement is true in reference to Ukraine where the introduced WHO tobacco control policies were not monitored and enforced due to the costs involved. Scholars also argued that regulatory instruments are coercive and reactive which provokes resistance and slows down the implementation of them.

According to de Bruijn and Hufen (1998) financial incentives have a non-coercive nature and influence people’s behavior more effectively in some policy fields. On the other hand, financial incentives have several serious drawbacks. In particular, they can shift mechanisms (for example, subsidies can push away moral behavioral incentives), they can give a choice of changing behavior which in some cases is undesirable by the government, and they may contain an insufficient knowledge and information on the
behavior of the target population necessary for the implementation of these policy instruments. The information transfer policy instrument according to de Bruijn and Hufen (1998), is based on conviction instead of coercion and is popular because it fits the relationship of a modern society. It is a soft instrument, and is “only effective if it is compatible with the frame of reference of the target group” (p. 18). The drawbacks of the instrument are the information problem that is understanding the frame of reference of the particular target group, and that the information presented may not change the behavior.

In their research de Bruijn and Hufen asserted that among the most important issues in the classical approach are evaluation of the policy instruments effectiveness, practice of policy implementation, and study of the policy actors participating in the implementation. They believed that research increasingly shifted toward the contextual approach, that is the research is focused on the policy implementation rather than on the effects of it. Among other shifts de Bruijn and Hufen highlight works of the supporters of one instrument implementation, such as Geehoed and Hufen (1990), and supporters of a combination of instruments, such as Elmore (1987) and Van Woerkom (1988).

Discussing the evaluation of the instrumental approach de Bruijn and Hufen acknowledged its advantages as well as its disadvantages. Advantages of the instrumental approach include theoretical insights which are closely connected to concepts used in practice which helps to fill in the gap between the theory and practice in policy implementation, an enlightenment function which is a policy vision that helps to translate this vision into instruments, description and explanation of an administrative reality, and providing an insight to into a variable that is relevant to various policy processes which
means there is an interaction between instrument and context. Disadvantages of the instrumental approach include gaps in the typology of policy instruments which means that the categories of instruments are not exhaustive and most typologies are not mutually exclusive, insufficient attention to the complexity of environment which means a theoretical one-sidedness, reification which means that there is a danger that intellectual ideas which cannot be applied to the reality may be given a substance, and the outcome in which the increase of knowledge of instruments gives more understanding of the policy implementation process, but not of the possibilities of controlling that implementation process.

Linder and Peters (1998) discuss the alternative approaches to policy instruments. Building off the acknowledgment that Dahl and Lindblom (1953) laid a groundwork for instrument study in political science field. Phidd and Doern (1978) then developed it with an emphasis to political attributes, in particular, relative coerciveness, Hood (1983) continued the development of an instrument study choosing a different path, in particular using it as building block for a theory of modern governance, Lowi (1972) linked core functions to the specific political processes, Pressman and Wildavsky (1973) linked instruments with administrative means as determinants of programmatic success, and Ingram and Schneider (1990) treated instruments more as intermediate products than means, authors asserted that “approaches to fashioning better instruments are currently at issue as are efforts to understand the process of assessing and choosing among them” (Linder and Peters, 1998, p 35). Linder and Peters (1998) identified four distinct schools of thought within these alternative approaches and the implications for the instrument choices within these approaches.
The first school of thought is called ‘instrumentalist’. It appeals to technical rationality, robust from the statistical point of view, and gives no room for politics and diversity of opinion on the character of optimality. The sources of instrumentalist position are professional or disciplinary, ideology, and power considerations. The second school of thought is called ‘proceduralists’. They assume that no one tool is universally applicable, the choice is the result of an adaptation process, which means that a proper tool is a function of a decision-making situation in a given situation. Proceduralists believe that not instruments but policies are central, and place instrument study in the implementation phase of the policy process. Scholars associated with this approach are Browne and Wildavsky (1983), Hjern and Hull (1982). The third school of thought is called ‘contingentists’. Scholars associated with this approach are Bobrow and Dryzek (1987) and Dunn (1988). ‘Contingentists’ believe that instruments should be chosen “according to how well their performance characteristics satisfy the requirements of a particular problem setting” (Linder and Peters, 1998, p. 39). They assume that context sets the conditions for assessment which is highly structured and is expressed in typological terms which are given as requirements, and these requirements, in their turn, are treated as verifiable conditions. The appropriateness of instruments varies across contexts. The fourth school of thought is called ‘constitutivists’. Scholars associated with this approach are Steinberger (1980) and Forester (1985). ‘Constitutivists’ believe that it is important not just understand the context for the instruments to be used in, but also the subjective meaning of those instruments which includes symbolic and ethical aspects as well as values and perceptions. Even though the instruments fit the problem, there is no appeal to rationality. Scholars believe that the understanding of tools and problems is
shaped by social, professional interaction, and contemplation. The instrument assessment then includes a self-reflexive assessment of values and biases.

Linder and Peters (1998) further argue that governments either align with a particular school of thought, or deliberately choose it for the implementation of policies. Thus, ‘instrumentalist’ and ‘contingentist’ governments are inclined towards technocratic modes of policy making, and ‘constitutivist’ and ‘proceduralist’ governments inclined towards participatory or pluralist modes. They asserted that the intellectual movement toward the constitutivist school of thought is obvious because it reflects institutional and phenomenological rather than positivist explanations of the intellectual patterns, as well as intellectual process of constructing a reality to work with. Scholars admitted that this movement toward the constitutivist school of thought also reveals the tension between theory (academic analysis of designs) and practice (real-world designing process). A summary of factors and judgements of how the scholars study instruments is presented in a Table 1.1 below.

Table 1.1 Schools of thought in instrument study

<table>
<thead>
<tr>
<th>Schools</th>
<th>Key factor</th>
<th>Modes of assessment</th>
<th>Relation to politics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumentalist</td>
<td>Instrument attributes</td>
<td>Optimality under constraint</td>
<td>Design precludes politics</td>
</tr>
<tr>
<td>Proceduralist</td>
<td>Adaptation</td>
<td>Evolving accommodation</td>
<td>Politics precludes design</td>
</tr>
<tr>
<td>Contingentist</td>
<td>Goodness of fit</td>
<td>Matching tool to task</td>
<td>Design shapes politics</td>
</tr>
<tr>
<td>Constitutivist</td>
<td>Evoked meaning</td>
<td>Interpreting contested meaning</td>
<td>Politics as design</td>
</tr>
</tbody>
</table>

While Linder and Peters advocate the constitutivist school of thought, Bagchus (1998) studied the move toward the contingentist school of thought. He examined three theoretical approaches to the choice of policy instruments: traditional, refined, and institutional. Bagchus argued that the traditional institutional approach looks at the choice of policy instruments from the goal-means rationality point of view. The context is of little importance, and the choice of policy instruments is the operationalization of the objectives which are external to these objectives. The means are related to the goals after these objectives are determined. The choice of instruments depends on the evaluation of the alternative instruments and their effects. In his arguments about the traditional instrumental approach Bagchus referred to the works of Geelhoed (1983), Hood (1983), and Needham (1982).

In order to build arguments on refined instrumentalism Bagchus referred to the works of Bressers and Klok (1987), Van der Doelen (1989), Hufen (1990) Linder and Peters (1989), and De Bruijn and Ten Heuvelhof (1988). The refined instrumentalism emphasizes the context-instrument relationship which means that the context is separate from the goal-means relationship. The target audience is of great importance as is interest, in the choice of the instruments. Actors choose the instruments by evaluating the possible effects according to their own judgements. The effects then explained not just by the instruments chosen, but by the context as well. Refined instrumentalism is closely connected to contingent reasoning, and it calls for a close connection between policy instrument, context, and target audience. Bagchus identified the problems of the refined instrumentalism within the contingent reasoning, in particular, the conditions in which policy instruments are used consist of attitudes, values, and morals, and it is challenging.
to consider them while choosing a policy instrument. Another problem is that “a full synthesis of the relationship between the conditions has not materialized” and selecting policy instruments “is a matter of continual equilibrating between unmanageable complexity and oversimplification” (Bagchus, 1998, p. 51). Bagchus (1998) asserted that refined instrumentalism pays little attention to “the role of people or the significant position of the government. Consequently, concepts such as action, dynamics, attitudes, values and morals remains unexplored” (pp. 51-52).

Bagchus clearly advocated the third alternative approach – institutional. This approach emphasizes the process-instrument relationship. Bagchus believed that the meaning of an institutional perspective can be described by twin concepts. The first concept is ‘present- past’ which means that the choice and nature of policy instruments is a part of historic development and they are established over time. In this argument Bagchus referred to the works of Krasner (1968) and Thelen and Steinmo (1992). The second concept is ‘design- evolution’ which means that historical process by an incremental development which to some degree is determined and controlled by different actors involved in the process define the choice of policy instruments. Bagchus developed this concept referring to the work of Brunsson and Olsen (1993). The third concept is ‘result – process’ which means that actors are not guided by effectiveness, but by the appropriate behavior according to their thinking, acting, and routine, and fulfill roles they impose on themselves or which are imposed by the community. In these arguments Bagchus referred to the works of March and Olsen (1984) and Toonen (1993).

De Bruijn and Ten Heuvelhof (1998) argued that there exist the second-generation instruments which are more effective for the implementation in target groups.
According to Van Nispen (2011), these instruments evolved due to “the shift in governance from hierarchy to markets and networks” (p. 11). These instruments are indirect, relying on ‘third parties’ for the implementation of policy and are voluntary and relative by nature. De Bruijn and Ten Heuvelhof (1998) distinguished between communication instruments, multilateral instruments, and incentives. Communication instruments can restrict and broaden knowledge and exchange information. Multilateral instruments assume mutual commitments. Incentives are a governance tool which are “a financial behavioral stimulus of a limited compulsive nature” (De Bruijn and Ten Heuvelhof, 1998, p. 77). Incentives can be positive (subsidies) and negative (taxes) and the target audience decides whether to react to a particular incentive or not, and, therefore, to alter its behavior according to the government’s policy or not.

Behelmes-Videc, Rist and Vedung (1998) introduced a term ‘carrots, sticks, and sermons’ referring to subsidies and taxes as ‘carrots’, regulation as ‘sticks’, and education as ‘sermons’. According to these scholars, regulatory instruments are used “to define norms, acceptable behavior, or to limit activities in a given society. The law, backed up with the threat of sanction, represents the ‘stick’ used to prescribe or prevent certain types of human behavior” (Lamaire, 1998, p 59). A necessary condition for effectiveness of a specific government intervention by regulatory instruments is the capacity to ensure compliance (Lamaire, 1998, p. 71). Subsides or taxes (‘carrots’) are a use of funds by government for the purpose of influencing the party’s behavior with a view to achieving some level of activity or provision (Leeuw,1998, p. 78-79). Cordes (2002) believes that there are challenges in using the corrective taxes. In particular, one of the major challenges in using corrective taxes is “to find a tax rate that is sufficient to deter the
behavior that public policy is trying to discourage” (pp. 275-276). Moreover, the tax rate “may need to be virtually confiscatory in order to deter the behavior. Therefore, one of the major concerns about corrective taxes and charges is that they may prove ineffective in precisely the circumstances where they are most needed” (Cordes, 2002, pp. 275-276). People, in order to respond to corrective taxes, curtail a range of socially costly activities. For example, smoking is sensitive to price, and therefore, can be curtailed by taxing cigarettes. This reduces the consumption of cigarettes, especially among young smokers. It also increases smokers’ perception of the risks of smoking (Cordes, 2002, p. 276).

Information as a public policy tool (‘sermon’) “covers government-directed attempts at influencing people through transfer of knowledge, communication of reasoned argument, and moral suasion in order to achieve a policy result” (Vedung and Van der Doelen, 1998, p. 103). Absence of obligation makes information different from obligation: government neither rewards people who take the action, no deprives people who do not take action. It is the most lenient tool of government. Information dispensing takes place in the form of advertisements, personal advice, and classroom education. It also can take a form of communication campaigns. Vedung and Van der Doelen argue that “a crucial problem in information instruments theory is when to apply them” which means that as far as information contains only exhortations and admonitions, that is assumes the voluntary behavior of the individuals, compliance will never be 100 percent (Vedung and Van der Doelen, 1998, p. 107). Scholars argue that according to ‘legitimating theory’ as they call it, information is either used for the political purpose to pave the road for stronger intervention by softening the public opinion and adjust it to public intervention, or for the hope that the perceived problem will be solved through ample use of
information policy instruments and that stronger measures (regulation) can be avoided (Vedung and Van der Doelen, 1998, pp. 112-113). ‘Sticks’, ‘carrots’, and ‘sermons’ have their opportunities and limitations. Van der Doelen (1998) believes that the opportunities and limitations play the role of stimulative and repressive modes. Stimulating rewarding modes (for example, information programs) enlarge the alternatives of behavior by promoting the political support and legitimacy of policy. The repressive or punitive modes (for example, prohibitions) limit the alternatives of behavior that is contributing to the change of behavior in the desired way and to the goals of the policy (p. 143). A repressive instrument arouses public resistance and it is difficult to implement it, and therefore it is not effective, but stimulating instrument is accepted by the public and is legitimate, but does not really lead to instrument-induced changes of the desired behavior. Policymakers, therefore, have to balance stimulation and repression instruments to achieve the effectiveness of a policy (Van der Doelen, 1998, p. 144).

Schneider and Ingram (1990) made their contribution to the research literature by providing a systematic attention to policy instruments and their behavioral characteristics through which policy instruments produced their effects on the target populations. They argue that there are five policy tools: authority, incentive, capacity, symbolic and hortatory, and learning. Authority tools are “statements backed by the legitimate authority of government that grant permission, prohibit, or require action under designated circumstances” (Schneider and Ingram, 1990, p. 514). These tools assume that “agents and targets are responsive to the organizational structure of leader-follower relationships and that lower level agents usually will do as they are told” (Schneider and Ingram, 1990, p. 514). Incentive tools assume that individuals need to be influenced,
encouraged, or coerced by some tangible payoffs (positive or negative) so that to induce compliance and encourage utilization. The subcategories of these tools include inducements, charges, sanctions, and force. The underlying assumption of positive payoffs is that individuals respond to positive incentives and will, therefore, chose higher-valued alternatives. The examples of incentive tools include tax credits, waivers, grants, relaxation of standards or requirements, contracts, and charges. Charges, for example, used to control the amount of use, limit, or allocate goods or activities. Sanctions, on the other hand, are used to prohibit or require some certain activities which are associated with certain rules. In the case of tobacco control “the intent of sanctions would be to extinguish certain kinds of behavior by raising the costs for above the proportional value of the behavior itself through fines” (Schneider and Ingram, 1990, p. 515). Fines, for example (applying Schneider and Ingram’s tools categorization) are imposed for violating the ban on tobacco – free environment that is smoking in public places restricted by the law. Incentives assume that individuals “have the opportunity to make choices, recognize the opportunity, and have adequate information and decision-making skills to select from among alternatives those that are in their best interests” (Schneider and Ingram, 1990, p. 516). The scholars stressed that whether the individuals’ behavior is controlled through incentives depends on the political power and social status of the individuals rather than on the behavior.

Capacity tools are based on the assumption that individuals will have incentive or motivation to change the behavior if they are properly informed and have the necessary resources. They do not need to be coerced through laws that prescribe certain behavior. For example, applying Schneider and Ingram’s categorization, warning about the dangers
of tobacco use is intended to discourage the habit. For this purpose, the information provided has to be accurate and sufficient for the individual to understand the benefit, costs, and probabilities of alternatives. They also need resources to fulfill the selected alternatives. This way capacity tools can increase political support (of the laws) through information and education. Another words capacity tools assume that if individuals are well informed, they will choose the preferred alternative of public policy.

Symbolic and hortatory tools assume that “people are motivated from within and decide whether or not to take policy-related actions on the basis of their beliefs and values” (Schneider and Ingram, 1990, p. 519). In other words, underlying assumptions of symbolic and hortatory tools are the following: if individuals see that their behavior is consistent with their beliefs and values, and these values are positive, they are inclined to compliance with behavior desired from a policy perspective and promoted by government officials as important. Rationales emphasize the private-regarding or public-regarding values. For example, applying Schneider and Ingra’s categorization the individuals and public protected from second-hand smoke have an improved health quality and longevity. It has to be noted that no tangible actions are taken to promote the values. Instead, intangible values, for example, right or wrong are promoted. This is done by using images, symbols, and labels. An example of applying Schneider and Ingram’s categorization is anti-smoking advertising. Labeling or catchy slogans are used to promote the preferred activities with positive values. Information campaigns on the dangers of smoking include the persuasive communication strategies. The strategies are adjusted to the age of the target audience. For example, for youth negative labeling is
avoided so that not to exacerbate tobacco initiation problem which the policy is aimed at avoiding.

Learning tools are used “when the basis upon which target populations might be moved to take problem-solving action is unknown or uncertain” (Schneider and Ingram, 1990, p. 521). Schneider and Ingram build their argument on the arguments of Ostrom (1988) and Ostrom, Feeny, and Picht (1988) that individuals can learn about behavior and select from the variety of tools the effective ones. It has to be noted that narrow purposes of learning tools “are adjusted through time” (Schneider and Ingram, 1990, p. 521). For example, WHO tobacco control policies have as their purpose to decrease the tobacco use and initiation among youth, but are adjusted over time to reflect some achievable goals. It also has to be noted that behavior of the individuals is “diverse and contingent upon context” (Schneider and Ingram, 1990, p. 522). Applying scholars’ categorization to the tobacco control policies it can be assumed that individuals are given the discretion in the selection of policy tools to encourage their participation. Policy evaluation in this case will improve policy design, and therefore, policy outcome.

As seen from the literature review above there is a vast variety of policy tools classification. Taking to consideration that “nowhere in the international literature on policy analysis and public administration is to be found a uniform generally embraced classification of policy instruments” (Vedung, 1998, p. 22), this study adopts three categories of policy tools, or another words, three families of policy tools by Van der Doelen (1998) as basic ones for the research. The choice of these categories of policy tools is based on the argument that these categories explain the underlying motivational strategies of the tools in the most classic and comprehensive way. Figure 1.1 shows three
categories of policy tools adopted for this study: regulatory instruments (smoke free indoor environment legislation and bans on tobacco advertising), financial means (tobacco taxation), and communicative tools (warning about dangers of tobacco). It has to be noted that even though these policy tools presented as distinct categories, they are intertwined: regulatory (legal) tools are often accompanied by financial means (sanctions), and financial (economic) means are based on legal regulations, therefore, it is realistic to refer to a continuum where tools occupy intermediate positions (Bressers, 1998, p. 93). For example, “regulation can restrict youth access to tobacco products, determine product content, restrict advertising, raise the price of tobacco products through taxes, and penalize adolescent use of tobacco products” (Lantz and Warner, 2001, p.195). This way regulatory activity can directly restrict youth opportunities to use tobacco and can indirectly affect their behavior by raising the cost of obtaining tobacco products (Lantz and Warner, 2001, p. 195).

