

# **An Analysis Of Smoking Policy Attitudes Of Low-Income Group And Cigarette Consumption Patterns Upon Increased Wage**

***Mustafa Atahan Yilmaz***

Pamukkale University Faculty of Economics and Administrative Sciences  
Department of Management, Turkey

***Onur Kulaç***

Pamukkale University Faculty of Economics and Administrative Sciences  
Department of Political Science and Public Administration, Turkey

---

## **Abstract**

As one of the most threatening issues in human life, smoking has been faced with many public policies in developed and developing countries. Even health issues which are caused by smoking are overwhelmingly known by the communities, smoking keeps its significance by damaging the health and budget which are directly connected with the life quality. Low-income groups who usually work for the minimum wage are one of the most affected parts of the population. Minimum wage has been increased about 30% in Turkey in the last quarter of 2015. This study generally aims to reveal cigarette purchase behaviour of low-income groups in Turkey after the salary increase which is highly critical in the context of purchasing power. Moreover in this paper, the perception of low-income groups to public education and restrictions on smoking public policies will be scrutinized.

---

**Keywords:** Public Policy, Smoking Policy, Cigarette Consumption, Minimum Wage

## **Introduction**

Even damages of smoking are widely known, it is still one of the most dangerous knots which causes many health problems. The level of consuming tobacco products is taken as a serious issue in many countries, Turkey is one of the most sensitive ones among them. Prevalence of daily smoking was reduced in global level for both genders but the number of smokers increased due to population growth (Ng et al. 2014). The proportion of the smoker population is reduced because health issues which are caused by cigarettes have become widely known and the reduction has been smaller for low-income households (Binkley, 2010). According to the study of

Cummings et al. (1997a) smoking prevalence rates have been increased among youths while decreasing among adults in the same communities. In this paper, cigarette purchase behaviour of low-income groups in Turkey after a significant increase in salary will be put forth. In addition to this, the perception of low-income groups to public policies about smoking will be analysed.

### **Anti-Smoking Policies in Turkey**

Most countries have very strict rules to prevent and control the usage of tobacco products. Thus, public policies related to the prevention and control of hazards of tobacco products are made by the governments. Public policy which was defined by many scholars is a comprehensive concept. The definition of Dye (2008: 1) for public policy has been highly cited in many academic papers. According to Dye, public policy is “whatever governments choose to do or not to do”. Public policy is defined as the relationship of a government body with its environment (Eyestone, 1971: 18). On the other hand, public policy is a deliberate action style to put forth an efficient solution to any current problem with the support of various actors (Anderson, 2014: 7). In the policy process which has stages such as agenda setting and formulation, official and unofficial actors play functional roles (Howlett and Ramesh, 1995; Peters, 1996; Birkland, 2005) in order to develop a satisfactory policy.

Think tanks as unofficial actors are getting involved in the public policy process as well as official actors. Think tanks which are basically based on expertise and ideas (Rich, 2004: 11), provide policy makers with suggestions related to different policy areas (Stone, 2007: 149). Think tanks that have a high responsibility to make policy alternatives in many policy fields are not only effective in developed countries, but also in many developing countries they make great contributions for the policy making process (Özgür and Kulaç, 2015: 74). There are many think tanks creating policies about domestic and global health issues. In McGann’s annual Global Go To Think Tanks Index Reports (GGTTT), it is possible to follow the most successful think tanks in the health sector (McGann, 2016: 90-92). Moreover, these think tanks have a great emphasis on the smoking policies in many countries. As a result of the benefaction of the actors, the implemented policies have an impact on all the citizens, thus it is not sufficient to analyse policies only by focusing the decision taken by policy makers (Kulaç and Çalhan, 2013: 207). Policy analysts and researchers need to observe each stage of the policy to have an extensive analysis.

