# The Effect of Plain Cigarette Packaging on Implicit Attitudes

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## ABSTRACT

**Rationale:** The significance of this research stems from the impact implicit attitudes have on smoking behavior, where positive implicit attitudes can result in a greater likelihood of smoking behavior. Even though it has previously been argued that implicit attitudes can drive addictive behavior there is a lack of research on whether cigarette packaging has an influence on implicit attitudes.

**Objectives:** The purpose of this study was to examine the effect of plain cigarette packaging and designed/logo cigarette packaging on implicit attitudes.

**Methods:** Implicit attitudes towards cigarette packaging were assessed by means of the Brief Implicit Association Test (BIAT). A questionnaire was conducted to assess sociodemographic and smoking behavior. The Fagerström Test for Nicotine Dependence (FTND) was used to assess level of dependence. The sample consisted of 264 participants.

**Results:** BIAT indicate a significant association between designed/logo cigarette packaging and positive implicit attitudes (Mean d-score > .15). Cigarette packaging design's influence on implicit attitudes is positive (Mean d-score = .22), where there is a slight association between designed/logo packaging and positive implicit attitudes.

**Conclusions:** When compared with plain packaging, designed/logo cigarette packaging leads to positive implicit attitudes. These findings support the effectiveness of plain packaging regulations where the removal of color, design and logo from cigarette packaging will decrease positive implicit attitudes formed by cigarette packaging.

**Keywords:** implicit attitudes, plain packaging, cigarette packaging, addiction

## INTRODUCTION

Cigarette smoking is a dangerous and addictive activity responsible for over six million deaths a year [1] however, smokers continue to smoke cigarettes, and non-smokers decide to start smoking. The effectiveness of cigarette advertising campaigns is a factor driving the continued success of marketing cigarettes [2], with packaging a factor often investigated in research on the topic. The dangers of smoking as a public and personal health issue are widely understood, and to reinforce the understanding of the dangers of smoking, many countries require cigarette manufacturers to place graphic and often morbid messaging on their packaging to inform consumers of the dangers of smoking.

Research on the role of different packaging approaches and governmentally regulated criteria as factors influencing attitudes exists [3,4,5]. However, contextual factors create gaps in the literature on the impact of packaging on attitudes inconclusive. Further, there is a dearth in research focused on examining the role of packaging as an influencer of implicit attitudes of consumers. Smoking is a behavior, and as behaviors require supporting attitudes, understanding the attitudes of people toward cigarette packaging is an essential step toward uncovering ways to reduce cigarette smoking as a behavior.

In Turkey, regulations on cigarette packaging have increased in ubiquity in the past decade. Plans in 2011 included requiring the removal of branding from cigarette boxes, and that brands would be replaced by numbers, with the only imagery on cigarette boxes being health warnings [6] The regulation of cigarettes continued to become tighter in the middle of the decade, as the Ministry of Health required that cigarettes be placed on closed cases to prevent consumers from seeing cigarettes on display [6]. The Ministry of Health has also created plans which require that there be warning labels that cover 85% of cigarette packs [6]. These regulations represent the effort of the government to restrict visual imagery from playing a role in the decision-making process of Turkish citizens to reduce the public

hazard of smoking on the population. This research includes the examination of cigarette packaging factors such as graphic/logo packaging and plain packaging along with positive and negative implicit associations, the findings can support understanding what the outcomes of changes to Turkish law will mean for the implicit attitudes of Turkish citizens.

Prior research on the topic of cigarette brand imaging supports the power of images and messages on cigarette packs. Wakefield and Durkin [5] examined the impact of cigarette brand image on adolescent perceptions toward smoking. Their findings included a reduction from 80% to 30% in brand image association when a cigarette pack's front had a pictorial health warning. Further, research on packaging in Australia, where packages cannot be designed, included findings illustrating differences in text color on packaging [7]. As research determined that brand image is reduced when brand designs are removed, and cigarette manufacturers seek to replace imagery with colorful text, there appears to be an impact on attitude toward smoking by packaging design options; however, there is a lack of research exploring the impact of packaging design options on implicit attitudes.