Figure 1.1 Public Policy Instruments

**Effectiveness as one of the Public Policy Goals in Choosing Policy Tools**

Effectiveness of a policy is defined as “the degree to which the chosen policy instruments themselves contribute to attainment of the policy goals” (Van der Doelen,
With the multitude of policy tools categories developed since the 1970s the selection of them for the implementation falls into the realm of the art of policy design. The process itself is “often associated with a tool-kit from which the government is free to choose a policy instrument” (Pannerden and Van Nispen, 2011, p. 8). But even though there exists a vast amount of research on policy instruments application and their impact on target group which is aimed at providing information for the government to help it reduce or limit social problems, policy instruments are rarely selected on the basis of effectiveness (Bressers, 1988, p. 85). In reality, however, the policy tools may be chosen due to a specific political dimension, ‘path dependency, or ‘en vogue’. Vedung (1998) believes that for policymakers it is important “to have a good overview of the generic forms of these instruments, because the issue of choosing the appropriate combination is one of the most intricate and important in strategic political planning” (p. 21). Vedung, building of the work by Howlett (1991), argues that there are two pairs of fundamental approaches to choosing policy tools: ‘choice versus resource approach’, that is ‘the maximalist versus minimalist approach’. The maximalist approach assumes inclusion of all available instruments in two-three categories, the minimalist approach assumes a twofold classification of affirmative-negative and promoting-restraining policy tools, so then policy tools might be formulated either in the negative to prohibit or deter an action, or in the positive to prescribe or encourage an action. Vedung refers to the works of Bernard (1939) and Brigham and Brown (1980), and states that the example of this dual categorization is penalties and incentives. Penalties create a feeling of alienation, incentives create a feeling of cooperation and trust. Information, though, involves neither penalties nor incentives, it presents knowledge and normative appeals, leads to emotional
persuasion and recommendations to actions (Vedung, 1998, pp.26-27). Vedung stresses the problems with the dichotomies: communication programs (either negative or affirmative) can propagate what should be done or not done, but moral suasion can hardly fit into the scheme; individuals are punished by sanctions because they break rules, but taxes on tobacco are inflicted on individuals only because they buy tobacco products; each of two categories contain elements which are too different. Vedung comes to the conclusion that threefold classification is more appropriate and refers to the work of Etzioni. Etzioni (1975) suggests three classes of tools: regulations, economic means, and information which are ‘sticks, carrots, and sermons’ as mentioned in the discussion above. It must be noted that in Ukraine all three categories of tools – ‘sticks, carrots, and sermons’ were introduced by adapting the Complex Plan aimed at preventing and overcoming smoking in Ukraine for 2005 -2010 in the frames of WHO tobacco control policies. The introduction of these tools reflects the desire of those in political authority at that time and will be discussed later in this chapter.

Another scholar who discussed policy instrument choice and their evaluation is Bemelmans-Videc (1998). She focused her research on instruments of external policies “which aim at the behavior of citizens, and therefore imply mechanisms of social influence in society” (p. 3). In this definition of policy instruments she referred to the work of Vedung (1998) who believed that “the discourse on public policy instruments is a discourse on political power” (Bemelmans-Videc, 1998, p. 4). In other words, government acts through the democratic governance process and is accountable for this process. Bemelmans-Videc argued that government chooses policy instruments according to its aims, and, therefore, according to its political and administrative strategies. The
method and degree of the intervention that government chooses creates the conditions for
the preferred behavior of citizens. Thus, government dictates structure and culture of
policy programs and creates a multi-actor context for the implementation of policy
choices.

In ‘t Veld (1998) argued that “the application of policy instruments is not once
and for all. On the contrary, policy instruments are adjusted and replaced continuously as
the needs of the societies and the effectiveness of the instruments change” (p. 153).
Moreover, he believed that “the selection and application of policy instruments implies a
number of embedded political choices” (p. 153). He believed that policy instruments
become obsolete over the time because individuals learn how to cope and circumvent
instruments, therefore, the instruments become less effective. Moreover, policy makers
respond similarly when instruments either effective or non-effective and, thus, if no
breakthrough happens, then policy systems will collapse. He called it “the law of the
gradually diminishing effectiveness of public policies” (p. 154). This law of behavior can
be explained by the learning potential of the individuals. The learning potential includes
using strategies such as avoidance and resistance to reach personal goals because
individuals’ own goals somewhat disagree with the required policies. The ability to learn,
that is to change behavior, is called ‘reflexivity’. The exception of this law is
‘internalization’ which means that the value patterns of individuals correspond with the
wishes of the policy makers. In ‘t Veld further argued that policymakers who do not
understand ‘the law of diminishing effectiveness’ develop “more stringent methods of
enforcement” which is called “the law of policy accumulation”, another words, creating
further policies because of current ineffective policies (p. 155). He believed that these
actions will not be successful because of reflexivity: the detailed policies will create crisis and destroy effectiveness. In order to prevent these failures, the steering organizations can delay the law of diminishing effectiveness or use internalization by using intelligent ‘lateral’ policies. Veld then divided the policy learning processes of the individuals in two categories: first – order learning processes which are the consequence of which they change behavior in a strategy to serve their own interests better and second-order learning processes which are the consequence of which the individuals adapt other basic attitudes towards their position within the system (p. 157).

The goal of achieving effectiveness, however, is one of the leading goals when choosing a policy tool. The problem is that “specific evidence on the effectiveness of different public [health] policy and legal instruments is currently limited, which makes it difficult to recommend one tool over another” (Dias, Marques, Ruseva, Nurse, and Dias, 2012, p.22). Therefore, further evaluation is needed to inform the future effectiveness of different instruments and tools. Many scholars devoted their research to the evaluation of the policy instruments which is measured in terms of effectiveness. For example, Salamon (2002) called upon the implementation literature to re-orient its focus toward policy tools and to test hypotheses about the comparative effectiveness of different tools. He asserted that effectiveness is “the most basic criterion for gauging the success of public action”, and “using this criterion, the most effective tool is the one that most reliably allows action on a public problem to achieve its intended purposes” (Salamon, 2002, p. 23). Salamon cautioned that in fragmented political systems where multiple perspectives influence program objectives the effectiveness of public action is not easy to
achieve. Moreover, the nature of circumstances plays an important role in tools approach, and, therefore, the effectiveness of the chosen tools varies.

Dias, Marques, Ruseva, Nurse, and Dias (2012) reviewed the current policy and legislation instruments and tools put in place for delivering public health operations in the WHO European Region and offered some recommendations to Member States of the WHO European Region. In particular they recommended the following strategies: advocate for effective tools and apply evidence to different settings, aim at a balance between regulation and persuasion, strengthen inter-sectoral responses and governance, address gaps in instruments and tools, strengthen tools for monitoring performance and accountability, strengthen evidence; evaluate the population health outcomes and costs of major legislation, regulations and policies (such evaluation should occur before and after enactment); evaluate the process and feasibility of developing and enforcing legislation and policy; develop research on the cost–effectiveness of public health tools to inform policy-makers of the interventions with higher value for money; enhance methodologies to evaluate the relative effectiveness on health of a range of different instruments and tools. (pp. 4-6). Scholars emphasized that at national levels it is important to enhance effective use of time-bound targets and tools for monitoring and evaluating health trends and policy implementation, develop standards for the delivery of public health services and ensure their quality through regular scrutiny, strengthen evidence (create a resource map and gap analysis of a wider range of instruments and tools, including toolkits and guidelines), based on findings from the systematic review on legal and policy tools, summarize the main types of evaluation report and the key findings on the effectiveness of tools; evaluate before and after enactment the population health outcomes and costs of
major legislation, regulations and policies (Dias, Marques, Ruseva, Nurse, and Dias, 2012, pp. 5-6). Overall, researchers assert that traditional public health instruments and tools (legislation, sanctions, regulations and taxes) need additional tools focused on citizen engagement in behavioral changes, otherwise the effectiveness may be limited. Scholars caution that it is crucial that measurements are not monitored prematurely because of the risk of incorrectly portraying low levels of impact and, therefore, endangering political support for the policy. They also call for caution when interpreting the impact of policies because the nature of the measures and possible loopholes could impact the compliance and enforcement, and, therefore, affect the effectiveness of the policies (Dias, Marques, Ruseva, Nurse, and Dias, 2012, p. 23).

Bressers (1998) who studied the effectiveness of policy tools and their target audience argued that “the demands that must be met to achieve proportionality between the target group’s behavior and the government’s reaction during the policy formation and policy implementation processes differ markedly between general and individual instruments” (p. 95). To design and implement individual instruments “it is necessary to collect detailed information on the target group’s situation” (Bressers, 1998, pp. 95-96). This way, if the degree of interconnectedness is strong, then there are more opportunities for government to learn about variations in the target group’s behavior and to select better-proportioned instruments. Overall, the best way to maintain cohesion is to consider the circumstances of the target group members (Bressers, 1998, p. 96). Moreover, Bressers (1998) believed that the distinction between economic tools (incentives) and legal tools (directives) is “often based on the question of to what extent a normative appeal is made to the law-abidingness of the target group” (p. 93). He argued that “many
characteristics attributed to incentives or directives rest on the degree to which the scale or intensity of a certain target group behavior is in proportion to the scale or intensity of the government reaction to that behavior” (Bressers, 1998, p. 93). He also argued that from an ideal typological point of view, incentives are more commensurate with behavior than regulations because regulations often draw only a single normative borderline; regulations, however, a tailor-made instrument which commensurate with the behavior, moreover, this is often only realized during the policy implementation stage and not in the earlier policy formation stage (Bressers, 1998, p. 93).

Policy tools are intertwined with policy processes because they correspond to the target populations these tools are aimed at. Schneider and Ingram (1990) argued that “business leaders are more readily motivated by financial incentives than by sanctions; whereas the poor or minority groups may be viewed as responding mainly to sanctions rather than inducements” (p. 522). In their discussion Schneider and Ingram refer to the elite theory of Gaventa (1980) who argues that powerless individuals are kept quiescent by elites who manipulate their values. For example, they may use negative labeling that evokes negative response to the informational and educational tools. In the context of tobacco use the application of Gaventa’s argument demonstrates how labeling strategy may lead to tobacco initiation and use. Lowi (1964) argued that some target populations may feel singled out unfairly, and, therefore, show different outcomes as policies are implemented. Building on these arguments, this study argues that the consideration of socioeconomic status should be embedded into the choice of the preferential policy tools for the individuals with different socioeconomic status to bear the desired policy outcome.
Theoretical Background of Policy Instruments for Tobacco Control

All three categories of policy instruments used in this study (regulatory instruments, financial means, and communicative tools) stem from Rational Choice Theory that assumes that people make conscious and rational decisions, and therefore, scholars viewed these policy instruments through the lenses of Rational Choice Theory. Rational choice theory was pioneered by Homans (1961) who laid the basic framework for exchange theory, which he grounded in assumptions drawn from behavioral psychology. In 1960s-1970s Blau (1964) extended and enlarged this theory. Rational Choice Theory became prominent in 1980s-1990s through the efforts of Coleman and Fararo (1992). The basic assumption of Rational Choice Theory (RCT) is “that if individuals behave rationally, the collective will benefit; therefore, individuals should not be interfered with by the collective, except when individual behavior undermines collective interests” (Zey, 1998, p.1). The basic principles of RCT stem from neoclassical economic theory, utilitarian theory, and game theory. Zey refers to Coleman as stated earlier in this section, as well as Friedman and Hechter (1998) who argue that the fundamental core of RCT is that

“Social interaction is basically an economic transaction that is guided in its course by the actor’s rational choices among alternative outcomes. An action is taken only after its benefits and costs have been weighed. The unit of analysis is the individual decision made by an individual decision maker” (Zey, 1998, p. 2).

Rational choice theorists assume that “social actions and outcomes are the consequences of individual choice and that they correspond to individual intentions” (Zey, 1998, p. 28). Human behavior, according to rational choice theorists, encompasses cognitive capability to identify the alternative means of goal achievement open to them
and evaluation of the relative worth of those means of reaching their ends (Ulen, 2006, p. 672). Figure 1.2 shows categories of policy tools in the frames of Rational Choice Model adopted for this study and adjusted for the hypotheses, in particular, communicative tools (warning about dangers of tobacco), regulatory instruments (smoke free indoor environment and bans on tobacco advertising), and financial means (tobacco taxation), and their connection to the individual intentions, that is attitude of the individuals.

Figure 1.2 Rational Choice Model

The scholars who criticize Rational Choice Theory argue that the theory has many fallacies, in particular, it is explained “without reference to other social facts”, and it sees “human action primarily in economic terms and is not concerned with the ethics that lead to rational decisions” (Zey, 1998, p. 11). Human behavior, however, is a lot more complex and human actions should not be viewed primarily in economic terms, but should consider ethics and values, emotions, and habits that lead to a specific behavior. Even though Rational Choice Theory claims the universal applicability of units of
analysis, it “does not describe the actual experience or real people” (Zey, 1998, p. 34). Real people, however, frequently behave irrationally, they do not behave on the basis of close reasoning about alternatives, rather take decisions and behave impulsively or due to the influence of other people (Ulen, 2006, p. 672). Another non-flawless assumption of the rational choice theorists is that “their models apply equally to all people under analysis – decision-making rules and preferences are stable across individuals and time” (Zey, 1998, p. 34).

**Theory of Planned Behavior**

The Theory of Planned Behavior is the most often used and documented theory on behavior change, and belongs to Rational Choice Theory. It has been used successfully to predict and explain a wide range of health behavior including smoking. The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA). The assertion of TRA is that “the most important determinant of behavior is behavioral intention. Direct determinants of an individuals’ behavioral intentions are their attitude toward performing the behavior and their subjective norm associated with the behavior” (Montañó and Kasprzyk, 2008, p. 70). Montañó and Kasprzyk refer to Fishbein and Ajzen (1975) who argued that attitude is determined by behavioral beliefs of the individuals about outcomes or attributes of performing the behavior weighted by evaluations of those behavioral outcomes or attributes. Consequently, this leads to either positive (favorable) or negative (unfavorable) attitude toward the behavior. The individual’s subjective norm is determined by the individual’s normative beliefs, e.g. whether social pressure (important referent individual or groups) approves or disapproves of performing a behavior, weighted by the motivation to comply with this social pressure.
Consequently, the individuals will hold a positive or negative, or even neutral subjective norm (Montaño and Kasprzyk, 2008, p.71).

Ajzen and Madden (1986) adapted TPB by adding perceived control over the behavior based on the idea that behavior is determined by both motivation (intention) and ability (behavioral control). Perceived control over the behavior considers situations where the individual may not have complete volitional control over a behavior. Volitional control means that individuals can exercise a large degree of control over the behavior. “The more the attainment of the behavioral goal is viewed as being under volitional control, the stronger is the person’s intention to try” (p. 472). Ajzen and Madden (1986) argued that under certain conditions perceived behavioral control can influence behavior independent of its effect on intention. These conditions are the following: the behavior must be partially determined by factors beyond a person’s control, and perceived behavioral control must be reasonably realistic. The more resources and opportunities individuals possess, and the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior. Overall, like attitudes and subjective norms, perceptions of behavioral control are related to an underlying set of salient beliefs (Ajzen and Madden, 1986, pp. 472-473). Factors that interfere with control over intended behavior can be internal (for example, skills, abilities, knowledge, adequate planning) or external (for example, time, opportunity, and dependence of the behavior on the cooperation with other individuals) (Ajzen and Madden, 1986, pp. 456-472). Egmond and Bruel (2007) suggested similar arguments: factors, awareness, knowledge, norms and values, and attitude form an intention that leads to a certain behavior, and the change in
behavior may happen if individuals have required resources and skills, and no barriers stand in the way (p. 3).

Montaño and Kasprzyk (2008) noted that relative weights of attitude, subjective norm, and perceived control factors in determining intentions varies for different behaviors and populations (p. 71). This argument can be applicable to this research. Another strong point of TPB is that it is applicable to all cultures and have been studied in more than fifty countries in the developed and developing world (Montaño and Kasprzyk, 2008, p. 81). The major strength of TPB approach is that “hypothesized causal relationship among model components are clearly specified, and measurement and computation are delineated by Ajzen and Fishbein” (Montaño and Kasprzyk, 2008, p. 72). Proponents of TPB argue that attitude plays the most important role among other factors in behavior change (Egmond and Bruel, 2007, p. 5). The critique of TPB, on the other hand, includes the following arguments: human behavior is influenced by social, moral, altruistic, and self-interest factors, habits and routines which is a procedural rationality according to Simon (1957) which bypasses cognitive deliberation, in addition, emotional and affective responses may confound cognitive deliberation (Egmond and Bruel, 2007, p. 5).

Based on TPB theory it can be argued that individuals direct their attitude toward behavior (tobacco control policies), rather than toward the object (tobacco products). Moreover, individuals with different socioeconomic status may have different attitudes and exercise different behaviors toward tobacco control policies. Figure 1.3 adapts TPB theory and an adjusted research hypotheses: an attitude toward the behavior, that is the degree to which individual has positive (favorable) or negative (unfavorable) evaluation
to the behavior in question which is compliance with tobacco control policies, subjective norm, that is the perceived social pressure to perform or not to perform the behavior which is in fact a compliance with tobacco control policies, and perceived behavioral control which is resources and opportunities that individuals have, intentions, behavior, and the interconnectedness of all components. It has to be noted that this study focuses only on the attitude and self-reported smoking behavior of the individuals and in depth study of subjective norm and perceived behavior control components are beyond the research scope of this paper.
The behavioral change as a process reviewed above occurs when the problem appears new to the individual, in particular, when the individual encounters tobacco control policies: smoke-free environment legislation, bans on tobacco advertisements,
tobacco taxation, and warning about dangers of tobacco. As reviewed above, the search for the solutions begins and an individual gathers and evaluates and weights the advantages and disadvantages (costs and benefits) of behavioral alternatives and makes a decision. The weighting of advantages and disadvantages leads to the forming of an attitude. An attitude is, thus, “a form of evaluation directed towards a specific action or a situation and is cognitive, affective and normative in character” (Egmond and Bruel, 2007, p. 3). Then the behavior change either takes place or does not take place.

If a problem is not new, or occurs regularly, then an individual has a repeated or habitual behavior. Egmond and Bruel (2007) affirm that in case of habitual behavior intrinsic advantages of the behavior outweigh the possible disadvantages because there is no constant weighting of pros and cons. Advantages weigh against disadvantages and change the originally planned behavior into a habit. The reasoned behavior only happens when the loop of the repetition is broken (p. 5). Studies show that intentions only significantly relate to behavior when habit is weak, whereas no intention-behavior relation exists when habit is strong (Verplanken, Aarts, Van Knippenberg, and Moonen, 1998). To influence the habitual behavior the breaking of the habitual loop can be achieved by “removing incentives that support the habitual behavior, making individuals aware of their habitual behavior, and enabling them to avoid or control the negative outcomes and provide positive alternatives” (Egmond and Bruel, 2007, p. 6).

Several scholars developed the integrated perspective theories/models which in one or another includes TPB. For example, Stern (2000) developed the Attitude-Behavior – Context Model with the major assumption that behavior is a function of attitudinal variables (personal beliefs, values, norms) and contextual factors (monetary incentives
and costs, social norms, public policy support, physical capabilities, and legal factors). When contextual factors are strongly negative or strongly positive, Stern argues that there is no link between attitudes and behaviors. Triandis (1977) developed the Theory of Interpersonal Behavior in which intentions are the immediate antecedents of behavior, and habits mediate behavior. Both of these factors are moderated by facilitating conditions. Behavior, according to Triandis, consists of intention, habits, ad situational constrains and conditions. Intention is influenced by social and affective factors and by rational deliberations. Behavior is influenced by moral beliefs, and moderated by emotional drives and cognitive limitations. Ölander and Thøgersen, (1995) developed The Motivation-Opportunity-Ability Model which includes both habit and knowledge factors in forming the behavior. The motivational component of this model is simplified version of TPB, the ability component includes habit and task knowledge, and opportunity component consists of situational (facilitating and external) conditions.

**Attitude and Behavior Changes Pre-and Post-Implementation of Tobacco Control**

Tobacco industry marketing and public health tobacco-control activities are two of the major influences on cigarette smoking behavior (Pierce, 2007). The tobacco industry uses various strategies to target individuals, especially youth, as new tobacco consumers. These strategies include designing packaging as an advertising vehicle to appeal to young people and encourage them to smoke, and designing flavorings to improve the smoking experience and increase its attractiveness (Series, 2010, p.4). For example, the tobacco industry since the 1970s used a cartoon camel which was referred as to “funny camel” or “laughing camel” (Old Joe Camel) to appeal to young smokers to advertise Camel tobacco products. Joe Camel was displayed in print ads, billboards, T-
shirts and caps, and was portrayed in various fun social situations like playing pool, riding motorcycles, hanging out in night clubs and bars. Tobacco industries used the flavorings pleasant for youth - honey and Coca-Cola because it is known that young people like sweets (Jacobson, 2001, p. 154-155). Moreover, industry documents reveal that different groups of youth were targeted by various tobacco products according to their social group linkages, concepts of success, recreational interests, and attitudes toward risk-taking behavior such as drinking, having sex, and smoking. The breakdown on the groups had informal labeling of them on “goody-goodies,” “preps,” “G. Qs,” “punkers,” “rockers,” and “burnouts” (Jacobson, 2001, p. 156).