Turkey is one of the countries that have a law on the issues about the hazards of tobacco products. In 1996 Law No. 4207 “The Law on Prevention and Control of Hazards of Tobacco Products” was accepted in order to take

measures and make some mandatory arrangements to protect citizens from the hazards of tobacco products. Starting from the year 2008, every year essential amendments were made on the Law No. 4207 so as to make the policy more applicable. In public policy literature, there are some decision making models that are benefited by the researchers and policy makers. Incremental model is also one of these decision making models and it was introduced by Lindblom in 1959. In Incremental model, minor changes are made and a few numbers of alternatives are compared benefiting from past experiences (Lindblom, 1959: 79). In this context, by using the incremental model, short-term solutions are produced for the needs in policy area (Stewart, 2009: 41). In the Law No. 4207, as it is described above, incremental model was applied and in each year minor amendments were added to the law and the hazards of tobacco products have been attempted to diminish into acceptable levels.

There is a running war against smoking in all parts of life. Work places are one of the most important battle fronts among them. It is banned to smoke in almost all work places in developed countries or, at least there are smoking policies to prevent smoking. Despite cessation programs, smoking is still a major threat for working population (Albertsen et al, 2006: 292). The battle against smoking not only includes smoking cessation programs, but also protecting non-smokers from second-hand smoke (Levine et al. 1997: 493). Plain packaging was the most successful policy which has removed cigarette brand image associations by removing brand design elements (Wakefield et al, 2008). Wakefield et al. (2002) emphasized the importance of regulation of cigarette packaging which may misled the consumers about cigarettes for being safe. Cigarette package is so important that different packaging of same brand may be scored differently by smokers (Wakefield et al. 2002).

### **Smoking Consumption of Income Groups**

According to West et al. (2007) personal income has more importance for youths that have higher parental social class because lower parental social class member youths have greater access to tobacco from family and cheaper illegal sources of cigarettes. Most advertised brands have higher influence on teenagers (Cummings et al, 1997a). Establishment of brand loyalty among youths mostly was formed with the first cigarette experience and friends are the source of the first experience (DiFranza et al, 1994).

Not smoking or to quit smoking may cause many problems that may discourage workers and decrease the productivity in all ways. Smoker employees are more costly than non-smokers due to higher health and fire insurance premia, higher maintenance costs, low morale and increased

absenteeism. Employers may find smokers less productive, more costly, and insufficient for current tasks (Levine et al. 1997: 494). Construction sites' employees perceived positively about work-based public health initiatives and policies such as smoking cessation services, but it needs to be adapted for different work sites (Sherriff and Coleman, 2013: 131). According to Yilmazel et al (2014) nicotine dependence levels of factory workers found to be high even though they are aware of the damages of smoking.

Smoking behaviours are different for income groups. Low-income households purchase low-price cigarettes and smoke fewer than high-income households, especially in rural. (Hu et al, 2005). Smoking deleterious effect on smokers' wages is clear, workers who smoke earned less than non-smokers (Levine et al. 1997: 508). There are many smokers exist who work for minimum wage in Turkey. According to Auld (2005) smoking reduces income more than drinking. Although the percentage of the total household purchase on tobacco is higher for high-income than the low-income, the difference is only five percent and 17% of the high-income households reported that they experienced financial stress past year and they were not even able to afford a night out time to time which can be avoided with the money spent on tobacco. It proves financial stress is related to household tobacco purchases among all income groups but surely the cost of the smoking may cause more financial stress for the low-income group (Siahpush et al. 2003). Low-income households could improve their standard of living by having extra resources to spend on food, housing and other goods in case of smoking cessation (Hu et al, 2005). Reduction in tobacco consumption will decrease financial stress and improve standards of living in long term (Siahpush et al. 2003: 65). Households tend to reduce or eliminate non-essential items during a poor financial situation, but tobacco products are typically an exception because of their addictive nature or common belief about relieving stress qualities (Siahpush et al. 2003: 65). A study showed that an increase in income of lower income households did not affect their existing fruits and vegetable expenditures contrary to higher income households because this kind of purchases are more usual for the higher income households than lower income households (Stewart et al. 2003).

Lower income groups would be affected by cigarette tax and price increases much more than other income groups and reduce their smoking consumption as a result (Choi, 2014, Binkley, 2010). It is also pointed that increased taxes may reduce cigarette consumption and additional tax revenues can be used as fund for National Health Insurance programs (Lee et al, 2004). According to Yilmaz and Arkan (2014) university students are very sensitive to price hikes which can be occurred by tax increases and they respond it by switching to lower price cigarette brands. According to Lakhdar et al, (2012) income has a significant effect on smoking behavior

among university students with low sensitivity and they slightly smoke more than other smokers when they have more money (Lakhdar et al, 2012: 1872). Price is one of the key factors on brand switching for adult smokers, most of the switchers changed from premium to mid-price brand or economy brand (Cummings et al. 1997b).