There is an uneven distribution of studies across countries and cultures. Research on the topic of cigarette packaging remains focused on countries within the Anglosphere, particularly the United States and Australia [3,4,5], however, cigarette smoking is a prevalent habit in Turkey. Smoking remains a habit among both men and women in Turkey, with researchers supporting changes to advertising in order to implement sufficient smoking precautions [8]. New regulations related to cigarette sales and packaging are attributed to be the cause for a decrease in the prevalence of tobacco use in the last decade, but not for every section of the population [9]. Ozcebe et al. [9] noted that the problem of cigarette packaging influencing attitudes is especially vital in Turkey because tobacco use among children remains highly frequent. Their research uncovered that a part of the problem is that salesclerks

in retail sold to minors in 57.1% of instances observed and that 87% of salesclerks did not require identification when selling cigarettes. These findings make the problem of cigarette packaging impacting implicit attitudes even more critical because of the dangers of cigarettes to children, and that advertising is a more effective influencer of children than adults [10]. Based on the findings of research on the impact of fear and disgust reactions to smoking warning labels, Tugrul [11] supported the implementation of smoking labels tailored to different demographics because of the impact of targeted messaging. These findings support examining the role of packaging and smoker/non-smoker status as influencers of implicit attitudes toward smoking in Turkey.

Implicit and explicit attitudes are two distinct yet similar constructs. While implicit attitudes are attitudes that are subconscious and difficult to understand for an individual, even with deep introspection, explicit attitudes are conscious attitudes that are simple to describe [12]. These attitudes are essential because they support understanding how people make decisions. Implicit attitudes impact spontaneous decisions, while explicit attitudes impact difficult decision-making [13]. Implicit attitudes are distinct from explicit attitudes in that they can influence long-term decision-making and the behaviors of individuals [13]; therefore, there is substantial value in understanding the implicit attitudes of individuals associated with behaviors such as smoking where individuals can follow long-term patterns of behavior that are hazardous to their health. Hence, the focus of this research is on implicit attitudes. Previous research on implicit attitudes toward cigarette smoking included research utilizing the implicit association test as a tool to assess implicit child attitudes toward smoking. Andrews et al. [14] found that children that had family members who smoked and who were high in sensation seeking also had more favorable implicit attitudes toward smoking.

One key reason that implicit attitudes are essential in terms of smoking is that they support predicting the long-term relapse potential of abstinent smokers. Spruyt et al. [15] noted that previous research supported the existence of a link between implicit attitudes and addictive behavior implicit attitudes toward substance-related cues that shall increase the addicted individual's appetite for the addicting behavior.

Kahler et al. [16] investigated the issue of the implicit association between smoking and social consequences for smokers in treatment to cease smoking. The findings included a significant interaction between implicit, negative social associations with smoking and smoking abstinence and that when smokers had several other smokers in their environment, smoking cessation became significantly more difficult. These findings are supported by Spruyt et al. [15], who noted the role of implicit attitudes as an influencer of long-term relapse into smoking behavior because of substance-related cues.

## 2. METHODOLOGY
### 2.1. Participants

A convenience sampling method was the method utilized in this study. Participants were recruited from the staff and students at Uskudar University and the general population, through existing email lists, poster and flyer advertisements, online and by word of mouth.

To be included in the study participants had to: be between 18 ≥ 64 years of age; have been visually exposed to cigarette packages; have never smoked during their lifespan for the non-smoker group; smoked less then 100 cigarettes in their lifetime or reported smoking less then 3 cigarettes per day for the smoker group.

Participants were excluded if: they reported craving more than 3 on a VAS scale from 0 (no craving) to 10 (intense craving); any acute or chronic condition that would limit the ability of the participant to perform in the study; refusal to give informed consent.

A total of N = 290 people were screened for the study. Among these participants n = 9 did not meet the inclusion criteria. The reasons for participants not meeting the inclusion criteria where they had quit smoking either recently or in the

past, n = 3; were not native speakers of Turkish, n = 2; were under the age of 18, n = 4. Of those n = 281, who consented to participate and met the inclusion criteria, n = 5 did not complete the study and had missing data and were excluded. A total of 12 participants were excluded from the study because they made too many errors on the IAT (more than 40% errors in any one of the critical blocks or more than 30% errors overall) Thus, the final sample eligible for analyses was n = 264.