On the other hand, there exists evidence indicating that tobacco-control activities, in the frames of MPOWER policies, play an important role in changing attitude and behavior of current tobacco users as well as potential tobacco users. In particular, MPOWER policies such as higher cigarette taxes, clean air laws, advertising bans, and media campaigns can effectively lead to the reduction of smoking rates if combined as a comprehensive strategy (Hopkins et al., 2001; Levy, Chaloupka, and Gitchell, 2004). MPOWER policies reduce smoking initiation and lead to smoking cessation which can improve the quality and duration of life (Taylor, Hasselblad, Henley, Thun, and Sloan, 2002). Smoke-free legislation implemented over time revealed a significant effect on adult smoking rates as shown in the analysis of the Behavioral Risk Factor Surveillance System (BRFSS) longitudinal data from 2001–2005 (Hahn et al., 2008). Another longitudinal studies by Ng et al. (2014) show that during the last thirty years there were observed large reductions in the smoking prevalence at the global level, but because of
population growth, the number of people who use tobacco products increased significantly.

Currently, countries of the world experience different stages of the tobacco epidemic (Lopez, Collishaw, and Piha, 1994). The analysis of a face to-face survey on smoking conducted in 2010 within the Pricing Policies And Control of Tobacco in Europe (PPACTE) project in 18 European countries (Albania, Austria, Bulgaria, Czech Republic, Croatia, England, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Poland, Portugal, Romania, Spain and Sweden) of the population aged 15 years or older has revealed that Eastern European countries, lower income countries and countries where tobacco control policies are less advanced have less favorable smoking patterns and are in a more severe stage of the tobacco epidemic (Gallus et al., 2014). Other studies show that in countries where comprehensive smoke-free air laws are already in place, require only stronger enforcement (Levy et al., 2012, p.9), and wherever a ban on smoking in public places is implemented it has proven to be an effective policy tool (Invernizzi, Ruprecht, Mazza, De Marco, and Boffi, 2004; Shiell and Chapman, 2000). It is important, therefore, to examine the effects of the implemented public policy tools aimed at curbing the tobacco epidemic over time on the attitude and behavior changes of individuals with different socioeconomic status in countries where the comprehensive tobacco control laws are introduced, but are in a severe stage of the tobacco epidemic.

Over the years of fighting the tobacco epidemic, countries introduced different more or less comprehensive strategies to curb it (Joossens and Raw, 2014). The comprehensive strategies that governments use to implement tobacco control laws and regulations include protecting people from tobacco smoke with smoke-free indoor
environment, informing about dangers of smoking, enforcing bans on tobacco advertising, and raising taxes on tobacco products. These strategies are implemented with the help of tools, in particular, the so-called ‘sticks’, ‘carrots’, and ‘sermons’ as discussed above. The health rewards of using these tools are multiple, if implemented effectively. For instance, the dramatic health outcomes are noticed due to smoke-free air laws, in particular, the reduction of myocardial infraction, cardiovascular and respiratory diseases (Goodman, Haw, Kabir, and Clancy, 2009; Tan and Glantz, 2012), the reduced risk of stroke (Flay, Ockene, and Tager, 1992), and the increase in perception of risk of cancer from second hand smoke exposure (Rayens et al., 2007).

Scholars have devoted much effort to studying the effects of the comprehensive tobacco control strategies implementation on attitude and behavior changes of the individuals. The longitudinal research done on attitude and behavior changes of adults by international scholars Hocking, Borland, Owen, and Kemp (1991) in USA, Canada, UK, and Australia found that both among smokers and nonsmokers support for smoke-free indoor policies increase as well as attitudes toward restrictions improve after implementation. Another longitudinal studies on community-wide smoke-free regulations and home smoking policies revealed that these regulations and policies were largely associated with the self-reported support for total smoking bans in the communities (Borland et al., 2006, p.644). Studies of Thomson and Wilson (2009) found some indication of an increase over time in supportive public attitudes to smoke free car policies (p. 5). Evidence from another research indicates that “as stronger secondhand smoke policies are enacted, attitudes and compliance in support of such policies among smokers increase over time” (Hyland et al., 2009, p. 647). It can be concluded that a
multitude of studies, “using a variety of different methodologies, have found that strong smoking restrictions, whether imposed by public laws or private firms, reduced smoking behaviors “(Levy, Chaloupka, and Gitchell, 2004, p. 342).

International research on behavior changes of individuals towards the policy on health warnings about the dangers of tobacco shows that textual health warnings reduce prevalence and initiation, and increase cessation (Thrasher, Hammond, Fong, and Arillo-Santillán, 2007). Studies conducted by Borland (1997) in Australia, by the World Bank (1999) in Turkey, South Africa, Poland and Canada, and Willemsen (2005) in the European Union show that the tobacco use decline was linked to the introduction of textual health warnings. Moreover, research shows that the graphic warnings are more effective than the text-based warnings because they stimulate more cognitive responses (Borland et al., 2009a; Borland et al., 2009b; Hammond, Fong, McNeill, Borland, and Cummings, 2006; Hammond et al., 2007; O'Hegarty et al., 2006; O'Hegarty, Pederson, Yenokyan, Nelson, and Wortley, 2007). Health rewards of smoking behavior change are prominent. For instance, persons who quit smoking before age 50 have one-half the risk of dying in the next 15 years compared with continuing smokers; women who stop smoking during the first 3 to 4 months of pregnancy reduce their risk of having a low birth weight baby (General, U. S., 1990, p.1).

The research on attitude and behavior changes toward tobacco and anti-tobacco advertising policy revealed that exposure to state anti-tobacco media increases smoking cessation rates (Hyland, Wakefield, Higbee, Szczypta, and Cummings, 2006). Anti-smoking media campaigns conducted in early 2000s indicate successful decline in smoking rates and increased health-enhancing attitudes and quit attempts behavior in
United States, Greece, Finland, Turkey, the United Kingdom, and Australia (Saffer, and Chaloupka, 2000; Hopkins et al., 2001; Friend and Levy, 2002). However, studies on restrictions and bans on tobacco advertising conducted in late 2000s, in particular in 2011 by Mir et al. in 12 countries at different stages of economic development revealed that as a result of poorly enforced health warning legislation, the tobacco advertising gained considerable success. In particular tobacco promotional labels were found on cigarette packs from all countries and they were more numerous than health warning labels. Moreover, cigarette packs were used to promote smoking by using terms ‘light’ and ‘mild’ to deceive smokers about health risks.

There is evidence that cessation behaviors are related to higher cigarette prices (Levy, Romano, and Mumford, 2005). For instance, international research on tobacco taxation in early 1990s shows that after the increase of the excise tax on cigarettes the level of cigarette products used decreased and, therefore, the number of packs of cigarettes taxed per capita decreased significantly (Centers for Disease Control and Prevention, 1996). Later research conducted by Levy, Chaloupka, and Gitchell, (2004) have similar findings: tax increases “generally yield at least commensurate increases in cigarette price, which, in turn, reduces cigarette consumption” (p.339). Another international study on data of 87 countries shows that higher cigarette prices prevent and decrease smoking behavior (Guindon, Tobin, and Yach, 2002). Higher taxes that increase prices “lead adult tobacco users to quit, prevent former users from restarting, deter youth uptake of tobacco use and reduce consumption of tobacco products by continuing users” (Chaloupka, Yurekli, and Fong, 2012, p. 179). Tax increase, as seen from the evidence above, can be an effective penalty tool used by the government to promote anti-tobacco
control policies. The advantage of tax increase is explained by Merriman, Yurekli, and Chaloupka (2000): tax/price increases are likely to increase government tax revenues. Levy et al, (2012) believe that part of tax/price increases “can and should be earmarked to pay for media campaigns, and to enforce smoke-free-air laws and anti-tobacco marketing policies” (p. 13).

Youth Protection against Tobacco

Youth protection against tobacco is part of the World Health Organization’s (WHO) Framework Convention on Tobacco Control (FCTC). Studies done in 29 European countries in 2002-2005 indicated the need for intensified efforts in order to lessen harm caused by tobacco use among youth (Baška, Warren, Bašková, and Jones, 2009). These efforts are needed because, according to the research, “the majority of smokers currently start smoking at around 15 years of age” (Series, 2010, p.4). Moreover, those who start smoking at a younger age (before being 18 years old) are more likely to become established heavy users of tobacco products and are less likely to be able to quit (Kuper, Adami, and Boffetta, 2002). Youth smoking behavior is a dynamic process that changes over time and for most young people attitudes toward smoking changes at different ages, and decisions whether to smoke or not smoke are made at multiple times during adolescence (Lantz and Warner, 2001, p. 81). The social context of youth smoking includes many factors: peer influence in decision –making and behavior, family attitude and family smoking status, beliefs about smoking, and not understanding the risks of using tobacco (Jacobson, 2001, pp. 81-82). Taking into consideration this evidence, there is an urgent need to determine what approaches are effective in reducing youth smoking initiation rates and cessation rates. The primary argument in favor of focusing on youth
anti-tobacco strategies is the potential for changing their smoking behavior before they become addicted, at transition when intervention may prevent or limit the shift from occasional to routine use, and after they become addicted (Jacobson, 2001, p. 41). Additional arguments in favor of focusing on youth anti-tobacco strategies are the following: politicians and public are more likely to tolerate restrictions on youth smoking in public places than on adults, and, therefore, there can be achieved broader legislative objectives if they are proposed as the prevention strategies, and empirical evidence should be resolved in favor of protecting children (Jacobson, 2001, p. 42).

Reducing youth smoking initiation rates has dramatic benefits, in particular, it “will not only lower long-term morbidity and mortality costs, it will serve to increasingly marginalize tobacco use within society” (Jacobson, 2001, pp. 41-42). In order to reduce youth smoking initiation and cessation rates, effective legislative, executive, administrative or other measures should be undertaken by countries who have signed WHO convention (World Health Organization, 2008). Wherever effective legislative, executive, administrative or other measures are undertaken, the evidence presents changes in smoking behavior. There is a multitude of evidence that effective tobacco control measures lead to the changes in the behavior. For example, a positive association between smoke-free air laws and youth smoking cessation behavior was observed by Burns, Shanks, Major, Gower, and Shopland 2000; Tauras, 2004; Wakefield and Forster, 2005). Research on smoke-free indoor environment provisions documented that smoking restrictions in public places decrease smoking prevalence among youth (Glantz, 1997; Siegel et al., 2005; Wakefield and Forster, 2005). Studies show that when the tobacco control law was implemented a significant decline in 30-day smoking prevalence
occurred (Huang, Lin, Chen, and Tsai, 2013), and when tobacco control programs and state-level media/comprehensive anti-tobacco campaigns were practiced a reduction in smoking behavior happened (Pierce, 2007; Levy, Romano, and Mumford, 2005; Emery et al., 2005). The longitudinal study by Siegel, Albers, Cheng, Biener, and Rigotti (2005) presented evidence of the connectedness of the variation in the community level smoke-free policies and youth smoking uptake. Siegel, Albers, Cheng, Biener, and Rigotti (2005) found that strong local restaurant regulations on smoking led to half decrease in regular smoking among youth when compared with youth living in towns with weak local restaurant regulations.

The research on tobacco and anti-tobacco advertising policy, however, has varying results (Flynn et al., 1992; Worden et al., 1996). There is a multitude of evidence that anti-tobacco advertising yield positive results. For example, White, Webster, and Wakefield (2008) found that a recall of health warnings among young both non-smokers and smokers was high. Scholars believe that this fact can reflect the attention of youth to tobacco packs health warnings and their potential role in preventing smoking initiation among the youth. Similarly, Biener, Ji, Gilpin, and Albers (2004), Terry-McElrath et al. (2005) found that youth were responsive to anti-tobacco advertisements conveying messages on the consequences of smoking for health. Studies by White, Webster, and Wakefield, (2008) indicate that health-warning labels can reach youth, in particular, “the introduction of the graphic health warning labels led to an increase in the frequency of students attending to, and thinking and talking about them” (p. 1567).

On the other hand, tobacco advertising undermines the efforts of tobacco control policies. The tobacco industry is “successful in advertising and marketing pro-tobacco
messages for youth” (Lantz et al., 2000, p.51). Mass media plays an important role in tobacco advertising by instructing and motivating youth in their smoking behavior. The social learning theory provides a good explanation of why mass media can instruct and motivate the behavior of the individuals. Escamilla, Cradock, and Kawachi (2000), Distefan, Gilpin, Sargent and Pierce (1999) who refer to the social learning theory explain that television provides youth with role models, in particular, television stars and athletes portray smoking as a personally and socially rewarding behavior. Tobacco products advertising and promotion conveys an impression of smoking as a normal and socially acceptable activity to youth and, therefore, has a substantial influence on youth’s attitudes to smoking (US Department of Health and Human Services, 1994).

As stated above, studies on tobacco and anti-tobacco advertising have varying results. For example, Wakefield and Forster (2005) suggest that sophisticated mass media tobacco control campaigns may have an effect on the attitudes and behavior of youth, but the impact is, though, challenging to evaluate (p. 52). Moreover, Lantz et al (2000) believe that even using a new generation of anti-tobacco advertising as youth oriented – high energy, aggressive, fast paced, sarcastic, and irreverent- provides an unclear effect on adolescent smoking behavior (pp. 52-57). A study by Moodie, MacKintosh, and Ahmmond (2009) on health warnings provides, however, the following findings: “youth reported high levels of awareness, close attendance to the warnings and knowledge of health risks, but relatively low levels of recall and deeper processing, such as discussing them with others” (p. 6). The potential effect of restrictions or bans on cigarette advertising on youth smoking behavior also is unclear (Lantz et al., 2000) because the results regarding the effects of cigarette advertising bans are mixed. Saffer and
Chaloupka (1999) came up with some explanation of varying results in research, in particular, partial bans have little effect because they provide the opportunity to cigarette companies to switch advertising expenditures to other promotional strategies.

Research on tobacco taxation has some evidence that price can be an effective deterrent in youth (Hopkins et al, 2001; Elders, Perry, Eriksen, and Giovino, 1994; Lantz et al., 2000). In fact, raising tax revenues is a tobacco control policy which is considered to be one of the most effective policies allowing to reduce tobacco consumption because changes in taxation levels have direct impact on the price of cigarettes (Mashlyakivskyy, 2004). Evidence suggests that cigarette price is “positively associated with a majority of cessation related measures among high school smokers” (Tworek et al., 2010, p.2). Another example is studies of national data from 1991–2005 Youth Risk Behavior Surveys show that large state tobacco tax increases in the past 15 years were associated with significant decreases in smoking among youth (Carpenter and Cook, 2008). Scholars believe that “a substantial tax is likely to have a larger and relatively immediate effect on the young and on lower income smokers” (Levy, Chaloupka, and Gitchell, 2004, p. 346). Tobacco taxation is a “policy that creates an economic disincentive to use tobacco” (Lantz et al., 2000, p.55). Increased price of tobacco products reduces tobacco use prevalence and consumption among young people (Hopkins et al., 2001; Levy, Romano, and Mumford, 2005), it is an effective intervention in reducing smoking behavior, initiation, and intention to smoke (Dobbins, DeCorby, Manske, and Goldblatt, 2008). The reduction in tobacco use prevalence and consumption among young people may happen due to several reasons. Youth are more responsive to price changes because of their smaller incomes (Hublet et al., 2009). Guindon, Tobin, and Yach (2002) believe that
youth may not be as addicted to nicotine as long-term users and it is easier for them to curb their tobacco products use.

Youth protection against tobacco has been challenging. Research on the warning about the dangers of tobacco prior to 2005 found that information campaigns in media were less effective among youth than in adults (Sowden and Arblaster, 1998; Chaloupka, 1999; Levy, Chaloupka, and Gitchell, 2004). Other findings show that smoking in public places bans and restrictions were less effective for youth than for adults (Levy, Chaloupka, and Gitchell, 2004; Wakefield et al., 2000). Studies after the year of 2005 by Lovato, Linn, Stead, and Best (2003), Slater, Chaloupka, Wakefield, Johnston and O’Malley (2007) revealed that pro-tobacco advertising influenced the attitude and behavior of youth. In particular, exposure to the advertisements and promotions of tobacco products were associated with the likelihood of initiating a smoking behavior in youth. Cigarette promotions also facilitated the movement from initiation to regular smoking among young people (Slater, Chaloupka, Wakefield, Johnston, and O’Malley, 2007; Hublet et al., 2009). The evidence from studies of 25 European countries showed that exposure to pro-tobacco indirect advertising was frequent (Baška, Warren, Bašková, and Jones, 2009). Another study reported no significant association between local clean indoor air policies and past-month smoking among youth over time (Klein, Forster, Erickson, Lytle, and Schillo, 2009).

As stated above, the variety of challenges contributed to the poor implementation outcome of tobacco control policies. Many scholars devoted their efforts in search of an explanation for the poor policy implementation outcome, in particular, for youth. Some scholars who conducted studies in Europe explained it by a gap which is remained in “the
understanding of effective policy for youth protection against smoking” (Hublet et al., 2009, p. 1919). Other scholars argued that “it may be that these policies become more effective in the long term, as they help to create non-smoking social norms” (Hublet et al., 2009, p. 1924). In the light of the above, the need to find the effective policies for youth protection from tobacco products use is crucial, and the research on attitude and behavior changes of youth is an important step in the process of Word Health Organization tobacco control policies implementation.

**Youth with Different SES and WHO Tobacco Control Policies Implementation**

International research on attitude and behavior changes of youth pre-and post-implementation of WHO tobacco control policies considers socioeconomic status (SES) to play an important role. Moreover, the construct of SES is “central to understanding how individual’s attitude and behavior are shaped by processes that take place in key social contexts” (Ensminger et al., 2000, pp. 392-393). There is evidence that socioeconomic status affects smoking prevalence and quit attempts. In particular, “low SES is generally but not ubiquitously associated with smoking in poor, intermediate, and rich nations” (Hiscock, Bauld, Amos, Fidler, and Munafo, 2012, p. 109). Taking into consideration the above, this study will examine the research evidence on attitude and behavior changes of youth with different socioeconomic status pre-and post-implementation of WHO tobacco control policies.

In scholarly research socioeconomic status has various definitions. For example, socioeconomic status was defined by Miech and Hauser (2001) as "a broad concept that refers to the placement of persons, families, households and census tracts or other aggregates with respect to the capacity to create or consume goods that are valued in our
Another definition of socioeconomic status by Galobardes, Shaw, Lawlor, Lynch, and Smith (2006), is that “the position that a person occupies in the structure of society due to social or economic factors” (p.7). Choosing the measures of socioeconomic status should be “dependent on consideration of the likely causal pathways and relevance of the indicator for the populations and outcomes under study” (Shavers, 2007, p. 1021). Up to date there is still “no consensus on a nominal definition of SES nor does a widely accepted SES measurement tool exist”, moreover, scholars “debated the theory, operationalization, and usefulness of SES constructs for about 125 years” (Oakes and Rossi, 2003, p. 770). Because theorists have not agreed on definition of socioeconomic status, methodologists rarely relied on explicit theory to operationalize the notions (Oakes and Rossi, 2003, p. 771). British researchers, for example, used are the Weber’s theoretical formulation of stratification to operationalize the class structure through employment relations, American researchers defined socioeconomic status through “the ‘objective’ characteristics of educational levels and income associated with occupations” (Oakes and Rossi, 2003, p. 772). SES measurement relies today “almost entirely on data from occupational position, education, and/or income” (Oakes and Rossi, 2003, p. 773). This study uses education and occupation measures of SES which can be referred to a two-factor Index of Social Prestige (ISP) scale developed by Hollingshead in 1971 (Oakes and Rossi, 2003, p. 773).