Most of the smokers are loyal to their brands, but the amounts of loyal consumers are fewer than before. (Cummings et al. 1997b, Dawes, 2014). Cigarette brands with larger penetration are more effective in loyalty than smaller brands, even cross-purchase behaviour occurs in line with bigger brands (Dawes, 2014: 1941). Premium cigarette brands lose some smokers to mid-price or economy brands. Most of the rest losses consist of quitting or dying smokers (Cummings et al. 1997b). Brand switching can result with excessive cannibalization that can be seen between two brands of the same corporation (Dawes, 2014: 1941).

### **Research Design and Analysis**

This study aims to reveal the attitude toward two main public policy and cigarette consumption behaviour of low-income groups after an increase in minimum wage. These policies are public education and smoking restriction. In marketing view, changes in cigarette smoking frequency and brand choice are investigated. There are two groups of hypotheses as;

*Ha: There is a significant difference between male and female minimum wage smokers' attitude about public education on smoking*

*Hb: There is a significant difference between male and female minimum wage smokers' attitude about smoking restriction*

*Hc: There is a significant difference in smoking frequency of minimum wage smokers' after an increase in wage.*

*Hd: There is a significant difference in cigarette brands used by minimum wage smokers after an increase in wage.*

174 smokers who work for minimum wage in different industries were surveyed. For public policies, two dimensions of Velicer et al. (2014)'s scale has adopted and translated into Turkish. Changes in consumption patterns were asked to participants. Brands are grouped into 3 segments as economy, mid-class and premium brands. Means are calculated as 1 points for economy, 2 point mid-class, 3 point for premium brands values are calculated as 1 point for economy, 2s point mid-class, 3 points for premium brands Cronbach's alpha value is 0,84 in this study. Reliability can be considered as high. Also data distribution is normal for this study. T-tests were used to test hypotheses. The results will also be checked with eta squared values to see the effect size.

Table 1: Independent-Samples T-Test for Gender

		N	$\bar{X}$	SD	df	t	p
Public Education	Male	94	3,805	,653	172	-3,11	0,002
	Female	80	4,087	,520			
Smoking Restrictions	Male	94	2,719	,943	172	-4,50	0,000
	Female	80	3,372	,965			

$\eta^2$  : 0,053 for public education, effect size is small  
 $\eta^2$  : 0,105 for smoking restrictions, effect size is medium

P values are lower than significance level, Ha and Hb Hypothesis are supported. Effect size is stronger for restrictions than public education dimension. The difference is stronger for restrictions. All smokers support public education but female smokers favour more. While male smokers do not support smoking restrictions with 2,71 mean, females more likely to accept and support it with the mean 3,37.

Table 2: Paired-Samples T-Test for Smoking Frequency

	N	$\bar{X}$	SD	df	t	p
Before Increase in Wage	174	16,12	10,2	173	-5,04	0,000
After Increase in Wage	174	19,11	10,8			

$\eta^2$  : 0,128 for smoking frequency, effect size is medium

P value is lower than significance level, Hc Hypothesis is supported. Effect size is medium for smoking frequency. Minimum wage smokers tend to smoke 3 more cigarettes every day after their income has increased.

Table 3: Paired-Samples T-Test for Brand Segment Switch

	N	$\bar{X}$	SD	df	t	p
Before Increase in Wage	174	2,01	0,725	173	-3,74	0,000
After Increase in Wage	174	2,17	0,714			

$\eta^2$  : 0,075 for brand switch, effect size is medium

P value is lower than significance level, Hd hypothesis is supported. Effect size is medium brand switch. Minimum wage smokers tend to smoke higher class cigarette brands after their income has increased.