Most participants were female (65.9%), while only 34.1% of participants in the research were male. The age of participants was quite young, as 79.2% of participants were between the age of 18-34, with subjects age 18-24 is 61% of participants. Participants in the study were somewhat educated, and the profile characteristics reflect the location of the study being located on and around the campus of a university, as 47.3% of participants had a high school education, and 37.5% had a bachelor's degree. Most frequent income was 1001-3000TL (30.3%), with the income ranges of 0-1000 TL and 3001-5000 TL being 27.3% and 27.7%, respectively. The most frequent employment status was student (45.8%), with the second most frequent being full-time employment at 29.5%. Overall, the profile characteristics appear to be consistent with the location of the study as participants are most frequently younger, have a lower income, and are students.

## 2.2 Procedure

Prospective participants saw an advertisement announcing a research study about perceptions on smoking looking for smoker and non-smoker participants and contacted the research team or were approached by the members of the research team. The research team organized appointments for prospective clients—participants were first presented with informed consent documentation. Individuals provided consent to participate in the research by signing the form. Participants were informed that the study was about the perception of cigarette packaging. The participants consented to participate in the study and completed the smoking history and demographic questionnaire to ensure eligibility for participation in the study. Then participants completed the BIAT to measure their implicit attitudes toward smoking. Furthermore, finally, the smoking group completed the FTND questionnaire. Ethics approval was granted by the Faculty of Science Research Ethics Committee at Uskudar University.

## 2.3 Measures

Instrumentation included a sociodemographic questionnaire, The Fagerström Test for Nicotine Dependence (FTND) [17] and The Brief Implicit Association Test (BIAT) [18].

Participants were asked to complete a sociodemographic and smoking behavior assessment questionnaire. Information was collected regarding their age, sex, and smoking behavior patterns. The Fagerström Test for Nicotine Dependence (FTND) was used as a self-report measure. This is a standard questionnaire which aims to assess the intensity of physical addiction to nicotine. The test was designed to provide an ordinal measure of nicotine dependence related to cigarette smoking. It contains six items that evaluate the quantity of cigarette consumption, the compulsion to use, and dependence. In scoring the Fagerstrom Test for Nicotine Dependence, yes/no items are scored from 0 to 1, and multiple-choice items are scored from 0 to 3. The items are summed to yield a total score of 0-10. The higher the total Fagerström score, the more intense is the patient's physical dependence on nicotine.

The Implicit Association Test (IAT) [19] is a chronometric measure that quantifies the strength of conceptual associations by contrasting latencies across conditions [20]. The Brief Implicit Association Test (BIAT) [21] was developed to shorten the time required to measure associations while retaining some of the valuable design properties of the IAT. The BIAT consists of five blocks of trials with the same four categories and stimulus-response mappings as the standard IAT but with 1/3 the number of trials. If the participant makes an error, a red "X" appears below the

stimulus, and the trial continues until the correct key is pressed. In a typical BIAT, participants are asked to categorize stimuli into four different stimulus categories by pressing one of two response keys. The core idea underlying the BIAT is that categorization performance should be better when categories that are associated in memory are assigned to the same response key. Hence, by examining which response assignments result in the best categorization performance, one can determine which stimulus categories are more closely associated with memory.

Turkish words for the following categories were used: positive words (i.e., good, happy, pleasant, cool, strong, right), negative words (i.e., sad, looser, weak, false, tired, unpleasant), pictures of cigarette packages (in the form which they were currently sold at the time the study was conducted), and pictures of plain packages (Image 1). There were six stimulus pictures of typical cigarette packages among the most popular cigarette brands and six pictures of plain cigarette package version using the same brands. Plain packages were designed by removing color and brand imagery on cigarette packages.



*Image 1.* Images used for the BIAT testing implicit attitudes for cigarette packaging.