Based on the arguments above, education and occupation are used in this study to examine the effects of socioeconomic status on WHO tobacco control policies implementation in Ukraine during 2005-2011. The choice of these components is also supported by the arguments of Ensminger et al. (2000) and Adler and Newman (2002). In
particular, Ensminger et al., (2000) believe that “occupation and education are distinct but related concepts measuring multiple aspects of social class” (p. 386). Adler and Newman (2002) argue that “education has been called the most basic component of SES because of its influence on future occupational opportunities and earning potential” (p.61).

**Education Aspect of Socioeconomic Status**

This study argues that more educated individuals will be more likely to support health information dissemination and implementation that favors the regulation of tobacco products advertisement and tobacco free environment, as well as support tobacco taxation. It can be hypothesized that the higher the education of the individuals, the greater the percentage of those who support WHO tobacco control policies implementation. In fact, evidence shows that the higher the education of the individuals, the greater the percentage of those who support the tobacco control policies (Tobacco Control in Ukraine, 2009, p. 21). The individuals who support the tobacco control policies are more exposed to the information about the health risks related to tobacco use. “Educated people have more information about health” (Deaton, 2002, p. 21), but “limited education may mean less exposure to information about risk” (Adler and Newman, 2002, p. 69). Research done by Schaap et al., (2008) on the effect of nationwide tobacco control policies on smoking cessation in high and low educated groups in 18 European countries shows that higher educated smokers were more likely to quit smoking than lower educated smokers. It was also found that “individuals with higher education “may be more likely to be socialized to health-promoting behavior and lifestyles” (Shavers, 2007, p. 1015) which is important, because “having knowledge of
the health effects of smoking is essential for behavior change” (Siahpush, McNeill, Hammond, and Fong, 2006, p. 66). Studies on age and education patterns of smoking among women in high-income 16 European countries using aggregate measures of cigarette diffusion and multilevel statistical models provide an evidence that these patterns shift from concentration highly educated women to less educated women (Pampel, 2003). Evidence also shows that parents with the highest education are significantly less likely to smoke in the presence of their children than parents with the lowest education (Kovess et al., 2013).

On the other hand, low educational attainment means low literacy, which might have an impact on the individual's ability to comprehend written information (Shavers, 2007), in particular, information on health risks related to tobacco use and information on tobacco control policies. For example, findings of Jarvis and Wardle (1999), Bobak, Jha, Nguyen, Jarvis, and Mundial (2000) revealed that the least educated and least well-off smokers are least aware of smoking harms and the most addicted to nicotine. Accordingly, individuals with less education are more likely to smoke (Pierce, Fiore, Novotny, Hatziaou, and Davis, 1989). Similarly, multivariate analysis done by Gallus et al., (2014) found a significant inverse trend between smoking prevalence and the level of education: the less educated individuals will be less likely to support tobacco control polices (Deaton, 2002). It was also found that children in European countries with lax tobacco control policies and children from impoverished households are more likely to be exposed to second hand smoking in their families (Sims et al., 2010). According to another research (conducted in Ukraine) less educated people recalled less health warnings than those with higher education (Andreeva and Krasovsky, 2011, p.9).
Occupation Aspect of Socioeconomic Status

The occupation aspect of socioeconomic status argument of this study suggests that working people rather than non-working people will be more likely to support tobacco control policies. Findings of Whitlock et al. (1998), Wilkinson and Marmot (2003) show that working people rather than non-working people will be more likely to support health information dissemination and implementation that favors the regulation of tobacco products advertisement and tobacco free environment. Also, findings of Levy, Chaloupka, and Gitchell (2004) show that work-site tobacco smoking restrictions “have a more pronounced effect on higher income workers” (p.346). Higher income workers also have more knowledge on the harm of tobacco smoking. For example, Nourjah, Wagener, Eberhardt, and Horowitz, (1994) found that white-collar employees in the USA were more likely to be knowledgeable of the effect of smoking on heart disease than blue-collar employees. On the other hand, smoking rates are especially high among the long-term unemployed, that is socioeconomically disadvantaged (Kunst, Giskes, and Mackenbach, 2004; Bryant, Bonevski, Paul, McElduff, and Attia, (2011). A nationally representative household survey undertaken in Ukraine in 2000 showed that unemployment was associated with smoking rather than nonsmoking status (Gilmore, McKee, Telishevskaya, and Rose, 2001). Some other findings, however, show that occupation could not strongly predict smoking behavior, and, therefore, attitude to tobacco control policies (Currie, Elton, Todd, and Platt, 1997).

Youth and Socioeconomic Status

The research evidence on youth and SES in terms of tobacco control policies is scarce and contradicting. There is an evidence that low socioeconomic groups of youth
have a higher prevalence of smoking compared with high socioeconomic groups of youth (Lowry, Kann, Collins, and Kolbe, 1996; Laaksonen, Rahkonen, Karvonen, and Lahelma, 2005; Melotti, Heron et al., 2011). Other evidence, however, states that “adolescents living below poverty levels were less likely to be regular smokers” (Jacobson, 2001, p. 92). There is also an evidence that younger and higher socioeconomic status smokers are more likely to make quit attempts (Chaloupka and Warner, 2000; Levy, Romano, and Mumford, 2005; Harman, Graham, Francis, and Inskip, 2006). Some other studies, however, report either no significant association, or mixed results on smoking prevalence and quit attempts (Hanson and Chen, 2007).

It has to be noted that in some studies both adolescent smokers and nonsmokers do not differ in their knowledge of the warning about the dangers of tobacco. In particular, both young smokers and nonsmokers do not differ in their knowledge about health risks of smoking, and that smoking affects appearance, smoking can be addictive and can be influenced by the social environment. Studies, however, suggest that youth often underestimate these risks (Jacobson, 2001, p. 97). Scholars identified a variety of reasons why some youth never become smokers and while most others become smokers. Jacobson (2001) argues that youth of a better well-being are less likely to start smoking:

“at decreased risk for smoking initiation are high academic achievers, are interested in their health, play sports, select nonsmoking peers, have parents who disapprove of smoking, show few signs of depression or negative self-image, and do not display conduct/behavioral problems. Preferences and values also play a strong role. Adolescents who display the strongest intentions not to smoke are the least likely to become regular smokers” (p. 105).
Studies on attitude and behavior of youth toward clean indoor tobacco control policies (controlling for sociodemographic characteristics and cigarette price) revealed the decreased potential of youth in becoming daily smokers (Botello-Harbaum et al., 2009). Advertisements provide youth with image-based information and may contribute to their attitudes regarding using tobacco products. Unfortunately, it is quite challenging to establish empirical links between advertising and its impacts on the behavior of the individuals in reference to tobacco use (Jacobson, 2001, p. 158). Another challenge is that “the effects of cigarette advertising bans are mixed, as different statistical analyses have come to opposite conclusions about whether bans reduce cigarette consumption in population” (Jacobson, 2001, p. 158). Evidence suggests that a complete ban on tobacco advertising may have a discernable impact on youth smoking behavior, but it would likely be small because a significant number of youth will still experiment with tobacco products and have a habit (addiction) (Jacobson, 2001, p. 159). Jacobson (2001) argues that this outcome can be explained by the social context of youth smoking behavior which contributes to youth smoking initiation and other forms of risk-taking behavior (p. 159).

In order to protect youth from tobacco industry marketing, public health mass media uses campaigns that are aimed at convincing young people not to engage in a certain type of behavior (e.g., tobacco use). Challenges include difficulties in identifying and classifying narrow audience segments, obtaining behavioral data on the target audiences, developing strong and simple product concepts in reaching vulnerable populations, and implementing long-term strategies. Sophisticated mass media campaigns conducted by public health education strategy have, however, a high potential and may
have positive effect on the attitudes and behaviors of youth toward tobacco control policies. In order for them to be effective, it requires significant resources and skillful execution (Jacobson, 2001, pp. 165-166, 173). Jacobson (2001) admits that even though public health (social marketing) campaigns produce positive effect, “the impact of such campaigns is challenging to evaluate and has not been fully demonstrated” (p. 173).

Evidence on youth making choices about cigarettes shows that these choices are based on the resources available to them which reflects the impact of price on smoking initiation. Studies in late 1990s (Lewit, Hyland, Kerrebrock, et al., 1997) suggested a considerable impact of cigarette price increases on youth. These studies, however, did not consider socioeconomic status of youth. Later studies by Liang, Chaloupka, Nichter, and Clayton (2003), Tauras and Chaloupka (2004), Tauras et al. (2005), which considered socioeconomic status, show that higher cigarette prices through increased excise taxes deter smoking initiation and consumption by youth. In particular, it was found that a substantial tax “is likely to have a larger and relatively immediate effect on the young and on lower income smokers” (Levy, Chaloupka, and Gitchell, 2004, p. 346).

**Attitude and Behavior Changes toward WHO Tobacco Control Policies in Ukraine**

As Dias, Marques, Ruseva, Nurse, and Dias (2012) state “while international regulations are nonnegotiable, the degree and nature of governance arrangements, including regulation and legal enforcement, will vary across Member States” (p.28). Moreover, the evaluation of WHO tobacco control instruments and tools regulation and legal enforcement “is not widely available; it is therefore difficult to compare the relative advantage of public health instruments and tools in different countries or at a regional level, or to recommend one tool over another (Dias, Marques, Ruseva, Nurse, and Dias, 2012,
Ukraine is not an exception to this. The adoption and implementation in Ukraine of WHO tobacco control policies has many challenges.

Ukraine adopted WHO tobacco control policies in 2005 and in 2006 it became a Party to the WHO Framework Convention on Tobacco Control (FCTC). Article 5 of the FCTC states that “each Party shall develop, implement, periodically update and review comprehensive multi-sectorial national tobacco control strategies, plans and programs in accordance with this Convention” (Tobacco control in Ukraine, 2009, p.41). The Ministry of Health issued Decree 311 which adopted the Complex Plan aimed at preventing and overcoming smoking in Ukraine for 2005–2010. The following legislation covers the tobacco control issues in the frames of the tobacco control policies: the law “On advertising” (advertising and sponsorship of tobacco products), the law “On the state regulation of production and turnover of alcohol and tobacco products” (licensing of production, trade, export and import of tobacco products, regulation of composition and labelling of tobacco products, some restrictions on the sale and use of tobacco products), the law “On excise duty rates for tobacco products”, the law “On moral protection of the public” (banning the production and distribution of products which promote tobacco-smoking); customs tariffs (import duty rates for tobacco and tobacco products); the customs code (restrictions on the admission of tobacco products through the customs border of Ukraine on a vehicle (Article 118), tax exemption for tobacco products which are purchased by citizens on the customs territory of Ukraine (Article 253); the Criminal Code (the production, storage, sale and transportation of illegal tobacco products with the purpose of sale (Article 204); the illegal production, imitation, use or sale of illegally made, received or counterfeit excise stamps or control stamps (Article 216); the Code of Ukraine
on Administrative Offences (violation of smoking bans in public transport vehicles: railway transport (Article 110), sea transport (Article 115), river transport (Article 117), buses, trams and trolleybuses (Article 119); violation of rules of sale of tobacco products (Article 156); violation of the established order of the industrial processing, storage, transportation or elimination of confiscated tobacco products (Article 156–2); storage and transportation of tobacco products without excise stamps (Article 164–5); sale of products with violation of requirements regarding health warnings on tobacco products (Article 168–2); smoking of tobacco products in forbidden places (Article 175–1); making, acquiring, keeping or selling falsified tobacco products (Article 177–2) (Tobacco control in Ukraine, 2009, pp. 39-40).

The laws introduced in the period 2005-2011 include the Law on Measures to Prevent and Reduce the Use of Tobacco Products and their Harmful Impact on Public Health adopted in 2005. One of the main objectives of the Law aimed at tobacco control policy for youth is to “determine the legal and organizational bases of the national policy aimed at preventing tobacco smoking among children and young people” (Tobacco control in Ukraine, 2009, p.41). This law had a provision that the Cabinet “ensures the implementation of the consolidated national policy to prevent and reduce the use of tobacco products and their harmful impact on public health, and develops and approves relevant programs” (Tobacco control in Ukraine, 2009, p.41). In 2008 the Cabinet approved the Concept of the National Program for Reduction of the Harmful Impact of Tobacco on Public Health in Ukraine for 2008–2012 stated in order N 797, Annex 2. The objective of the Program was “to protect and promote public health, protect against the consequences of tobacco consumption and exposure to tobacco smoke, and minimize the social,
environmental and economic consequences of tobacco use by implementing tobacco control measures at national and local levels” (Tobacco control in Ukraine, 2009, p. 41).

The first signs of law enforcement started in the middle of 2006 (for example, at the end of 2006, new more prominent - 30% of front and back sides - textual health warnings on cigarette packs were introduced), but its process over the period of 2005-2011 was accompanied by multiple challenges. Challenges included implementation of the law on smoke free indoor environment and warnings about the dangers of smoking in public places, bans on tobacco advertising, and tobacco taxation. Prior to WHO tobacco control polices, the most common places of smoking were public places (Gilmore, McKee, Telishevska, and Rose, 2001). Smoking ban in public places was introduced in the middle of 2006 and this measure was widely covered by the media but not strictly enforced. In reference to the ban on tobacco advertising: during the years 2005-2006 there were several attempts made by Members of Parliament to propose a total ban on tobacco advertising but they were not successful. At the same time efforts of the tobacco industry towards promoting cigarettes proliferated: outdoor and point of sale advertising was widely practiced. The transnational tobacco industries that entered in 1990s the formerly closed markets in Eastern Europe marketed their tobacco products aggressively, and, therefore, smoking rates rose in the following years substantially (Mackenbach, Karanikolos, and McKee, 2013; Gilmore and McKee, 2004). In 2005–2007, “several local councils introduced local bans on outdoor tobacco advertising, but they were challenged in court because bans can only be introduced under national legislation” (Tobacco control in Ukraine, 2009, p. 44). At the Healthy Nation Presidential Forum in 2007 a ban on tobacco and alcohol advertising was promised but it was not until 2008
when some proposals were considered and adopted. They included the ban on outdoor tobacco advertising and the ban on tobacco advertising in the print media (except special publications). In 2009 outdoor tobacco advertising was banned and in 2010 the printed media was banned. In addition to the above stated challenges, there were also challenges in tobacco taxation implementation. In 2008-2011 there were introduced several increases of tobacco excise tax, but that measure was not very effective. The price on tobacco products and tax policy, were not comprehensive and the excise taxes on tobacco in Ukraine were among the lowest in Europe in 2010 (Tobacco control in Ukraine, 2009, p. 102).

Krasovsky et al., (2014) identified the main problem of complying with the WHO Framework Convention during the years 2005-2011. Scholars believe that in those years “despite the general obligations set out in Article 5 of the FCTC, neither the multi-sectoral national tobacco control program nor the national coordinating mechanism for tobacco control existed in Ukraine” (p.111). This is due to the fact that “governmental social program aimed at reduction of the harmful effects of tobacco on the public health for the period until 2012 was approved by the Decree of Cabinet of Ministers of Ukraine No.940 dated September 3, 2009, but in 2011 it was canceled” (p. 111). Because tobacco control public health activities were partially supported by the authorities, they were initiated mostly by experts and community activists (Krasovsky, et al, 2014, p. 111).

As a matter of fact the selection and implementation of policy tools depends on political factors and political mobilization. Peters (2002) argues that “policy instruments are not politically neutral, and the selection of one instrument or another for a policy intervention will generate political activity, and have political consequences” (p. 552).
The problem of tool choice is, therefore, balancing political criteria with other equally important criteria such as effectiveness of the instrument, its reliability, and the costs of producing the outcomes with different types of instruments (Peters, 2002, p. 563). In the frames of these arguments, the above discussed challenges can be explained by different policy arenas in Ukraine within which these policies were introduced for the implementation. According to Schneider and Ingram (1990), different historical periods may show “bias toward particular policy instruments because they have different rationales about what government ought to do, how people can be motivated to do it, and the appropriate limits that should be placed on government manipulation of individuals” (p. 523). Ukraine is not an exception to policy changes. It is an established fact that different political regimes and presidential styles utilize different policy instruments. Different policy tools, in return, may produce different effect on citizen support for the political regime and presidential style. In other words, “policy tools reflect the political culture”, these tools create “their own culture, thereby increasing the probability of their own effectiveness” (Schneider and Ingram, 1990, p. 526). “The organizational bureaucratic culture of Ukraine is not different from international organizational bureaucratic culture, it influences policy development accordingly, that is, it “shapes action in many important areas, from everyday operations to innovation, and provides clues as to how things may go wrong” (Westrum, 2004, p. ii26).

Moreover, applying the tool categories suggested by Wildavsky (1988) in reference to the political cultures, it has to be noted that the political regimes of Ukraine in 2005-2011 utilized all three categories of tools associated with the political cultures, in particular, authoritarian, individualistic, and egalitarian. As authoritarian culture is
associated with hierarchical and sanction-oriented tools (smoke-free legislation and bans on tobacco advertisement), egalitarian culture is associated with capacity-building or symbolic tools (warning about the dangers of tobacco, tobacco packs labeling), and individualistic culture is associated with incentive-driven tools (tobacco taxation), it is obvious that WHO tobacco control policies which are evidence-based considered the differences of socioeconomic status of the individuals in their approach so that to encompass all target audiences of the policy. This suggests an assumption which this study seeks to prove: individuals in Ukraine represent a variety of socioeconomic status and react accordingly to the variety of policy tools introduced by the government. The argument of this study is that tobacco control policies were adopted in Ukraine as *sine qua non* for tobacco control, but no analysis was conducted to evaluate the outcome of these polices with the consideration of the variety of socioeconomic status of the population, in particular, youth. Evaluation of the impact of the WHO Framework Convention on Tobacco Control and its measures is essential for defining the effective policies for youth in Ukraine and this study is aimed at filling in the gap in this knowledge.

**Evidence of Attitude and Behavior Changes toward WHO Tobacco Control Policies in Ukraine**

Scholars have devoted much effort to studying the outcomes of tobacco control policies over the world. Most of the studies of tobacco control policies, however, have been conducted for high-income countries, and less studies were conducted in low-and middle-income countries, where smoking rates are high (Johnson et al., 2006; Andreeva and Krasovsky, 2011). It is necessary, however, to study the tobacco control policies in
low-income countries and for different demographic groups because effects of tobacco control policies differ in low-income countries, and they also differ for different demographic groups (Levy, Chaloupka, and Gitchell, 2004). For example, evidence exists that smoking prevalence is significantly lower in countries with higher per capita Gross Domestic Product (Bogdanovica, McNeill, Murray, and Britton, 2011).

In Ukraine several surveys were conducted in order to evaluate the outcomes of tobacco control policies, in particular, factors which were associated with smoking, and changes in attitude and behavior toward tobacco control. A nationally representative household survey was undertaken in 2000 (prior to when WHO tobacco control policies were introduced) with a response rate 72%. Data showed that 57% of men and 10% of women were smokers. The analysis revealed that factors which were associated with smoking included young age, urban residence (among women), and material hardship (unemployment) (Gilmore, McKee, Telishevska, and Rose, 2001). These scholars concluded that there was a great need in the development of an effective tobacco policy response, otherwise, tobacco use will continue to contribute to premature morbidity and mortality in Ukraine.

Surveys undertaken in Ukraine, after WHO tobacco control policies were introduced present some contradictory outcomes. Some scholars, for instance, believe that smoke-free policies which were supported by media campaign since 2006 were effective and, for example, covered many workplaces and public places so that 50% of the area of restaurants and bars had to be isolated from the smoking area (Andreeva and Krasovsky, 2011, pp.3-4). Krasovsky et al. (2014) argue that “the prevalence of smoking among inhabitants of Ukraine aged 12 and older decreased over the years 2008–2012
from 25.6% to 21.8% (i.e. the number of smokers decreased from 10.1 million to 8.7 million), that is, by 3.8 percentage points or by 17% in 4-year spell” (p.109). These scholars also believe that the significant decrease in the smoking prevalence in Ukraine in 2008–2010 was “due to the increase of average tax incidence from 0.5 UAH to 3 UAH per cigarette pack between August 2008 and July 2010”. On the other hand, there is an evidence that policies introduced were partial and were not fully enforced, and, therefore, were ineffective (Tobacco control in Ukraine, 2009). For example, Krasovsky et al., (2014) argue that in 2011–2012 “both the increases of tobacco excise tax and the implementation of other tobacco control measures in Ukraine were not consistent with the FCTC requirements, so the pace of tobacco consumption decline has slowed down” (p.110).