### Conclusion and Suggestions

This study has revealed the attitudes of low-income groups who work for minimum wage about smoking policy and behaviour changes with the increased wage. It is clear that both male and female smokers have supported education policy about dangers of smoking. This support is stronger for women. Restriction policy is not accepted by male smokers while female smokers support it. Maternal instinct may lead female smokers to act more sensitive for health and damages of smoking. Restriction ban policy mostly protects community from second-hand smoke. In this view, female smokers

have more respect for the sake of community. Male smokers have been main target for cigarette market; it is hard to change consumption habits in short term. Indeed, it is hard to change some habits in all part of life.

Smoking patterns have been also changed after the increase in wage. An average smoker has increased daily cigarette consumption by 3 which mean roughly 5 packages every month. Also their brand preference headed to higher priced premium brands. There is a gap of satisfaction about both amount and brand choice in economy cigarette market. These results prove that high prices strongly influence low-income groups' brand preference and smoking frequency. It is also clear that high tax rates indirectly changes the consumption patterns of low-income group. As minimum wage workers smoke more with the increase in minimum wage, they lose important part of their limited budget which affects their life quality negatively. It is known that nicotine dependence is a strong motive and may be a reason for loss of budget

As an activity of the government in different fields, public policies are highly crucial in order to preserve and maintain public health. Thus, in many countries, governments benefit from unofficial actors such as think tanks so as to have efficient policies to sort out the issues. Even Turkish government has remarkable regulations against smoking; the consumption of the cigarettes has an upturn especially with the increment in the minimum wage.

### **References:**

- Albertsen, K., Borg, V., & Oldenburg, B. (2006). A systematic review of the impact of work environment on smoking cessation, relapse and amount smoked. *Preventive medicine*, 43(4), 291-305.
- Anderson, J. E. (2014). *Public Policymaking: An Introduction*, 8th edition, Cengage Learning, Stamford.
- Auld, M. C. (2005). Smoking, drinking, and income. *Journal of Human Resources*, 40(2), 505-518.
- Binkley, J. (2010). Low-income and poor health choices: the example of smoking. *American Journal of Agricultural Economics*, aaq036.
- Birkland, T. A. (2005). *An Introduction to The Policy Process: Theories, Concepts, and Models of Public Policy Making*, 2nd Edition, M. E. Sharpe, New York.
- Choi, S. E. (2014). Are lower income smokers more price sensitive?: the evidence from Korean cigarette tax increases. *Tobacco control*, tobaccocontrol-2014.
- Cummings, K. M., Hyland, A., Pechacek, T. F., Orlandi, M., & Lynn, W. R. (1997a). Comparison of recent trends in adolescent and adult cigarette smoking behaviour and brand preferences. *Tobacco control*, 6(suppl 2), S31.

- Cummings, K. M., Hyland, A., Lewit, E., & Shopland, D. (1997b). Discrepancies in cigarette brand sales and adult market share: are new teen smokers filling the gap?. *Tobacco Control*, 6(suppl 2), S38.
- Dawes, J. (2014). Cigarette brand loyalty and purchase patterns: an examination using US consumer panel data. *Journal of Business Research*, 67(9), 1933-1943.
- DiFranza, J. R., Eddy, J. J., Brown, L. F., Ryan, J. L., & Bogojavlensky, A. (1994). Tobacco acquisition and cigarette brand selection among youth. *Tobacco Control*, 3(4), 334.
- Dye, T. R. (2008). *Understanding Public Policy*, 12th Edition, Prentice Hall, Upper Saddle River, New Jersey.
- Eyestone, R. (1971). *The Threads of Public Policy: A Study in Policy Leadership*.: Bobbs-Merrill, Indianapolis.
- Howlett, M. and Ramesh, M. (1995). *Policy Cycles and Policy Subsystems*, Oxford University Press, Canada.
- Hu, T. W., Mao, Z., Liu, Y., de Beyer, J., & Ong, M. (2005). Smoking, standard of living, and poverty in China. *Tobacco control*, 14(4), 247-250.
- Kulaç, O. ve Çalhan, H. S. (2013). “Bir Kamu Politikası Süreci Analizi: Milli Eğitim Bakanlığı ve Yükseköğretim Kurulu Yurtdışı Lisansüstü Bursları”, *Dicle Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, Sayı :10, 205–225.
- Lakhdar, C. B., Cauchie, G., Vaillant, N. G., & Wolff, F. C. (2012). The role of family incomes in cigarette smoking: evidence from French students. *Social Science & Medicine*, 74(12), 1864-1873.
- Lee, J. M., Hwang, T. C., Ye, C. Y., & Chen, S. H. (2004). The effect of cigarette price increase on the cigarette consumption in Taiwan: evidence from the National Health Interview Surveys on cigarette consumption. *BMC Public Health*, 4(1), 1.
- Levine, P. B., Gustafson, T. A., & Velenchik, A. D. (1997). More bad news for smokers? The effects of cigarette smoking on wages. *Industrial & Labor Relations Review*, 50(3), 493-509.
- Lindblom, C. E. (1959). “The Science of Muddling Through”, *Public Administration Review*, Vol. 19, 2, 79-88.
- McGann, J. G. (2016). *The Global Go-To Think Tank Index Report, Think Tanks and Civil Societies Program Report*, University of Pennsylvania.
- Ng, M., Freeman, M. K., Fleming, T. D., Robinson, M., Dwyer-Lindgren, L., Thomson, B., ... & Murray, C. J. (2014). Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. *Jama*, 311(2), 183-192.
- Özgür, H. and Kulaç, O. (2015). “An Analysis of the Studies on Think Tanks Success and Ranking”, *European Scientific Journal*, Special Edition, Vol.2, 73-90.