## 3. Results

Reaction times obtained from the BIAD measure are used to calculate a d-score, which can range from +2 to -2. We calculated a BIAT D score for each participant using a standard scoring algorithm introduced by Greenwald and colleagues [22]. Participants were flagged who made more than 40% errors in any one of the critical blocks or more than 30% errors overall. Trial latencies greater than 10,000 ms or less than 400 ms were eliminated, and error latencies were replaced with the block mean plus 600 ms.

The results of the brief implicit association test being measured for significance (d > .15 or d < -.15), was determined following the cutoff guidelines of Greenwald and colleagues (±) .65 "strong" association, (±) .35 "moderate" association, (±) .15 "slight" association, and (±) 0 and .15 "no" association [22].

Cigarette packaging design's influence on implicit attitudes is positive (Mean d-score = .22), where there is a slight association between designed/logo packaging and positive implicit attitudes.

The BIAT grouping score represents the grouping of implicit attitudes along the lines of positive and negative implicit attitudes. Based on the findings, the most frequent score was a positive, strong association between designed/logo cigarette packaging and positive implicit attitude, with 32.6% of participant's scores being positive strong, followed by 16.7% who had a positive moderate score. Only 30.7% of subjects resulted with a slight, moderate or strong positive score toward plain packaging. Figure 1 is a frequency distribution illustrating the positive and negative attitudes of subjects.
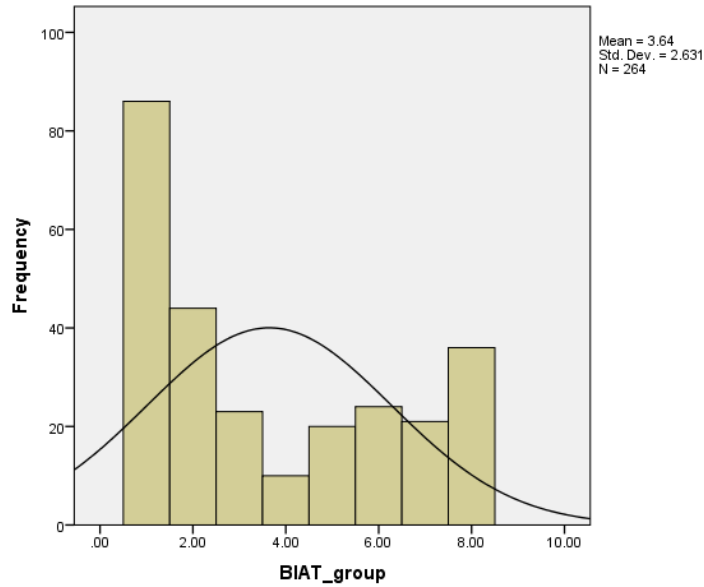


*Figure 1.* Frequencies for BIAT groupings.

Figure 2 includes the mean as a histogram. The histogram illustrates the negative skew of the BIAT score (*Skew* = -0.35, *Kurt* = -0.78), as well as the mode range (0.71 - .086) being on the positive side of the median (0.34). These findings indicate a large, non-normal spread to the data (*SD* = 0.70). Based on these findings, the mean of the BIAT is evidence that the implicit attitudes of subjects were slightly positive toward designed/logo packaging.
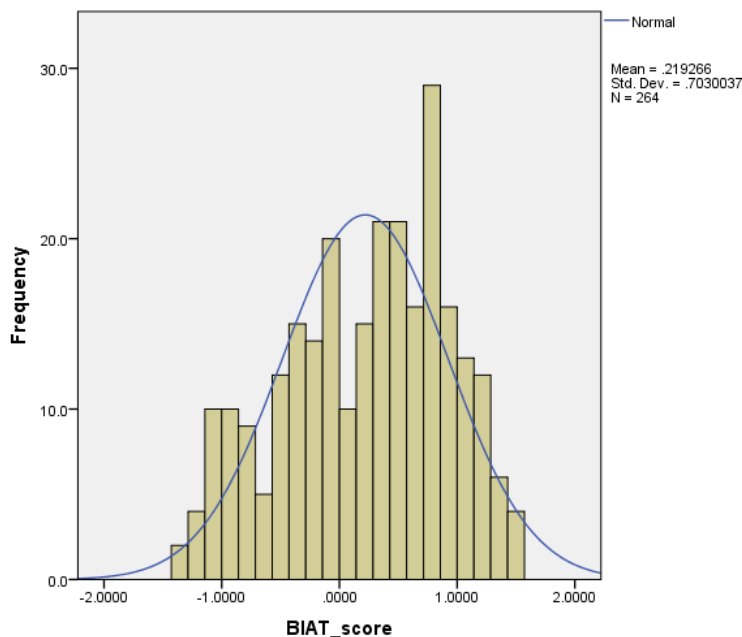