The need of an effective tobacco control policies implementation is demonstrated in the results of several surveys. For example, the need of health warning is demonstrated in the results of a survey on knowledge, attitude, and behavior conducted in Ukraine in 2005. The respondents supported the need for detailed information about health impact of smoking on tobacco packs: “this measure was supported by 86% of population” (Andreeva, 2005, p.9). The new textual health warnings appeared then in Ukraine in 2006 and covered 30% of the surface of a cigarette pack instead of 10 %. The health warnings which appeared on a cigarette pack related to cancer, cardiovascular diseases, second-hand smoke impact in children and adults, and danger of smoking during pregnancy (Andreeva and Krasovsky, 2011, p. 4).

Results of the same survey conducted in 2005 in reference to tobacco advertising ban revealed that the respondents most frequently encountered outdoor tobacco
advertising, ads on TV, point of sale advertising, ads in printed media and advertising goods. The majority of the population (57%) in a survey supported a total ban on tobacco advertising. This support was more frequently expressed by non-smokers and ex-smokers, older age groups, and lower socioeconomic groups of the population (Andreeva, 2005). Results of another survey revealed that “being exposed to outdoor tobacco advertising was associated with an increased chance of early smoking initiation and continuation” (Andreeva, Krasovsky and Semenova, 2007, p. 7). Scholars admit that tobacco advertising ban can be an effective tool in reducing smoking initiation and its implementation can be started with the ban of outdoor advertising (Andreeva, Krasovsky and Semenova, 2007, p. 7). Results of a population survey concerning the regulation of tobacco advertising conducted in 2009 (three years after the WHO tobacco control policies were implemented) revealed that the majority of the population supported a ban on tobacco advertising (Tobacco control of Ukraine, 2009, pp. 45-59). Moreover, the research evidence on ban of outdoor tobacco advertising shows that since 2009 it could somewhat influence smoking prevalence decline (Andreeva and Krasovsky, 2011, p. 4).

Results of the same survey on knowledge, attitude, and behavior in reference to the tobacco taxes conducted in 2005 show that respondents supported the increase of tobacco taxes (30%) and, as a consequence, 27% of smokers expected to smoke less and 14% of smokers expected to give up smoking (Andreeva, 2005). In fact, studies on tobacco taxation revealed that tobacco tax increase since late 2008 (which accounted for 50% price increase by the time of the survey compared to one year earlier) possibly led to the decline of smoking prevalence (Andreeva and Krasovsky, 2011, p. 4). Some other research evidences from the years 2009 and 2010 state that the higher tobacco taxes have
significantly reduced tobacco consumption in Ukraine in those years (Ross, Stoklosa, and Krasovsky, 2012). According to Ministry of Health of Ukraine (2010) the tobacco excise tax introduced in 2008-2010 resulted in decline in smoking prevalence and was documented in Global Adult Tobacco Survey (GATS) report in 2010.

**Youth in Ukraine and Tobacco Control Policies**

In order to determine an effective tobacco control policy for youth in Ukraine there has to be established a clear picture of attitudes and behavior changes of youth toward tobacco control policies implemented. There is insufficient evidence in the research on attitude and behavior changes of youth in Ukraine toward WHO tobacco control policies implemented during the years 2005-2011. Some evidence exists on self-reported smoking behavior by youth about smoke -free indoor environment, in particular, research conducted by Andreeva, Krasovsky and Semenova (2007) shows that “smoking regulation within households which only allowed smoking outdoors was associated with a lower smoking incidence among young people” (p. 7). These scholars argue that “encouraging people to eliminate tobacco smoke exposure in their homes can be an effective measure in preventing the initiation of smoking among young people” (Andreeva et al., 2007, p. 7). Some evidence also exists on the warning about the dangers of tobacco that shows that youth are less likely to pay attention to the information on the dangers of the use of tobacco than adult smokers (Andreeva and Krasovsky, 2011, pp.10-11). Consistent with these findings, evidence on pro-smoking advertisements seen by youth shows that tobacco advertising is more frequently seen by younger age groups rather than adults (Andreeva, 2005).
Youth in Ukraine with Different SES and Tobacco Control Policies

At the present time there is no available evidence on research on attitude and behavior changes of youth in Ukraine with different socioeconomic status toward WHO tobacco control policies implemented in 2005-2011. This study argues that youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards increasing taxes on tobacco products, tobacco products advertisement regulation, and smoke free environment law. Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of anti-smoking and pro-smoking advertisements. Socioeconomic status argument also suggests that youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported smoking behavior. The suggested arguments look at pre- and post-implementation of WHO tobacco control policies and socioeconomic status as determinants of youth’s attitude and behavior toward WHO tobacco control policies.

Controls

The conceptual model of this study will include several controls regarding attitude and behavior of youth toward WHO tobacco control policies. Gender will be included given that scholars have found that, for example, an efficient price policy (high ratio of cigarette prices/ GDP) was associated with less regular smoking in boys rather than girls (Hublet et al., 2009, p. 1922). Findings of Harrison, Fulkerson, and Park (2000), Castrucci, Gerlach, Kaufman, and Orleans (2002), Gratias, Krowchuk, Lawless, and Durant (1999) show that female smokers were less susceptible to price increase. These scholars explain it by gender differences in the way young people obtain their cigarettes:
females were more likely than males to obtain cigarettes from non-commercial sources (family and older friends). In contrast, males were more likely than females to buy cigarettes in a shop or from vending machines (Gratias et al., 1999) and were more susceptible to price increases (Hublet et al., 2009).

Age arguments need to be included because they suggest that youth are more likely affected by some specific policies, for example, the price increase on tobacco products, and will be less supportive of taxes increase policy. In fact, studies of Lewit, Hyland, Kerrebrock, and Cummings (1997), Liang, Chaloupka, Nichter, and Clayton (2003), Levy, Chaloupka, and Gitchell (2004), found that price increases have a specific effect on youth. The longitudinal findings from 1992 and 2000 data from the National Educational Longitudinal Study suggest evidence that higher cigarette taxes are associated with increased smoking cessation among youth (DeCicca, Kenkel, and Mathios, 2008).

Statement of Hypotheses

The present study seeks to answer the following questions:

**Q1: Do youth differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies?**

H1A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to support **increasing taxes on tobacco products** compared to youth in pre-adaptation survey

H1A0: There is no difference in reported support of **increasing taxes on tobacco products** in pre- and post-adaptation of WHO tobacco control policies

H1B: Youth in post-adaptation of WHO tobacco control policies are more likely to support **tobacco products advertisement regulation** compared to youth in pre-adaptation survey

H1B0: There is no difference in reported support of **tobacco products advertisement regulation** in pre- and post-adaptation of WHO tobacco control policies
H1C: Youth in post-adaptation of WHO tobacco control policies are more likely to support smoke free environment law compared to youth in pre-adaptation survey.

H1C0: There is no difference in reported support of smoke free environment in pre- and post-adaptation of WHO tobacco control policies.

Q2: Do youth differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices?

H2A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to self-report observation of anti-smoking advertisements compared to youth in pre-adaptation.

H2A0: There is no difference on self-reported observation of anti-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies.

H2B: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of pro-smoking advertisements compared to youth in pre-adaptation.

H2B0: There is no difference on self-reported observation of pro-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies.

Q3: Is there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies?

H3: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report smoking behavior compared to youth in pre-adaptation.

H30: There is no difference on self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies.

Q4: Does the effect of the adaptation of WHO tobacco control policies change across socioeconomic status on the three previous study aims?

Q4-1. Do youth of different levels of socioeconomic status differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies?

H4A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards increasing taxes on tobacco products.

H4A0: There is no difference of pre-post change in attitude towards increasing taxes on tobacco products across socioeconomic status groups.

H4B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards tobacco products advertisement regulation.
H4B0: There is no difference of pre-post change in attitude towards tobacco products advertisement regulation across socioeconomic status groups

H4C: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards smoke free environment law

H4C0: There is no difference of pre-post change in attitude towards smoke free environment across socioeconomic groups

Q4-2. Do youth of different levels of socioeconomic status differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices?

H5A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of anti-smoking advertisements

H5A0: There is no difference of pre-post change in self-reported observation of anti-smoking advertisements across socioeconomic status groups.

H6B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of pro-smoking advertisements

H6B0: There is no difference of pre-post change in self-reported observation of pro-smoking advertisements across socioeconomic status groups.

Q4-3. Is there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies of youth with different levels of socioeconomic status?

H7A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported smoking behavior.

H7A0: There is no difference of pre-post change in self-reported smoking behavior across socioeconomic status groups.

**Conclusion**

This research on attitude and behavior of youth toward tobacco control polices in Ukraine will look to answer the following questions: Do youth differ in their attitude and self-reported smoking behavior pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011? Do youth with different socioeconomic status differ in their attitude and self-reported smoking behavior pre- and post-implementation
of WHO tobacco control policies in Ukraine during 2005-2011? The assumptions behind these questions are that youth in post-adaptation of WHO tobacco control policies are more likely to support tobacco control policies compared to youth in pre-adaptation survey, they are more likely to self-report observation of anti-smoking advertisements, and are less likely to self-report smoking behavior in a survey. Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards tobacco control policies. In particular, youth of middle and high socioeconomic status will respond to the communicative tools and regulatory instruments in terms of tobacco-control policies, and youth of low socioeconomic status will respond to financial means in terms of tobacco-control policies. Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of anti-smoking advertisements, and youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported smoking behavior. Studying attitude and self-reported smoking behavior of youth with different socioeconomic status pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011 will help to understand the outcomes of these tobacco control policies in Ukraine and identify the most effective tobacco control policies for youth. This will advance knowledge about conditions under which youth in Ukraine will contribute to preferred tobacco control policy outcomes.
CHAPTER III

METHODOLOGY

Introduction

Previous efforts of international scholars have demonstrated that numerous variables of interest significantly impact how the population reacts towards tobacco control policies implementation. Multiple research conducted in many countries worldwide has focused on various determinants of policy attitude and behavior toward tobacco control – specifically gender, geographic location, age, marital status, and socioeconomic status. Unfortunately, there has been a lack of research that has focused on the consideration of socioeconomic status determinant and pre - post WHO tobacco control policies implementation in Ukraine. In particular, there have been no studies that examine whether both time and socioeconomic status affect attitude and smoking behavior of youth toward WHO tobacco control policies.

Ukraine adopted WHO tobacco control policies in 2005 and ratified them in 2006. The following policies were introduced in 2006: smoking ban in public places and tobacco advertising bans on TV and radio. In 2009 outdoor tobacco advertising was banned and in 2010 the printed media was banned. In 2008-2010 there were introduced several increases of tobacco excise tax. In 2011, the Ministry of Health of Ukraine announced the adoption of pictorial health warnings on tobacco products, to be introduced in 2012.
The purpose of this chapter is to describe and justify the methodology used in exploring the best tobacco controlling policy in Ukraine for youth with and without the consideration of their socioeconomic status over time. Accordingly, the chapter is broken into six sections. The second section demonstrates the conceptual model for this study and is followed by a restatement of the research questions and hypotheses in section three. Sections four and five discuss the data to be used and the operationalization of variables. The final section six will examine the statistical techniques and analyses that will be utilized in the study.

**Conceptual Model**

The conceptual model for this study has been derived from the literature review undertaken in the previous chapter. For the purpose of this study an attitude to tobacco control policy, self-reported observation of anti-smoking and pro-smoking advertisements and self-reported smoking behavior of youth will be studied in reference to pre-post adaptation of WHO tobacco control policies in Ukraine during 2005-2011 with and without the consideration of their socioeconomic status. In particular, the following policies within WHO framework will be studied: 1) smoke-free environments (protecting people from tobacco smoke); 2) warning about the dangers of tobacco (information about smoking in public places); 3) bans on tobacco advertising, promotion and sponsorship; 4) and tobacco taxation.

The review brought forth a series of variables that have been shown to predict individual’s attitude and behavior toward tobacco control policies implementation in Ukraine. The potential predictors fall into two main veins: pre-post WHO tobacco control policies implementation and socioeconomic status.
Effects of adopting WHO tobacco control policies testing pre- and post-implementation and socioeconomic status may affect policy implementation. Evidence from longitudinal research indicates that after WHO tobacco control policies implementation the support for policies increased and attitudes toward tobacco control policies improved both among smokers and nonsmokers (Hocking, Borland, Owen, and Kemp, 1991). Moreover, scholars Adler and Newman (2002) found that socioeconomic status impacts individual behavior.

Effects of adopting WHO tobacco control policies testing pre- and post-implementation argument suggests that youth over time are more likely to support increasing taxes on tobacco products, tobacco products advertisement regulation, and smoke free environment law. They are more likely to self-report observation of anti-smoking advertisements and pro-smoking advertisements compared to youth in pre-adaptation of WHO tobacco control policies. Time argument also suggests that youth in survey responses post-adaptation of WHO tobacco control policies are also less likely to self-report smoking behavior compared to youth in pre-adaptation.

Socioeconomic status argument suggests that youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards increasing taxes on tobacco products, tobacco products advertisement regulation, and smoke free environment law. Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of anti-smoking and pro-smoking advertisements. Socioeconomic status argument also suggests that youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported smoking behavior.
In particular, occupation aspect of socioeconomic status argument suggests that working people rather than non-working people will be more likely to support health information dissemination and implementation that favors the regulation of tobacco products advertisement and tobacco free environment. Scholars Whitlock, MacMahon, Hoorn, Davis, Jackson, and Norton (1998), Wilkinson and Marmot (2003) support the above argument. On the other hand, some studies show that occupation could not strongly predict smoking behavior, and, therefore, attitude to tobacco control policies (Currie, Elton, Todd, and Platt, 1997).

More educated individuals will be more likely to support health information dissemination and implementation that favors the regulation of tobacco products advertisement and tobacco free environment, and may be sensitive to price increase. The less educated individuals will be less likely to support tobacco control polices (Deaton, 2002), the higher the education of the individuals, the greater the percentage of those who support the tobacco control policies (Tobacco Control in Ukraine, 2009, p. 21).

The suggested arguments look at the time and socioeconomic status as determinants of youth’s attitude and behavior toward WHO tobacco control policies. In this study, these veins of research will be utilized to examine the most effective tobacco control policy for Ukraine. Figure 3.1 (a) and (b) displays the conceptual model of this study.
Figure 3.1 (a) The Conceptual Model

WHO Policies:
- Smoke-free environment
- Warning about the dangers of tobacco
- Bans on tobacco ads
- Tobacco taxation

2005 Pre

2011 Post

Attitude

Taxes

Advertisements

Smoke-free environment

Anti-smoking ads observation

Pro-smoking ads observation

Behavior

Smoking

Pre

Post

2005

2011

Figure 3.1 (a) The Conceptual Model
Figure 3.1 (b) The Conceptual Model
Several controls also need to be included in any conceptual model regarding attitude and behavior toward tobacco control policies. Gender needs to be included given that scholars have found that, for example, an efficient price policy (high ratio of cigarette prices/ GDP) is associated with less regular smoking in boys rather than girls (Hublet, et al., 2009, p. 1922). Exposure to outdoor tobacco advertising was found to be associated with an increased chance of early smoking initiation and continuation, especially among females (Andreeva, Krasovsky and Semenova, 2007).

Age arguments need to be included because they suggest that youth are more likely affected by the price increase on tobacco products and will be less supportive of taxes increase policy. Studies of Levy, Chaloupka, and Gitchell, (2004), Liang, Chaloupka, Nichter, and Clayton, (2003), Lewit, Hyland, Kerrebrock, Cummings (1997) found that price increases have a specific effect on youth. Moreover, in an international study on data of 87 countries, higher cigarette prices prevent and decrease smoking behavior (Guindon, Tobin, and Yach, 2002). Youth also are more likely affected by the health information and will be more supportive of the regulation of tobacco products advertisement and tobacco free environment. Scholars Emery, Wakefield, Terry-McElrath, Saffer, Szczypka, O’Malley, and Flay (2005) found that anti-tobacco media campaigns were associated with less smoking in youth.

**Research Questions and Hypotheses**

While there have been studies conducted regarding attitude and self-reported behavior of individuals toward WHO tobacco control policies in countries worldwide, little research exists that investigates attitude and self-reported behavior of individuals toward WHO tobacco control policies over the time and with the consideration of
socioeconomic status in Ukraine. International scholars have been positing numerous theories that look at socioeconomic status and the way it affects public attitude and behavior, however, scholars have been applying these theories to countries other than Ukraine. From the standpoint of effective implementation of public policy, it is imperative for institutions that implement public policy in Ukraine to understand what factors lead to Ukrainian public either support introduced policies or do not support them. Ukrainian institutions need to be able to foster public support in order to provide effective public policies. In order to provide a better understanding of public attitude and behavior on policies introduced, the present study seeks to answer the following questions:

**Q1: Do youth differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies?**

H1A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to support *increasing taxes on tobacco products* compared to youth in pre-adaptation survey

H1A0: There is no difference in reported support of *increasing taxes on tobacco products* in pre- and post-adaptation of WHO tobacco control policies

H1B: Youth in post-adaptation of WHO tobacco control policies are more likely to support *tobacco products advertisement regulation* compared to youth in pre-adaptation survey

H1B0: There is no difference in reported support of *tobacco products advertisement regulation* in pre-and post-adaptation of WHO tobacco control policies

H1C: Youth in post-adaptation of WHO tobacco control policies are more likely to support *smoke free environment* law compared to youth in pre-adaptation survey

H1C0: There is no difference in reported support of *smoke free environment* in pre- and post-adaptation of WHO tobacco control policies

**Q2: Do youth differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices?**

H2A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to self-report observation of anti-smoking advertisements compared to youth in pre-adaptation
H2A0: There is no difference on self-reported observation of anti-smoking advertisements in pre-and post-adaptation of WHO tobacco control policies.

H2B: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of pro-smoking advertisements compared to youth in pre-adaptation.

H2B0: There is no difference on self-reported observation of pro-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies.

Q3: Is there a difference in self-reported smoking behavior pre-and post-adaptation of WHO tobacco control policies?

H3: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report smoking behavior compared to youth in pre-adaptation.

H30: There is no difference on self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies.

Q4: Does the effect of the adaptation of WHO tobacco control policies change across socioeconomic status on the three previous study aims?

Q4-1. Do youth of different levels of socioeconomic status differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies?

H4A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards increasing taxes on tobacco products.

H4A0: There is no difference of pre-post change in attitude towards increasing taxes on tobacco products across socioeconomic status groups.

H4B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards tobacco products advertisement regulation.

H4B0: There is no difference of pre-post change in attitude towards tobacco products advertisement regulation across socioeconomic status groups.

H4C: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards smoke free environment law.

H4C0: There is no difference of pre-post change in attitude towards smoke free environment across socioeconomic groups.

Q4-2. Do youth of different levels of socioeconomic status differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control policies?
H5A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in **self-reported observation of anti-smoking advertisements**

H5A0: There is **no difference** of pre-post change in **self-reported observation of anti-smoking advertisements** across socioeconomic status groups.

H6B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in **self-reported observation of pro-smoking advertisements**

H6B0: There is **no difference** of pre-post change in **self-reported observation of pro-smoking advertisements** across socioeconomic status groups.

**Q4-3. Is there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies of youth with different levels of socioeconomic status?**

H7A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in **self-reported smoking behavior**.

H7A0: There is **no difference** of pre-post change in **self-reported smoking behavior** across socioeconomic status groups.

**Description of the Data and Sample**

This study will utilize the data from Global Youth Tobacco survey (GYTS) which was gathered in Ukraine in 2005 and 2011. GYTS uses a global standardized methodology for constructing the sample frame, selecting schools and classes, and processing data. It is a surveillance system which is intended to enhance the capacity of countries to design, implement, and evaluate prevention and tobacco control programs. It also assists countries to fulfill their obligations under the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) to generate comparable data within and across countries” (Centers for Disease Control and Prevention, Global Tobacco Surveillance System Data, http://nccd.cdc.gov).