- Peters, G. (1996). *American Public Policy: Promise and Performance*, 4th Edition, CQ Press, Washington DC.
- Resmi Gazete, 4207 sayılı Tütün Ürünlerinin Zararlarının Önlenmesi ve Kontrolü Hakkında Kanun (Law No. 4207 “The Law on Prevention and Control of Hazards of Tobacco Products), Kabul Tarihi: 07/11/1996, Yayınlanma Tarihi: 26/11/1996, Sayı: 22829.
- Rich, A. (2004). *Think Tanks, Public Policy and the Politics of Expertise*, Cambridge University Press, Cambridge.
- Sherriff, N. S., & Coleman, L. (2013). Understanding the needs of smokers who work as routine and manual workers on building sites: Results from a qualitative study on workplace smoking cessation. *Public health*, 127(2), 125-133.
- Siahpush, M., Borland, R., & Scollo, M. (2003). Smoking and financial stress. *Tobacco Control*, 12(1), 60-66.
- Stewart, H., Blisard, N., & Jolliffe, D. (2003). Do income constraints inhibit spending on fruits and vegetables among low-income households?. *Journal of Agricultural and Resource Economics*, 465-480.
- Stewart, J. (Ed.) (2009). *Public Policy Values*, Palgrave Macmillan, New York.
- Stone, D. (2007). “Public Policy Analysis and Think Tanks”, Fischer, F., Miller, G. J., Sidney, M.S. (Ed.), *Handbook of Public Policy Analysis, Theory, Politics, and Methods*, CRC Press, Boca Raton, 149-157.
- Velicer, W. F., Laforge, R. G., Levesque, D. A., & Fava, J. L. (1994). The development and initial validation of the smoking policy inventory. *Tobacco Control*, 3(4), 347.
- Wakefield, M., Morley, C., Horan, J. K., & Cummings, K. M. (2002). The cigarette pack as image: new evidence from tobacco industry documents. *Tobacco Control*, 11(suppl 1), i73-i80.
- Wakefield, M. A., Germain, D., & Durkin, S. J. (2008). How does increasingly plainer cigarette packaging influence adult smokers’ perceptions about brand image? An experimental study. *Tobacco control*, 17(6), 416-421.
- West, P., Sweeting, H., & Young, R. (2007). Smoking in Scottish youths: personal income, parental social class and the cost of smoking. *Tobacco control*, 16(5), 329-335.
- Yılmaz, M. A., & Yusufoglu, A. (2014). The Taxation of Tobacco Products and Effects on the Consumer Behaviour in Turkey. *European Journal of Research on Education*, 2014, 2(Special Issue), 99-107.
- Yılmazel, G., Çetinkaya, F., & Naçar, M. (2014). Fabrika işçilerinin sigara kullanma alışkanlıkları ve sigara bırakma konusundaki düşünceleri. *Dicle Tıp Dergisi*, 41(4).