*Figure 2.* A Histogram of BIAT scores.

Figure 2 is further support for the existence of a non-normal distribution of test results. Figure 2 illustrates the grouping of responses into categories for positive and negative test results. Based on the histogram in Figure 2, the most frequent associations were strong and moderate for designed/logo packages with positive implicit associations. Based on Figure 1, strong implicit attitudes are the most frequent. The least frequent are the groups with no positive and no negative association. Therefore, it was least frequent that participants reported having no feelings and most frequent that they reported having strong feelings. Based on these findings, cigarette packaging appears to cause people to feel some attitude, but the attitude is different, depending on the person.

The relationship between smoking status and implicit attitudes toward cigarette packaging was not significant when smoking status was measured either as the subject being a smoker or non-smoker or when the level of cigarette dependence was measured and when implicit attitudes were measured as a group or as a score. The results of ANOVA model which includes smoker status and smoking level of dependence is insignificant at $p = .590$. Based on the lack of significance of the relationship, the status of a subject as a smoker or non-smoker will not influence their score for implicit attitudes toward cigarette packaging ($p = .333$).

The results of an ANOVA model on the relationship between gender and implicit attitudes toward cigarette packaging. The model was found to be significant at $p < .05$ ($p = .017$). Based on this finding there is some evidence that gender does impact implicit attitudes toward cigarette packaging. There is a difference in mean d-scores between female ($M = 0.145$, $SD = 0.725$) and male ($M = 0.362$, $SD = 0.638$). Based on these findings, while females had a mean d-score which suggests a slight association between designed/logo packaging and positive implicit association, there was a moderate association between designed/logo packaging and positive implicit association for males. Males tested higher for a positive association toward designed/logo packaging.

The Chi-square test does not contribute any support for the hypothesis that there is a relationship between gender and implicit attitudes toward cigarette packages at $p < .05$. There was a difference of only 11.4% between male and female participants with a d-score in the slight, moderate or strong positive range, with 65.56% of males and 54.02% of females scoring at least slightly positive. Based on the findings, gender has an insignificant impact on implicit attitudes toward cigarette packaging ($X^2 = 9.478$, $p = .220$) when examined by grouping of attitudes toward associations between packaging and implicit associations.

Analyzing the relationship between income and implicit attitudes toward cigarette packaging the ANOVA model lacks significance at $p < .05$, but the model is notable because the relationship approaches significance ($p = .056$). The mean scores for the implicit attitudes toward cigarette packaging by income experience a unique change.

**Discussion**

The results supported the existence of a slight positive association between designed/logo packaging and positive implicit associations (d-score = .22). The implicit attitudes of participants, based on the mean score were slightly positive; however, when responses were grouped within the thresholds for association categories, a bar graph of the findings was illustrative evidence that the most frequent groupings were strong and moderate positive groups. Only 8.71% of subjects had test results which indicated a slight positive association; however, 32.58% and 16.67% of subjects had test results indicative of positive strong and positive moderate associations between designed/logo packaging and positive implicit associations. Based on these findings, while the mean d-score for the test contributes support for a slight positive result, frequencies are greater for positive strong and positive moderate test results. There was also some degree of a positive result (positive

strong, positive moderate, positive slight) in 57.95% of tests. Therefore, the results indicate that there is, at least, a positive slight association, and that the association skews toward a greater magnitude of positivity.