GYTS is a school-based survey of students in forms 7 through 9 and includes data on prevalence of cigarette and other tobacco use as well as information on five determinants of tobacco use: access/availability and price, exposure to secondhand smoke...
(SHS), cessation, media and advertising, and school curriculum. A two-stage cluster sample design was used to produce representative data for all of Ukraine. At the first stage, schools were selected with probability proportional to enrollment size. At the second stage, classes were randomly selected and all students in selected classes were eligible to participate.

In 2005 the school response rate was 85.9%, the class response rate was 100%, the student response rate was 84.3%, and the overall response rate was 72.4%. A total of 6,579 students aged 13-15 participated in the Ukraine GYTS. In 2011 a total of 3,762 students participated in the Ukraine GYTS of which 3,550 were ages 13 to 15 years. The overall response rate of all students surveyed was 91.6%.

By tracking opinion of the Ukrainian public, policymaking institutions are better able to make decisions and Ukraine is better suited to implement the introduced policies. If Ukraine is able to mobilize public support in policies implemented, by having knowledge on the opinion of its citizens, it will be more likely to successfully do so.

**Operationalization of Variables**

The independent variables for this study are pre-post WHO tobacco control policy implementation (‘year’) and socioeconomic status. The responses by youth on occupation and education status reported in the surveys are the ones of their family members (father and/or mother). They are used as proxies for occupation and education aspects of socioeconomic determinant in the research. Several scholars studied indicators of socioeconomic status in youth surveys, in particular, Mare and Mason (1980), Looker (1989), Hauser (1994), Currie, Elton, Todd and Platt (1997), Lien, Friestad, and Klepp (2001). Entwislea and Astone (1994) laid out the guidelines in for the measurement of
children’s social and economic background. Findings from the study done by Ensminger, Forrest, Riley, Kang, Green, Starfield, and Ryan (2000) indicate that youth have relatively high agreement with their parents on basic socioeconomic status information, and therefore their responses can be used in the analyses. West, Sweeting, and Speed (2001) have similar findings, in particular, the youth as young as 11-12 years old can be good proxy reporters of parental occupation. Lien, Friestad, and Klepp (2001) found that the agreement between 13-15 year old youths’ and parents’ reports of socioeconomic status indicators was judged to be good. The findings of Vereecken and Vandegehuchte (2003) indicate that youth are able to describe their parents’ occupation in sufficient detail in a survey to be useful for research on socioeconomic differences.

GYTS 2005 and 2011 questions utilized ask:

**About occupation status and education status**

**CR85** Do your parents work? Respondents are given the response choices of ‘missing’, ‘father (stepfather or mother's partner) only’, ‘mother (stepmother or father's partner) only’, ‘both’, ‘no’, ‘neither’, ‘don't know’.

**CR86** What level of education did your father (stepfather or mother's partner) complete? Respondents are given the response choices of ‘missing’, ‘graduated from the university and institute’, ‘finished technical secondary school or college’, ‘finished secondary school’, ‘didn't finish secondary school’, ‘don't know’.

**CR87** What level of education did your mother (stepmother or father's partner) obtain? Respondents are given the response choices of ‘missing’, ‘graduated from the university and institute’, ‘finished technical secondary school or college’, ‘finished secondary school’, ‘didn't finish secondary school’, ‘don't know’.
The dependent variables for this study are attitude to anti-smoking policies, self-reported observation of pro-smoking and anti-smoking advertisements, and self-reported smoking behavior.

GYTS 2005 and 2011 questions utilized ask:

About attitude toward tobacco advertisement, tobacco products prices increase, and smoking in public places

CR27 Do you think the tobacco advertisement should be banned? Respondents are given the response choices of ‘missing’, ‘yes’, ‘no’.

CR28 Do you think the price of tobacco products should be increased? Respondents are given the response choices of ‘missing’, ‘yes’, ‘no’.

CR30 Do you think smoking in public places should be banned (such as in restaurants, on public transportation, in schools, on playgrounds, in gyms, discos, or sport areas)? Respondents are given the response choices of ‘missing’, ’yes’, ‘no’.

About self-reported smoking behavior

CR8 During the past 30 days (one month), how often have you smoked cigars-mini cigars/cigarillos? Respondents are given the response choices of ‘I did not smoke cigars, mini cigars, or cigarillos during the past 30 days (one month)’, ’less than once a week’, ‘at least once a week but not every day’, ‘every day’.

About self-reported observation of anti-smoking

CR57 During the past 30 days (one month), how many anti-smoking media messages have you seen on television? Respondents are given the response choices of ‘missing’, ‘I never watch television’, ‘a lot’, ‘a few’, ‘none’.
CR58 During the past 30 days (one month), how many anti-smoking media messages have you heard of the radio? Respondents are given the response choices of ‘missing’, ‘I never listen to the radio’, ‘a lot’, ‘a few’, ‘none’.

CR59 During the past 30 days (one month), how many anti-smoking media messages have you seen on billboards? Respondents are given the response choices of ‘missing’, ‘a lot’, ‘a few’, ‘none’.

CR60 During the past 30 days (one month), how many anti-smoking media messages have you seen on posters? Respondents are given the response choices of ‘missing’, ‘a lot’, ‘a few’, ‘none’.

CR62 During the past 30 days (one month), how many anti-smoking media messages have you seen at the Cinema? Respondents are given the response choices of ‘missing’, ‘never go to the cinema’, ‘a lot’, ‘a few’, ‘none’.

CR63 When you go to sports events, fairs, concerts, community events, or social gatherings, how often do you see anti-smoking messages? Respondents are given the response choices of ‘missing’, ‘I never go to sports events, fairs, concerts, community events, or social gatherings’, ‘a lot’, ‘sometimes’, ‘never’.

About self-reported observation of pro-smoking advertisements

CR64 When you watch TV, videos, or movies, how often do you see actors smoking? Respondents are given the response choices of ‘missing’, ‘I never watch TV, videos, or movies’, ‘a lot’, ‘sometimes’, ‘never’.

CR66 During the past 30 days (one month) when you watched sports events or other programs on TV how often did you see cigarette brand names? Respondents are

CR67 During the past 30 days (one month), how many advertisements for cigarettes have you seen on billboards in your town/where you live? Respondents are given the response choices of ‘missing’, ‘a lot’, ‘a few’, ‘none’.

CR68 During the past 30 days (one month), how many advertisements or promotion for cigarettes have you seen in newspapers or magazines? Respondents are given the response choices of ‘missing’, ‘a lot’, ‘a few’, ‘none’.

CR69 When you go to sports events how often do you see advertisements for cigarettes? Respondents are given the response choices of ‘missing’, ‘I never attend sports events’, ‘a lot’, ‘sometimes’, ‘never’.

CR70 When you go to sports concerts how often do you see advertisements for cigarettes? Respondents are given the response choices of ‘missing’, ‘I never attend concerts’, ‘a lot’, ‘sometimes’, ‘never’.

CR71 When going to community events/social gatherings how often do you see the advertisements for cigarettes? Respondents are given the response choices of ‘missing’, ‘I never attend community events or social gatherings’, ‘a lot’, ‘sometimes’, ‘never’.

The following steps were undertaken to prepare for the analysis. First, the datasets of the surveys for the years 2005 and 2011 were stacked with an additional variable created to indicate the year the individual subjects completed the survey, 2005 pre WHO intervention or 2011 post WHO intervention.
Then, some variables shown below were recoded. For the socioeconomic status and its influence on policies implementation argument, the study employs different measures. In particular, the following variables on the attitude to tobacco control policies: ‘tobadvertisement’, ‘tobprice’, and ‘smokingpublic’ were recoded into one variable ‘addattitudes’. Further, the following variables on anti-smoking advertisement were recoded into new variables:

‘reportstv’ INTO ‘reportstv2’; \((1=0) \ (2=2) \ (3=1) \ (4=0)\)

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<tr>
<td>Missing=SYSMIS;</td>
<td>Missing=SYSMIS;</td>
</tr>
<tr>
<td>I never watch television=1;</td>
<td>No one/none=0;</td>
</tr>
<tr>
<td>A lot/Many=2;</td>
<td>A lot/Many=2;</td>
</tr>
<tr>
<td>Several/A few=3;</td>
<td>Several/A few =1;</td>
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<tr>
<td>No one/none=4.</td>
<td>No one/none=0.</td>
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‘reportsradio’ INTO ‘reportsradio2’; \((1=0) \ (2=2) \ (3=1) \ (4=0)\)

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<td>I never listen to the radio=1;</td>
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</tr>
<tr>
<td>A lot/Many=2;</td>
<td>A lot/Many=2;</td>
</tr>
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<td>Several/A few=3;</td>
<td>Several/A few =1;</td>
</tr>
<tr>
<td>No one/none=4.</td>
<td>No one/none=0.</td>
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<tr>
<td>A lot=1;</td>
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<tr>
<td>Sometimes/A few=2;</td>
<td>Sometimes/A few =1;</td>
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<td>A lot/Many =1;</td>
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<tr>
<td>Sometimes/A few=2;</td>
<td>Sometimes/A few =1;</td>
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<tr>
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<td>No one/none=0.</td>
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<tr>
<td>A lot/Many =1;</td>
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<td>Sometimes/A few=2;</td>
<td>Sometimes/A few =1;</td>
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<tr>
<td>No one/none=3;</td>
<td>No one/none=0.</td>
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Survey Year = 2011

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<td>Missing=SYSMIS;</td>
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<tr>
<td>I never go to the cinema=1;</td>
<td>No one /none=0;</td>
</tr>
<tr>
<td>A lot/Many=2;</td>
<td>A lot/Many=2;</td>
</tr>
<tr>
<td>Several/A few=3;</td>
<td>Several/A few =1;</td>
</tr>
<tr>
<td>No one/none=4.</td>
<td>No one/none=0.</td>
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`reportsnewspaper` INTO `reportsnewspaper2`; \[(1=0) (2=2) (3=1) (4=0)\] IF

`reportsfilms` INTO `reportsfilms2`; \[(1=0) (2=2) (3=1) (4=0)\]
`reportsevents` INTO `reportsevents2`; \((1=0) ~ (2=2) ~ (3=1) ~ (4=0)\)

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<td>Missing=SYSMIS;</td>
<td>Missing=SYSMIS;</td>
</tr>
<tr>
<td>I never go sports events, fairs, concerts, community events, or social gatherings=1;</td>
<td>Never/none=0;</td>
</tr>
<tr>
<td>A lot/Often=2;</td>
<td>A lot/Often=2;</td>
</tr>
<tr>
<td>Sometimes/A few=3;</td>
<td>Sometimes/A few=1;</td>
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<tr>
<td>Never/none=4.</td>
<td>Never/none=0.</td>
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Then, the above variables were recoded into one variable of anti-smoking advertisement: `anti_ad`. The mean on `anti_ad` variable was computed.

Further, the following variables on pro-smoking advertisement were recoded into new variables:

`seeactorsmoke` INTO `seeactorsmoke2`; \((1=0) ~ (2=2) ~ (3=1) ~ (4=0)\)

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<td>Missing=SYSMIS;</td>
<td>Missing=SYSMIS;</td>
</tr>
<tr>
<td>I never watch TV, video, or movies=1;</td>
<td>Never/none=0;</td>
</tr>
<tr>
<td>A lot/Often=2;</td>
<td>A lot/Often=2;</td>
</tr>
<tr>
<td>Sometimes/A few=3;</td>
<td>Sometimes/A few=1;</td>
</tr>
<tr>
<td>Never/none=4.</td>
<td>Never/none=0.</td>
</tr>
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<tr>
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<td>A lot/Often=2;</td>
</tr>
<tr>
<td>Sometimes/A few=3;</td>
<td>Sometimes/A few =1;</td>
</tr>
<tr>
<td>Never/none=4.</td>
<td>Never/none=0.</td>
</tr>
</tbody>
</table>

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<td>Missing=SYSMIS;</td>
</tr>
<tr>
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<td>A lot=2;</td>
</tr>
<tr>
<td>Sometimes/A few=2;</td>
<td>Sometimes/A few =1;</td>
</tr>
<tr>
<td>Never/none=3.</td>
<td>Never/none=0.</td>
</tr>
</tbody>
</table>

‘seeadvlastthirtydays’ INTO ‘seeadvlastthirtydays2’; \(1=2) (2=1) (3=0)\)

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</tr>
<tr>
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<td>A lot=2;</td>
</tr>
<tr>
<td>Sometimes/A few=2;</td>
<td>Sometimes/A few =1;</td>
</tr>
<tr>
<td>Never/none=3.</td>
<td>Never/none=0.</td>
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</tbody>
</table>
‘seeadvsport’ INTO ‘seeadvsport2’; (1=0) (2=2) (3=1) (4=0)

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<td>Missing=SYSMIS;</td>
</tr>
<tr>
<td>I never attend sport events=1;</td>
<td>Never/none=0;</td>
</tr>
<tr>
<td>A lot/Often=2;</td>
<td>A lot/Often=2;</td>
</tr>
<tr>
<td>Sometimes/A few=3;</td>
<td>Sometimes/A few =1;</td>
</tr>
<tr>
<td>Never/none=4.</td>
<td>Never/none=0.</td>
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<td>Sometimes/A few=3;</td>
<td>Sometimes/A few =1;</td>
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<tr>
<td>Never/none=4.</td>
<td>Never/none=0.</td>
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</tbody>
</table>
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</thead>
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<td>Missing=SYSMIS;</td>
</tr>
<tr>
<td>I never attend community events</td>
<td>Never/none=0;</td>
</tr>
<tr>
<td>or social gatherings=1;</td>
<td>A lot/Often=2;</td>
</tr>
<tr>
<td>A lot/Often=2;</td>
<td>Sometimes/A few =1;</td>
</tr>
<tr>
<td>Sometimes/A few=3;</td>
<td>Never/none=0.</td>
</tr>
<tr>
<td>Never/none=4.</td>
<td></td>
</tr>
</tbody>
</table>

Then, the above variables were recoded into one variable of pro-smoking advertisement: ‘pro_ad’. The mean on ‘pro_ad’ variable was computed.

Further, the variable ‘daysmoked’ (how many days have you smoked cigarettes for the last 30 days (one month)? (SYSMIS=SYSMIS) (1=0) (ELSE=1) was recoded into the variable ‘smok30’.

Further, the socioeconomic status classification will be constructed. The classification consists of three groups.

**1 Group:** parentswork=3 (both), educationfather=3-6 (finished secondary school, didn’t finish secondary school, don’t know) educationmother=3-6 (finished secondary school, didn’t finish secondary school, don’t know). Both parents work and have low level of education. It is a low socioeconomic status group.

**2 Group:** parentswork=3 (both), educationfather=1-2 (graduated from the university and institute, finished technical secondary school or college), educationmother=1-2 (graduated from the university and institute, finished technical
secondary school or college). Both parents work and have middle or high level of education. It is a middle socioeconomic status group.

**3 Group:** parentswork=1-2 (father/mother), educationfather=1-2 (graduated from the university and institute, finished technical secondary school or college), educationmother=1-2 (graduated from the university and institute, finished technical secondary school or college. One parent doesn’t work and parents have middle or high level of education). It is a high socioeconomic status group.

**Statistical Analyses**

In order to address the research questions at hand, both descriptive and inferential statistics are employed to analyze data.

**Descriptive Statistical Methods.**

Frequencies, percentages, means and standard deviations are presented for variables that describe the sample by pre- and post-WHO tobacco control policies and SES categories. In particular: ‘age’, ‘gender’, ‘parentswork’, ‘educationfather’, ‘educationmother’, ‘fam-ses’. Frequencies across the groups will be tested using the Chi-square test, differences in means across the groups will be tested using t-test.

*Testing of hypotheses*

To examine whether there was an adaptation of WHO tobacco control polices over time and whether that adoption changed across socioeconomic status, a Multivariate Analysis of Covariance (MANCOVA) will be conducted. The MANCOVA approach first tests stated hypotheses on all outcome variables (youth’s attitude toward tobacco control policies; their self-reported observation of anti-smoking and pro-smoking advertisements; and their self-reported smoking behavior) simultaneously in a
multivariate framework that controls for Type I error for testing multiple hypotheses and identifies if any stated hypotheses are statistically significant (p<.05) for any of the outcome variables. The multivariate test used will be Pillai-Bartlett Trace test that compares the ratio of between eigenvalues to total eigenvalues as it is known to be robust to departures to the multivariate normality assumption (Marcoulides and Raykov, 2008). To test parts A, B, and C of all hypotheses, the MANCOVA model will specify the pre and post-adaptation of WHO tobacco control polices variable, the SES group variable, and an interaction of those two variables as independent variables. The model will also include any demographic variables that vary across the groups in the descriptive analysis seen as potential confounders.

If any of the independent variables (including the interaction) the multivariate test is statistically significant, then a univariate ANOVA will be conducted to identify statistically significant differences across groups of subjects within the independent variable. If the independent variable has more than three groups (i.e., the SES variable) then post-hoc test of differences across groups will be conducted using Tukey’s Honestly Significant Difference (HSD) test to control for Type I error for multiple comparisons. All analysis will be conducted using SPSS version 22, with the GLM command.
CHAPTER IV
DATA ANALYSES AND RESULTS

Introduction

This chapter presents the results of the analyses conducted to respond the research questions in chapter three. The chapter consists of three sections. The second section presents the descriptive analysis and the inferential analysis which examine four research questions: (1) Do youth differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies? (2) Do youth differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices? (3) Is there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies? (4) Does the effect of the adaptation of WHO tobacco control policies change across socioeconomic status on the three previous study aims? In particular, question four has the following sub-questions: (4-1) Do youth of different levels of socioeconomic status differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies? (4-2) Do youth of different levels of socioeconomic status differ in their self-reported observation of anti-smoking and pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices? (4-3) Is there a difference in self-reported smoking behavior pre-and post-adaptation of WHO tobacco control policies of youth with different levels of socioeconomic status? The second section also presents synthesis. The third section concludes the discussion with the implications for future research.
Analysis

To investigate variables used for the test, frequencies were ran for age, gender, parentswork (parents work status), educationfather (the education level of father), educationmother (the education level of mother), gender, and fam-ses (the socioeconomic status group). The results of the test show that for age M = 3.71, SD = .970; for gender M = 1.51, SD = .500; for parentswork M = 2.62, SD = .889; for educationfather M = 2.57, SD = 1.830, for educationmother M = 2.12, SD = 1.611, and for fam-ses M = 1.7066, SD = .70636. Age variable indicates that the largest number of participants (3879) were of age 17 (34%) and (3771) were of age 13 (33%). Gender variable indicates that 51% of participants were girls and 49% boys. Variable indicating working status shows that 7500 (66%) of both parents work, 1845 (16%) only father works, and 1418 (13%) only mother works. Only 323 (3%) of both parents don’t work, 118 (1%) one or both parents have private business, and 88 (1%) don’t know parents work status. Education status of father variable shows that the largest number of participants 4352 (39%) graduated from university, following with 3042 participants (28%) who finished technical school or college. The rest of the participants finished school 975 (9%), didn’t finish school 129 (1%), have no education 912 (8%), and don’t know the education status 1660 (15%). Education status of mother variable shows that the largest number of participants 5644 (51%) graduated from university, following with 2988 (27%) who finished technical school or college. The rest of the participants finished school 796 (7%), didn’t finish school 110 (1%), have no education 535 (5%), and don’t know the education status 1090 (10%). Variable family socioeconomic status shows that the largest number of participants 5046 which is 44% are of low socioeconomic status, participants of middle
socioeconomic status (4768) make 42% and participants of high socioeconomic status (1675) make 15% (Table 4.1). The number of participants in a low socioeconomic status group is 4533, in a middle socioeconomic group is 4372, and in a high socioeconomic group is 1514 (Table 4.2). The number of participants in 2005 is 6996 and in 2011 is 3423 (Table 4.2).