Further examination included demographic factors impact implicit attitudes toward cigarette packaging. This included five demographic factors which were examined individually in addition to an ANOVA model which examined the impact of all demographic factors included in the study. The results included a significant relationship between the implicit attitudes toward smoking score from the implicit association test and gender, where men had a greater implicit attitude score than women. Based on this finding, men have a stronger positive association with cigarette packaging with designs and logos than women. There is a lack of research synthesize along with this finding; however, men are more than twice as likely than women to smoke in Turkey. This finding would be suggestive of smoking status as impacting implicit attitudes toward cigarette packages as well; however, the test for the relationship was insignificant. The rationale for men to have a higher implicit attitude toward women because of cigarette packaging is therefore unknown and could be the topic of future research. Another notable finding related to hypothesis three was that income's impact on implicit attitudes toward cigarette packaging was approaching signify- cance at $p < .05$ at $p=.056$. With this finding, there was a substantial drop in the implicit association test results between the lowest and highest incomes. A possible reason for the drop could be that people with higher incomes have been educated to resist smoking. This finding would indicate a greater need for prevention and treatment innervations toward cigarette addi- ction in communities with lower socio economical status. This is concurrent with Hughes et al. [23] finding related to income in which plain packaging appeared to be most beneficial in supporting negative attitudes with smokers in low-income settings.

There were no significant findings between smo- king status and implicit attitudes toward cigarette packages where smoking status was represented by whether a person was a smoker or not. The literature surrounding cigarette packaging supported imagery an unconscious advertising as one of the main reasons that people are drawn to try smoking and is a factor which maintained the habit in the past. This finding suggests that the utilization of unconscious advertisement with cigarette packaging has an impact on both smokers and non- smokers.

**Limitations**

One limitation of this research is that cigarette packaging attitude testing does not account for bias toward brands. This limitation exists because the test used to measure implicit attitudes toward cigarette packaging does not delineate responses by brand. Another limitation is that at the time of this research, Turkey had not yet implemented regulations requiring plain packaging. Thus, actual images of plain packaging were not available. Digital images were used as pictures of plain packaging. This study also includes uneven demographics. Differences in attitudes linked to specific demographics could influence the findings. Therefore, not accounting for demographic differences is a limitation. Another limitation is that familiarity with similar cigarette packaging such as that included in the test will influence implicit attitudes. This is a limitation because the design of the study does not account for subject familiarity with plain packaging.

**Conclusion**

When compared with plain packaging, designed /logo cigarette packaging leads to positive implicit attitudes. Smoking status does not have a significant effect on implicit attitudes toward cigarette packaging. Lower income individuals might be more likely to have positive implicit attitudes toward cigarette packaging compared to higher income levels. Men might be more prone in developing positive implicit association compared to women. These findings support the effectiveness of plain packaging regulations where the removal of color, design and logo from

cigarette packaging will decrease positive im- plicit attitudes formed by cigarette packaging. Kayaalp [6] noted that the Ministry of Health has required several actions be taken to limit adver- tising capabilities of cigarette manufac- turers such as the use of closed cases to block the dis- play of cigarettes, as well as legislation which re- quires plain packaging for cigarettes. Based on the findings, the packaging requirements de- signed by the Ministry of Health will have an im- pact on implicit attitudes of consumers that will make them less likely to want to purchase to- bacco products. This type of regulation on ciga- rette products has been successful in Australia and the UK [24]; therefore, based on these find- ings, similar results are likely in Turkey. Based on the findings from previous research and those of this research, smoking behaviors will likely be impacted by the new regulations de- signed by the Ministry of Health. As Hammond [25] noted that there are several benefits which come from the use of plain packaging on ciga- rettes, the findings herein also support the use of plain packaging on cigarette packs as a way of reducing positive attitudes towards cigarettes. The findings of this research support the effec- tiveness of plain packaging regulations in which the removal of color, design and logo from ciga- rette packaging will decrease positive im- plicit attitudes formed by cigarette packaging. Pre- venting the formation and development of posi- tive implicit attitudes on addictive behaviors and cues is an essential strategy in tobacco control measures.