Table 4.1 Socioeconomic status groups bar chart.
Table 4.2 Independent variables

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<tr>
<td></td>
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Descriptive statistics also presents the results of the analysis for three socioeconomic status groups for years 2005 and 2011 and their attitude to WHO tobacco control polices and self-reported smoking behavior. Table 3 shows the mean, standard deviation, and sample size (N). Inspecting the means shows that when checking for the attitude to tobacco control policies the middle socioeconomic status group has the largest mean (2.2331) for the year of 2005, whereas the high socioeconomic group has the largest mean (2.3769) for the year of 2011. The standard deviation for these years are .91632 and 8.7854 respectively, sample size is 2746 and 467 respectively. The results also show that when checking for the self-reported observation of anti–tobacco advertisements the middle socioeconomic status group for both years has the largest mean (.8474) for the year of 2005 and (.7370) for the year of 2011. The standard deviation for these years are .32781 and .31229 respectively, sample size is 2746 and 1626 respectively. Standard deviation, however, is larger for high socioeconomic status group for both years 2005 and 2011 which are .35535 and .32480 respectively. The results also show that when checking for the self-reported observation of pro–tobacco advertisements for the year of 2005 the largest mean is for the low socioeconomic status group (.9311) but for the year of 2011 the largest mean is for the middle socioeconomic
status group (.9135). Standard deviation is .29460 for the year of 2005 and .28677 for the year of 2011 respectively. The sample size is 3203 for the year of 2005 and 1330 for the year of 2011 respectively. The largest deviation, however, for both years is in the high socioeconomic status group, which is .31900 for the year of 2005 and .30185 for the year of 2011. The results also show that when checking for the self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies, low socioeconomic status group for both years has the largest mean (.2189) for the year of 2005 and (.1707) for the year of 2011. Standard deviation is .41354 and .3763, sample size is 3203 and 1330.
<table>
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Table 4.3 Descriptive Statistics (Cont’d)

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Frequencies across the groups were tested using the Chi-square test. The following two paragraphs discuss the results of the test. The results show that a statistically significant relationship was found for the variables the socioeconomic status group (fam_ses) and attitudes to tobacco control policies (addattitudes) ($\chi^2 (6, N = 11489.0) = 17.47, p = .008$). The results indicate that there is a relationship between
family socioeconomic status and attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies. The statistically significant relationship was also found for the variables \textit{fam\_ses} and \textit{anti\_ad} \((\chi^2 (70. N = 11465.0) = 92.85, p = .035)\). The results indicate that there is a relationship between family socioeconomic status and self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control policies. The statistically significant relationship was also found for the variables \textit{fam\_ses} and \textit{pro\_ad} \((\chi^2 (84. N = 11473.0) = 125.11, p = .002)\). The results indicate that there is a relationship between family socioeconomic status and self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. The statistically significant relationship was also found for the variables \textit{fam\_ses} and \textit{smok30} \((\chi^2 (2. N = 10436.0) = 12.40, p = .002)\). The results indicate that there is a relationship between family socioeconomic status and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies.

The statistically significant relationship was found for the variables \textit{year} and \textit{addattitude} \((\chi^2 (3. N = 11489.0) = 44.97, p = .000)\). The results indicate that there is a relationship between the time of implementation of WHO tobacco control policies and attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies. The statistically significant relationship was also found for the variables \textit{year} and \textit{anti\_ad} \((\chi^2 (35. N = 11465.0) = 444.16, p = .000)\). The results indicate that there is a relationship between the time of implementation of WHO tobacco control policies and self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. The statistically significant relationship was also found for the variables \textit{year} and \textit{pro\_ad} \((\chi^2 (42. N = 11473.0) = 468.69, p = .000)\). The results
The results indicate that there is a relationship between the time of implementation of WHO tobacco control policies and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies. The statistically significant relationship was also found for the variables year and smok30 ($\chi^2 (1, N = 10436.0) = 53.75, p = .000$).

**Inferential Analysis**

In order to acquire more information about the relationship between the variables of research, the differences in means across the groups were tested using t-test. Table 4.4 shows tests of between-subjects effects ANOVA, Table 4.5 shows estimated marginal means, and Table 4.6 shows profile plots. The between–subjects ANOVA was conducted with the following dependent variables: attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies (addattitudes), self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control policies (anti_ad), self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control policies (pro_ad), and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies (smok30). The independent variables were year (year) and the socioeconomic status group (fam_ses). The results indicated that there was a significant main effect for year and all four dependent variables, in particular, attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies $F(1.10) = 38.28, p = .000, \eta^2 = 0.0005$, mean square 31.07; self-reported observation of anti-smoking
advertisements pre- and post-adaptation of WHO tobacco control policies $F(1.10) = 185.7, p=.000, \eta^2 = 0.0026$, mean square 19.86; self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices $F(1.10) = 21.26, p=.000, \eta^2 = 0.0002$, mean square 1.84; and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies $F(1.10) = 39.59, p=.000, \eta^2 = 0.0031$, mean square 6.09. The results also indicated that there was a significant main effect for family socioeconomic status and two dependent variables, in particular, self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control policies $F(2.10) = 4.51, p=.011, \eta^2 = 0.0001$, mean square .48, and self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies $F(2.10) = 4.70, p=.009, \eta^2 = 0.0007$, mean square .72. The effect size ($\eta^2$ for each dependent variable was small. There was found no statistical significance for family socioeconomic status and two other dependent variables, in particular, attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies and self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. There was also found no statistical significance for the interaction of year and family socioeconomic status and all four dependent variables, and, therefore, the main effects adequately described the differences between the groups.
### Table 4.4 Tests of Between-Subjects Effects

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<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
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<td>7.983</td>
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<td></td>
<td>pro_ad</td>
<td>2.359(^c)</td>
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<td>.472</td>
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<tr>
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<td>smok30</td>
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<td>1.928</td>
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<td>.214</td>
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<td>2</td>
<td>.074</td>
<td>.479</td>
<td>.620</td>
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<td>10419</td>
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<tr>
<td>Corrected Total</td>
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<td>smok30</td>
<td>1610.533</td>
<td>10418</td>
<td></td>
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</tbody>
</table>
In order to determine the direction of significant results the estimated marginal means need to be inspected. Since year variable was significant, the estimated marginal means table was produced to determine the direction of the significant results. The analysis of the table shows that the variable attitude toward tobacco control policies (addattitudes) had less difference in 2005 (M = 2.20) than in 2011 (M = 2.37), the variable self-reported observation of anti-smoking advertisements (anti_ad) had more difference in 2005 (M = .83) than in 2011 (M = .73), the variable self-reported observation of pro-smoking advertisements (pro_ad) had more difference in 2005 (M = .93) than in 2011 (M = .90), and the variable self-reported smoking behavior (smok30) had more difference in 2005 (M = .21) than in 2011 (M = .15). Moreover, attitude toward tobacco control policies (addattitudes) in 2011 (M = .2.37) had more difference than any variable of self-reported smoking behavior.

Since the socioeconomic status group (fam_ses) was significant for self-reported observation of anti-smoking advertisements (anti_ad) and self-reported smoking behavior (smok30), the estimated marginal means table was inspected too to determine the direction of the significant results. The analysis of the table shows that anti_ad had the largest difference in middle socioeconomic status group (M = .792), the medium difference in the high socioeconomic status group (M = .773) and the smallest difference in the low socioeconomic status group (M = .771). It has to be noted that there is a very small difference between the high socioeconomic status group mean and the low socioeconomic status group mean. Smok30 had the largest difference in low socioeconomic status group (M = .195), the medium difference in high socioeconomic status group (M = .182), and the smallest difference in middle socioeconomic status group.
group (M = .168). It has to be noted that there is not much difference between the low socioeconomic status group mean and the high socioeconomic status group mean. The interaction of year and fam_ses did not show the significant difference, and, therefore, are not discussed here.

Table 4.5 Estimated Marginal Means

(a) year

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Year</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011.00</td>
<td>2.336</td>
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<td>anti_ad</td>
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<td>.004</td>
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<td></td>
<td>2011.00</td>
<td>.725</td>
<td>.006</td>
<td>.713 - .738</td>
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<tr>
<td>pro_ad</td>
<td>2005.00</td>
<td>.929</td>
<td>.004</td>
<td>.922 - .937</td>
</tr>
<tr>
<td></td>
<td>2011.00</td>
<td>.897</td>
<td>.006</td>
<td>.886 - .908</td>
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<td>smok30</td>
<td>2005.00</td>
<td>.211</td>
<td>.005</td>
<td>.201 - .221</td>
</tr>
<tr>
<td></td>
<td>2011.00</td>
<td>.152</td>
<td>.008</td>
<td>.137 - .167</td>
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</tbody>
</table>

(b) fam_ses

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>fam_ses</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
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<td>addattitudes</td>
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<td>2.241</td>
<td>.015</td>
<td>2.212 - 2.270</td>
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<tr>
<td></td>
<td>2.00</td>
<td>2.282</td>
<td>.014</td>
<td>2.254 - 2.310</td>
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<td>3.00</td>
<td>2.284</td>
<td>.025</td>
<td>2.235 - 2.334</td>
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<td>anti_ad</td>
<td>1.00</td>
<td>.771</td>
<td>.005</td>
<td>.761 - .782</td>
</tr>
<tr>
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<td>2.00</td>
<td>.792</td>
<td>.005</td>
<td>.782 - .802</td>
</tr>
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<td></td>
<td>3.00</td>
<td>.773</td>
<td>.009</td>
<td>.755 - .791</td>
</tr>
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<td>.912</td>
<td>.005</td>
<td>.903 - .922</td>
</tr>
<tr>
<td></td>
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<tr>
<td>smok30</td>
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<td>.195</td>
<td>.006</td>
<td>.182 - .207</td>
</tr>
<tr>
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<td>2.00</td>
<td>.168</td>
<td>.006</td>
<td>.156 - .180</td>
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<td></td>
<td>3.00</td>
<td>.182</td>
<td>.011</td>
<td>.161 - .203</td>
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</table>
To examine the estimated marginal means it is also useful to create profile plots for year and year & fam-ses interaction. Table 4.6 shows that when the means are plotted, this difference results in (significantly) nonparallel lines (which means that they interact).

Table 4.6 Profile Plots
(a) addattitudes

![Estimated Marginal Means of addattitudes Diagram](image)
(b) anti-ad

Estimated Marginal Means of anti_ad

Estimated Marginal Means

Year

2005.00
2011.00

fam_ses
1.00
2.00
3.00
Estimated Marginal Means of pro_ad

(c) pro-ad
To examine whether there was an adaptation of WHO tobacco control policies over time and whether that adoption changed across socioeconomic status groups, a Multivariate Analysis of Covariance (MANCOVA) was conducted. The MANCOVA approach first tested stated hypotheses on all outcome variables: youth’s attitude toward tobacco control policies (addattitudes); their self-reported observation of anti-smoking (anti-ad) and pro-smoking advertisements (pro_ad), and their self-reported smoking behavior (smok30) simultaneously in a multivariate framework that controls for Type I error for testing multiple hypotheses and identifies if any stated hypotheses are statistically significant (p<.05) for any of the outcome variables. The multivariate test
used was Pillai-Bartlett Trace test that compared the ratio of between eigenvalues to total eigenvalues as it is known to be robust to departures to the multivariate normality assumption (Marcoulides and Raykov, 2008). To test parts A, B, and C of all hypotheses, the MANCOVA model specified the pre- and post-adaptation of WHO tobacco control polices variable (year), the socioeconomic status group variable (fam_ses), and an interaction of those two variables as independent variables.

The results of the multivariate analysis conducted to assess if there was a difference between participants in different socioeconomic groups and years 2005 and 2011 on the four outcome measures ANOVA (Pillai’s Bartlett Trace test) revealed that there are statistically significant multivariate main effect of year and fam_ses ($p<.05$), but these are not qualified by year by fam_ses interaction ($p>.05$). Table 4.7 shows the results of the test.
Table 4.7 Multivariate Tests

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<th>Effect</th>
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<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
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<td>.000</td>
</tr>
<tr>
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<td>60.712b</td>
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<td>.000</td>
</tr>
<tr>
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<td>60.712b</td>
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For both independent variables the multivariate test was statistically significant, therefore a univariate ANOVA was conducted to identify statistically significant differences across groups of subjects within the independent variables. In order to explore how the groups differ, further testing was needed. For independent variable which had more than three groups (the fam_ses variable) the post-hoc test of differences across groups was conducted using Tukey’s Honestly Significant Difference (HSD) test to control for Type I error for multiple comparisons. Tukey HSD procedure was used to test all possible pairs of groups (test pairwise comparisons). Tukey HSD test included two
tables (multiple comparisons and homogeneous subsets), and even though homogeneous subsets is listed after the multiple comparison table in SPSS, in order to proceed with the analysis it is needed to be looked at homogeneous subsets table first. Tables 4.8 and 4.9 show the results of the test.

Groups that share the same column are not significantly different from one another (any observed difference between groups is considered to be due to sampling error). Tukey HSD test shows that socioeconomic status groups are not significantly different on *addattitudes*, *anti_ad*, and *pro-ad*. Tukey HSD test also shows that low socioeconomic status group and high socioeconomic status group on *smok30* are not significantly different from one another, medium socioeconomic status group is not significantly different from high socioeconomic status group, but is significantly different from low socioeconomic status group.

Inspecting the mean for *smok30* (showing number of days smoked), medium socioeconomic status group was .1999, which is lower than both low socioeconomic status group (.2189) and high socioeconomic status group (.2139). The multiple comparisons table shows that there is a statistical significance (p = .016) for low socioeconomic status group and medium socioeconomic status group on the variable *addattitudes*, as well as statistical significance (p = .002) for low socioeconomic status group and medium socioeconomic status group on the variable *smok30*. 
Table 4.8 Post Hoc Tests. Multiple Comparisons

fam-ses

Tukey HSD

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<th>(J) fam ses</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
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Table 4.9 Post Hoc Tests. Homogeneous Subsets

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(d) smok30
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Synthesis

Based on the analysis presented above, the research questions and hypotheses posited in chapter three have the following results.

H1A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to support increasing taxes on tobacco products compared to youth in pre-adaptation survey

H1A0: There is no difference in reported support of increasing taxes on tobacco products in pre- and post-adaptation of WHO tobacco control policies

H1B: Youth in post-adaptation of WHO tobacco control policies are more likely to support tobacco products advertisement regulation compared to youth in pre-adaptation survey

H1B0: There is no difference in reported support of tobacco products advertisement regulation in pre- and post-adaptation of WHO tobacco control policies

H1C: Youth in post-adaptation of WHO tobacco control policies are more likely to support smoke free environment law compared to youth in pre-adaptation survey

H1C0: There is no difference in reported support of smoke free environment in pre- and post-adaptation of WHO tobacco control policies

For the first three hypotheses the statistical significance was found (p = .000) and the null hypothesis H1A, the null hypothesis H1B0, and the null hypothesis H1C0 are rejected.

Youth differ in their attitude toward tobacco control policies in pre and post-adaptation of WHO tobacco control policies, in particular, youth in survey responses post-adaptation of WHO tobacco control policies are more likely to support increasing taxes on tobacco products compared to youth in pre-adaptation survey, to support tobacco products advertisement regulation compared to youth in pre-adaptation survey, and to support smoke free environment law compared to youth in pre-adaptation survey. The mean in 2011 (M = 2.37) is larger than it was in 2005 (M = 2.20). The effect size for all three hypotheses is small.
For the second research question and two hypotheses the results of the analysis were the following.

H2A: Youth in survey responses post-adaptation of WHO tobacco control policies are more likely to self-report observation of anti-smoking advertisements compared to youth in pre-adaptation

H2A0: There is no difference on self-reported observation of anti-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies

The statistical significance was found (p = .000) which means that null hypothesis H2A0 is rejected. Youth differ in their self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. Moreover, youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of anti-smoking advertisements compared to youth in pre-adaptation. In 2011 the mean (M = .73) is smaller than in 2005 (M = .83). The effect size is small.

H2B: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of pro-smoking advertisements compared to youth in pre-adaptation

H2B0: There is no difference on self-reported observation of pro-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies

The statistical significance was found (p = .000) and, therefore, null hypothesis H2B0 is rejected. Youth differ in their self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of pro-smoking advertisements compared to youth in pre-adaptation. In 2011 the mean (M = .90) is smaller than in 2005 (M = .93). The effect size, however, is small.

For the third research question and the hypothesis the results of the analysis were the following.
H3: Youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report smoking behavior compared to youth in pre-adaptation

H30: There is no difference on self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies

The statistical significance was found (p = .000) and, therefore, null hypothesis H30 is rejected. There is a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies, in particular, youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report smoking behavior compared to youth in pre-adaptation. In 2011 the mean (M = .15) is smaller than in 2005 (M = .21). The effect size, however, is small.

For the fourth research question, first sub-question and three hypotheses the results of the analysis were the following.

H4A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards increasing taxes on tobacco products

H4A0: There is no difference of pre-post change in attitude towards increasing taxes on tobacco products across socioeconomic status groups.

H4B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards tobacco products advertisement regulation

H4B0: There is no difference of pre-post change in attitude towards tobacco products advertisement regulation across socioeconomic status groups

H4C: Youth of different levels of socioeconomic status will report different amounts of pre-post change in attitude towards smoke free environment law

H4C0: There is no difference of pre-post change in attitude towards smoke free environment across socioeconomic groups

The statistical significance was not found (p = .092) and, therefore, null hypothesis H4A0, null hypothesis H4B, and null hypothesis H4C0 are accepted. Youth of different levels of socioeconomic status do not differ in their attitude toward tobacco control policies in pre and post-adaptation of WHO tobacco control policies. In particular, there is no difference of pre-post change in attitude towards increasing taxes on tobacco products across
socioeconomic status groups, there is no difference of pre-post change in attitude towards tobacco products advertisement regulation across socioeconomic status groups, and there is no difference of pre-post change in attitude towards smoke free environment across socioeconomic groups. Tukey HSD test also shows that socioeconomic status groups are not significantly different on the variable addattitudes.

For the fourth question, second sub-question and two hypotheses the results of the analysis were the following.

H5A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of anti-smoking advertisements

H5A₀: There is no difference of pre-post change in self-reported observation of anti-smoking advertisements across socioeconomic status groups.

The statistical significance was found (p = .011) and, therefore, null hypothesis H5A₀ is rejected. Youth of different levels of socioeconomic status differ in their self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. In particular, youth of different levels of socioeconomic status reported different amounts of pre-post change in self-reported observation of anti-smoking advertisements. The self-reported observation of anti-smoking advertisements had the largest difference in middle socioeconomic status group (M = .792), the medium difference in the high socioeconomic group (M = .773) and the smallest difference in the low socioeconomic group (M = .771). It has to be noted that there is a very small difference between the high socioeconomic group mean and the low socioeconomic status group mean. Tukey HSD test, however, shows that socioeconomic status groups are not significantly different on the variable anti_ad.

H6B: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported observation of pro-smoking advertisements
H6B\(_0\): There is no difference of pre-post change in self-reported observation of pro-smoking advertisements across socioeconomic status groups.

The statistical significance was not found (\(p = .126\)) and, therefore, null hypothesis H6B\(_0\) is accepted. Youth of different levels of socioeconomic status do not differ in their self-reported observation of pro-smoking advertisements pre-and post-adaptation of WHO tobacco control polices. Tukey HSD test also shows that socioeconomic status groups are not significantly different on the variable pro-ad.

For the fourth question, third sub-question and a hypothesis the results of the analysis were the following.

H7A: Youth of different levels of socioeconomic status will report different amounts of pre-post change in self-reported smoking behavior.

H7A\(_0\): There is no difference of pre-post change in self-reported smoking behavior across socioeconomic status groups.

The statistical significance was found (\(p = .009\)) and, therefore, null hypothesis H7A\(_0\) is rejected. There a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies of youth with different levels of socioeconomic status. In particular, youth of different levels of socioeconomic status reported different amounts of pre-post change in self-reported smoking behavior. The self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies had the largest difference in low socioeconomic status group (\(M = .195\)), the medium difference in high socioeconomic status group (\(M = .182\)), and the smallest difference in middle socioeconomic status group (\(M = .168\)). It has to be noted that there is not much difference between the low socioeconomic status group mean and the high socioeconomic status group mean. Tukey HSD test also shows that low socioeconomic status group and high socioeconomic status group on smok30 are not significantly
different from one another, meddle socioeconomic status group is not significantly different from high socioeconomic status group, but is significantly different from low socioeconomic status group.

Inspecting the mean for the variable *smok30* (showing number of days smoked), medium socioeconomic status group was .1999, which is lower than both low socioeconomic status group (.2189) and high socioeconomic status group (.2139).

**Conclusion**

In this chapter numerous analyses were undertaken to examine attitude and self-reported smoking behavior of youth with different socioeconomic status in pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011. The argument that there are changes in attitude and self-reported smoking behavior of youth pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011 was studied as well as the argument that the varied socioeconomic status of youth in Ukraine influences their attitude and behavior towards tobacco control policies implementation. The results of the study indicate that there are changes in attitude and self-reported smoking behavior of youth pre- and post-implementation of WHO tobacco control policies in Ukraine during 2005-2011 and the presence of varied socioeconomic status of youth in Ukraine influences their attitude and behavior towards tobacco control policies implementation. In particular, there was found a statistical significant difference in both attitude and self-reported behavior pre- and post-adaptation of WHO tobacco control policies. Attitude toward tobacco control policies, self-reported observation of pro-smoking advertisements, and self-reported smoking behavior had positive changes (positive direction) which is a desirable policy outcome. Self-reported observation of
anti-smoking advertisements, however, had negative changes (negative direction) which signals of weak policy outcome and need of strengthening policy efforts in that respect.

In terms of attitude and self-reported behavior pre-and post-adaptation of WHO tobacco control policies and socioeconomic status, there was found: 1) the statistical significant difference for self-reported observation of anti-smoking advertisements and self-reported smoking behavior, 2) no statistical significant difference for attitude toward tobacco control policies and self-reported observation of pro-smoking advertisements. The first finding indicates of a need in selective targeted approach for different socioeconomic status groups to equally increase the positive outcome of policies for all socioeconomic status groups. The second finding indicates that policies implemented reach with equal effect the people of all socioeconomic status groups and are effective. These results of the analysis are a valuable asset for policy revision and implementation in Ukraine.
CHAPTER V
DISCUSSION AND CONCLUSION

Introduction

In this concluding chapter, the study will return to the research questions and results of the analyses undertaken in chapter IV. The summary of the findings will be discussed and the limitations of study will be stated. The second section will discuss the implications of study and the last section will discuss the recommendations of study. The discussion will be contextualized with the previous research examined in chapter II so that to demonstrate the significance of the results and the contribution of this study.

The findings of the analyses undertaken in chapter IV show that youth differ in their attitude toward tobacco control policies and self-reported behavior in pre- and post-adaptation of WHO tobacco control policies. In particular, youth in survey responses post-adaptation of WHO tobacco control policies are more likely to support increasing taxes, tobacco products advertisement regulation, and smoke free environment law compared to youth in pre-adaptation survey. It was also found that youth differ in their self-reported observation of anti-smoking advertisements (youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of anti-smoking advertisements compared to youth in pre-adaptation) and in their self-reported observation of pro-smoking advertisements (youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report observation of pro-smoking advertisements compared to youth in pre-adaptation). It
was also found that there is a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies (youth in survey responses post-adaptation of WHO tobacco control policies are less likely to self-report smoking behavior compared to youth in pre-adaptation). It has to be noted that even though there was found a difference in the attitude of youth toward tobacco control policies and self-reported behavior in pre- and post-adaptation of WHO tobacco control policies, the difference was small (small size effect).

These findings also show that youth of different levels of socioeconomic status do not differ in their attitude toward tobacco control policies in pre- and post-adaptation of WHO tobacco control policies (there is no difference of pre-post change in attitude towards increasing taxes on tobacco products, tobacco products advertisement regulation and smoke free environment across socioeconomic groups). Youth of different levels of socioeconomic status, however, differ in their self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control polices (reported different amounts of pre-post change in self-reported observation of anti-smoking advertisements). The self-reported observation of anti-smoking advertisements in pre- and post-adaptation of WHO tobacco control policies had the largest difference in middle socioeconomic status group, the medium difference in the high socioeconomic group, and the smallest difference in the low socioeconomic group. Even though there was a difference, it was very small between the high socioeconomic group and the low socioeconomic status group. Results also show that youth of different levels of socioeconomic status do not differ in their self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control polices. Finally, the
results show that there a difference in self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies of youth with different levels of socioeconomic status (reported different amounts of pre-post change in self-reported smoking behavior). The self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies had the largest difference in low socioeconomic status group, the medium difference in high socioeconomic status group, and the smallest difference in middle socioeconomic status group. It has to be noted that there is not much difference between the low socioeconomic status group and the high socioeconomic status group. Moreover, low socioeconomic status group and high socioeconomic status group are not statistically significantly different from one another on self-reported smoking behavior, medium socioeconomic status group is not statistically significantly different from high socioeconomic status group, but is statistically significantly different from low socioeconomic status group. Medium socioeconomic status group smoked less days in a 30 day time frame than both low socioeconomic status group and high socioeconomic status group.

**Limitations**

The results of the analysis of the Global Youth Tobacco Survey conducted in Ukraine are applicable in the framework of Ukraine that is in the framework of its laws, policies and practices. The results cannot be generalized beyond Ukraine. Other possible limitation of this survey (as of any survey) is that respondents may not felt comfortable providing answers that presented themselves in an unfavorable manner, and, therefore, there may be inaccuracies in their given responses.
Implications

The results of study have the following implications. The attitude toward tobacco control policies, self-reported observation of pro-smoking advertisements, and self-reported smoking behavior had positive changes (positive direction). This outcome is a desirable policy outcome, even though, the changes were small (small size effect). The small size effect implies of the need to more effectively implement the policies directed toward increasing taxes, tobacco products advertisement regulation, and smoke free environment law with the aim of reaching larger effect size of a positive direction. It also implies that tobacco advertisement counter measures are needed to be strengthened by public policy makers to increase the effect of positive direction of self-reported observation of pro-smoking tobacco advertisements.

Self-reported observation of anti-smoking advertisements, however, had negative changes (negative direction). Even though the changes were small (small size effect), they signal of a weak policy outcome. It also signals of a need of strengthening public health policy efforts in anti-smoking interventions, themes, and approaches.

In terms of attitude and self-reported behavior pre- and post-adaptation of WHO tobacco control policies and socioeconomic status, there was found no statistical significant difference for attitude toward tobacco control policies which means that three policies (increasing taxes, tobacco products advertisement regulation, and smoke free environment law) evoke similar attitude and reach with equal effect all three socioeconomic status groups in Ukraine. This finding, however, does not support the results of earlier studies conducted in Ukraine which stated that the higher the education of the individuals, the greater the percentage of those who support the tobacco control
policies (Tobacco Control in Ukraine, 2009, p. 21). In addition, the finding does not come in line with the results of the research conducted by Whitlock et al. (1998), Wilkinson and Marmot (2003) in countries other than Ukraine which showed that working people rather than non-working people more likely supported health information dissemination and implementation that favored the regulation of tobacco products advertisement and tobacco free environment.

The finding of no statistical significant difference for self-reported observation of pro-smoking advertisements pre- and post-adaptation of WHO tobacco control policies and socioeconomic status implies that tobacco industry has its ways to reach all three socioeconomic groups with equal effect. The maximum of efforts is needed in anti-tobacco campaigns in utilizing the strategy that reveals “the manipulative behavior of the tobacco industry” (Sly, Heald & Ray, 2010).

The statistical significant difference found for self-reported observation of anti-smoking advertisements pre- and post-adaptation of WHO tobacco control policies and socioeconomic status indicates of a need in selective targeted approach for different socioeconomic status groups to equally increase the positive outcome of policies for all socioeconomic status groups. Analyses revealed that middle socioeconomic status group had the best results in terms of policy effect. Low socioeconomic status group revealed the smallest change over time. This means that policy works, yet there is a need to find the approach which appeals to low socioeconomic status group in social public media. As stated by Adler & Newman (2002), “health promotion efforts that are not targeted at the poor are likely to increase SES disparities, because they are used more readily by those with more resources to act on the information” (p. 69). Interestingly, low socioeconomic
status group and high socioeconomic status group almost did not differ in that respect. Therefore, there is a need in more detailed, better – specified studies of the manner in which socioeconomic status and health policies are related so that to inform public policy makers on how to effectively reduce the difference in outcome of anti-smoking advertisement policy. Interestingly that the finding of this study does not support the finding of another research conducted in Ukraine which stated that less educated people recalled less health warnings than those with higher education (Andreeva and Krasovsky, 2011, p. 9).

Also, the statistical significant difference was found for self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies and socioeconomic status. As stated earlier in the discussion, the largest difference was in the low socioeconomic status group which is a desirable policy outcome because it shows that the policies are effective and people use less tobacco products. Interestingly that there was not much difference in behavior demonstrated by low socioeconomic status group and the high socioeconomic status group. It has to be noted that this finding differs from some other findings, in particular, it is different from the one by Schaap et al., (2008) on the effect of nationwide tobacco control policies on smoking cessation in high and low educated groups in 18 European countries which showed that higher educated smokers were more likely to quit smoking than lower educated smokers. The findings, however, are in line with research conducted by Jacobson in countries other than Ukraine which showed that “adolescents living below poverty levels were less likely to be regular smokers” (Jacobson, 2001 p. 92)
The smallest difference in behavior was demonstrated by the middle socioeconomic status group. This gives room for a rather pessimistic conclusion that even though there is a difference over the years after the implementation of WHO tobacco control policies, the changes are especially small for the middle socioeconomic status group. The good news, however, and interestingly, is that when checked for dependent variable self-reported smoking behavior pre- and post-adaptation of WHO tobacco control policies and socioeconomic group subsets, middle socioeconomic status group demonstrated the number of days smoked less than low socioeconomic status group and high socioeconomic status group. It implies that there is a potential for socioeconomic status groups to demonstrate better outcome over the years under the condition of bettering the current level of tobacco control policies implementation.

**Recommendations**

To successfully address the issues identified as a result of analyses of a survey, the public policy makers will need to thoroughly examine them, and with support and collaboration of various public sector entities develop strategies to maximize the desired outcomes which will decrease the tobacco products consumption in Ukraine, and, consequently, smoking-related deaths. Innovative and successful strategies and approaches can reduce the number of days people use tobacco products and the number of cigarettes smoked per day. This research, therefore, creates an opportunity for policymakers, public administrators, and public services providers to focus on the specific concerns to improve policy outcomes. As seen from the results above, efforts are needed to improve all directions of public policy on tobacco control because of a small effect of changes which means that all three categories of policy instruments used in this
study (regulatory instruments, financial means, and communicative tools) need to be considered for further theoretical policy analysis and practical improvement. The improvement of all directions of public policy on tobacco control is possible under the condition of compliance with WHO Framework Convention Ukraine. Accordingly, Ukraine has to introduce the multi-sectoral national tobacco control program and the national coordinating mechanism for tobacco control. Neither one of these two vital strategies of fighting the tobacco epidemic existed in Ukraine in 2005-2011.

As stated above, the considerable room exists to improve overall tobacco control policy implementation quality and the quality of particular strategies. Specifically, fact base, policies and strategies of tobacco anti-advertisement should be better addressed in future. Tobacco anti-advertisement policy has to be strengthened, moreover, it has to be adjusted for the different socioeconomic status groups. As discussed in chapter II of this study, even though Ukraine adopted a complete ban on TV and radio advertising of tobacco products, the advertising of tobacco products is allowed at point of sale product display, as well as the reverse brand stretching, and financial support to venues for direct customer sales (Krasovsky, 2003). This way the tobacco industry lures new users and keeps them using tobacco. Strategies which increase public awareness of the serious health risks of tobacco use, therefore, need to become more visible. Health warnings that combine words and pictures are one of the most cost-effective ways to increase public awareness of the serious health risks of tobacco use and to reduce tobacco consumption. The human behavior is “highly complex and influenced by numerous social and environmental factors, but one prerequisite for change is information” (Gostin, 2010, p. 3232). Studies conducted in Ukraine revealed that a large majority of the population -
86% believed that it was necessary to place on tobacco packs detailed information on the health impact of smoking (Andreeva & Krasovsky, 2010). It was also found that smokers were less interested in this information compared to ex-smokers and non-smokers, moreover, when smokers’ willingness to quit was controlled for, it was found that those who wanted to quit considered health warnings as a substantial help in smoking cessation (Andreeva & Krasovsky, 2010). Other studies done in Ukraine also revealed that remembering more particular health warnings was associated with perception of serious health hazard caused by tobacco use in male smokers, which could be translated in subsequent quitting (Tobacco control in Ukraine, 2009). Fact base, warnings that graphically show the terrible effects of tobacco are more visible on packages than text-only warnings and communicate health risks to those who cannot read. They compete more successfully with the rest of the package design, standing out and sending a clear message, thus, both smokers and non-smokers in Ukraine would benefit from health warnings that combine words and pictures.

As a party to the WHO Framework Convention on Tobacco Control, Ukraine has pledged that it would implement a range of measures, including adopting strong health warnings on tobacco products. In the years of 2005 – 2011 however, not enough measures were implemented to fulfill the pledge. Implementation of public policy, however, depends on the choice of policy instruments by the government. Government of Ukraine should use communicative tools (instruments) for tobacco control interventions which are geared more strongly toward decreasing the smoking initiation and increasing using tobacco products quitting. As discussed in chapter II of this study, government acts through the democratic governance process and is accountable for this process.
Behelms-Videc (1998) argued that government chooses policy instruments according to its aims, and, therefore, according to its political and administrative strategies. The method and degree of the intervention that government chooses creates the conditions for the preferred behavior of citizens, and, therefore, government dictates structure and culture of policy programs and creates a multi-actor context for the implementation of policy choices. It is not surprising that policy instruments differ, and they differ in fact in connection to the different policy agendas. According to Schneider & Ingram (1990), different historical periods “show a bias toward particular policy instruments because they have different rationales about what government ought to do, how people can be motivated to do it, and the appropriate limits that should be placed on government manipulation of individuals” (p. 523). In Ukraine the organizational culture, the bureaucracy is no different from the international one in its structure and functions, and policy tools are intertwined with policy processes because they correspond to the target populations these tools are aimed at. This research also shows that political regimes of Ukraine utilized less of all the egalitarian culture tool categories which are associated with capacity-building or symbolic tools (according to Wildavsky, 1988), and, thus, the warning about the dangers of tobacco and tobacco packs labeling had small impact on public.

Previous research done by Ukrainian scholars analyzed how the population of Ukraine reacted with the knowledge increase from the new information provided on tobacco packs (Andreeva & Krasovsky, 2010); however, most of the analysis which was already conducted did not consider tobacco control outcomes by socioeconomic status groups. Building on the results of the analyses of this study, it can be argued that the
consideration of socioeconomic status should be embedded into the preferred policy tools for the individuals with different socioeconomic status to bear the desired policy outcome. By this statement, the study comes full circle to the argument stated in chapter II. This study also comes full circle to one of the arguments stated in chapter II which was based on Theory of Planned Behavior. It was argued in this paper that individuals direct their attitude toward the behavior (tobacco control policies) rather than toward the object (tobacco products), moreover, individuals’ with different socioeconomic status may have different attitude and exercise different behavior toward tobacco control policies. In fact, Bressers (1998) who studied the effectiveness of policy tools and their target audience argued that “the demands that must be met to achieve proportionality between the target group’s behavior and the government’s reaction during the policy formation and policy implementation processes differ markedly between general and individual instruments” (p. 95). To design and implement individual instruments “it is necessary to collect detailed information on the target group’s situation” (Bressers, 1998, pp. 95-96). This way, if the degree of interconnectedness is strong, then there are more opportunities for government to learn about variations in the target group’s behavior and to select better-proportioned instruments (Bressers, 1998, p. 96).

For policies to have the intended impacts on society, “a large number of people in different situations must make decisions and take actions in concert with policy objectives. These actions may involve compliance with policy rules, utilization of policy opportunities, and self-initiated actions that promote policy goals” (Schneider & Ingram, 1990, p. 513). Studies, however, show that to this point, “there has not been as much emphasis on understanding how individuals and groups value different aspects of health
and agency-or-outcome-enhancing policies, or how they agree on decisions” (Ruger, 2008, p. 1754). Therefore, “there is much to be learned about the optimum amount and configuration of exposure, type of messages, and execution of messages, as well as how anti-smoking advertising messages are mediated by the personal characteristics and social environments of teenagers” (Wakefield, et al, 2003, p. 231). 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” (Wakefield et al., 2003, p. 243)

Youth should be a primary target of antismoking advertisements because of the prevalence of smoking initiation during youth and the problems of cessation later in life (Beaudoin, 2002). Therefore, there stays an urgent need for the future research agenda to gain a better understanding of what approaches are effective in reducing youths’ smoking initiation rates and cessation rates. This, in fact, is an agenda of an international public policy community, and therefore, studies conducted in Ukraine as well as in other countries help to determine the impact of public policies on youths’ attitude and behavior to these policies. This is essential in order to devise the appropriate interventions to reduce socioeconomic status variations in attitude and behavior. This study, therefore, helps to address an important gap in the policy development literature and provides the recommendation on the effective tobacco control policies practical implementation. Studies like this contribute “a step towards understanding the interventions that are effective for different social groups and may inform decisions about tackling social inequalities in smoking” (Thomas et al, 2008, p. 235). In addition, as it was stated in chapter II, less studies were conducted in low-and middle-income countries where
smoking rates are high in comparison with studies conducted for high income countries (Johnson et al., 2006; Andreeva and Krasovsky, 2011). It is necessary, therefore, to study the tobacco control policies in low-income countries and for different socioeconomic groups because effects of tobacco control policies differ in low-income countries (Levy, Chaloupka, and Gitchell, 2004).

Youth protection against tobacco has been challenging. In order to reduce youth smoking rates, effective legislative, executive, and administrative measures should be undertaken. All known challenges should be addressed. Public health anti-smoking interventions for youth target audience should include increasing youth’s knowledge of the dangers of tobacco use, changing their attitudes toward tobacco use, and increasing public support for policies that reduce the likelihood that youth will begin smoking. Implementing and enforcing policies that reduce the likelihood that youth will begin smoking usually consist of increasing tobacco excise taxes, passing and enforcing strong laws that decrease youth’s access to tobacco, and implementing and monitoring tobacco-free school policies. These policies create an environment that reduce tobacco smoking initiation and promote tobacco smoking cessation.

Moreover, under the condition when comprehensive tobacco control measures are targeted at all socioeconomic groups it could lead to quick decline in prevalence of active and passive smoking. Among future agenda, therefore, can be recommended overcoming difficulties in identifying narrow socioeconomic group segments in Ukraine, obtaining behavioral data on the target audiences, in particular, different socioeconomic groups, developing strong and simple approaches in reaching vulnerable socioeconomic groups, and implementing long-term strategies. However, there is often little, if any, discussion of
the specific manner in which socioeconomic status may exert its influence within the context of the study outcomes (Shavers, 2007, 1013). Therefore, “where possible a range of measures of SES need to be included in youth health surveys in order that these can inform the development of relevant and effective health promotion programs targeting young people” (Thomas et al, 2008, p. 395). Scholars Lynch, Kaplan, & Salonen (1997) argued that if person’s behavior is viewed as a lifestyle choice, it can risk “blaming the victim” because behavior such as cigarette use is shaped and constrained by social and physical environments linked to socioeconomic status. Therefore, policies and resources are required to counteract the marketing that encourages cigarette consumption (Adler & Newman, 2002, p. 71-72). Finally, one of the gaps in the research literature remained is the absence of qualitative research on socioeconomic group’s tobacco interventions and policy environment which can provide insight into the outcomes of tobacco control policies in Ukraine. The qualitative research should include the evaluation of local and national governmental legislation, public agencies and tobacco industry strategies and activities.
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