## References

[1] Daube, M., Eastwood, P., Mishima, M., & Pe- ters, M. (2015). Tobacco plain packaging: The Australian experience. Respirology, 20(7), 1001-1003. doi:10.1111/resp.12621

[2] Morgenstern, M., Isensee, B., & Hanewinkel, R. (2013). Seeing and Liking Cigarette Advertise- ments: Is There a ' Mere Exposure' Effect? European Addiction Research, 19(1), 42-46. doi:10.1159/000339836

[3] Cin, S. D., Gibson, B., Zanna, M. P., Shumate, R., & Fong, G. T. (2007). Smoking in Movies, Implicit Associations of Smoking With the Self, and Intentions to Smoke. Psychological Scien- ce, 18(7), 559-563. doi:10.1111/j. 1467-9280.2 007.01939.x

[4] Isaacs, S. L., & Schroeder, S. A. (2004). Class — The Ignored Determinant of the Nation's Health. New England Journal of Medicine, 351(11), 1137-1142. doi:10.1056/nejmsb040 329

[5] Durkin, S. J., Biener, L., & Wakefield, M. A. (2009). Effects of Different Types of Antis- mo- king Ads on Reducing Disparities in Smoking Cessation Among Socioeconomic Subgroups. American Journal of Public Health, 99(12), 2217-2223. doi:10.2105/ajph.2009.161638

[6] Kayaalp, E. (2015). Remaking Politics, Markets, and Citizens in Turkey : Governing Through Smoke. doi:10.5040/9781472594587

[7] Greenland, S. J. (2016). The Australian experi- ence following plain packaging: The impact on tobacco branding. Addiction, 111(12), 2248- 2258. doi:10.1111/add.13536

[8] Mutlu, F. S., Ayranci, U., & Ozdamar, K. (2006). Cigarette smoking habits among men and women in Turkey: A meta regression analysis. Iranian Journal of Public Health, 7–15.

[9] Ozcebe, H., Bilir, N., Inal, E., Beşer, E., Çan, G., Kiraz, E., . . . Çalıkoğlu, E. (2015). The Percep- tions of Adults on Cigarette Sales to Minors. Eu- ropean Journal of Public Health, 25(Suppl_3). doi:10.1093/eurpub/ckv176.242

[10] White, V. (2003). How has the prevalence of cigarette smoking changed among Australian adults? Trends in smoking prevalence between 1980 and 2001. Tobacco Control, 12(90002), 67ii-74. doi:10.1136/tc.12.suppl_2.ii67

[11] Tugrul, T. (2015). The Impacts of Fear and Dis- gust on the Perceived Effectiveness of Smoking Warning Labels: A Study on Turkish University Students - Tugba Orten Tugrul, 2015. Retrieved December 12, 2020, from https://jour- nals.sagepub.com/doi/abs/10.1177/101053951 3475647

[12] Houwer, J. D. (2001). A Structural and Process Analysis of the Implicit Association Test. Jour- nal of Experimental Social Psychology, 37(6), 443-451. doi:10.1006/jesp.2000.1464

[13] Perugini, M., Richetin, J., & Zogmaister, C. (2010). Prediction of behavior. In B. Gawronski & B. K. Payne (Eds.), Handbook of implicit so- cial cognition: Measurement, theory, and appli- cations (p. 255–277). The Guilford Press.

[14] Andrews, J. A., Hampson, S. E., Greenwald, A. G., Gordon, J., & Widdop, C. (2010). Using the Implicit Association Test to Assess Children's Implicit Attitudes Toward Smoking. Journal of Applied Social Psychology, 40(9), 2387-2406. doi:10.1111/j.1559-1816.2010.00663.x

[15] Spruyt, A., Lemaigre, V., Salhi, B., Gucht, D. V., Tibboel, H., Bockstaele, B. V., . . . Nackaerts, K. (2015). Implicit attitudes towards smoking predict long-term relapse in abstinent smokers. Psychopharmacology, 232(14), 2551-2561. doi:10.1007/s00213-015-3893-2

[16] Kahler, C. W., Metrik, J., Lachance, H. R., Ramsey, S. E., Abrams, D. B., Monti, P. M., & Brown, R. A. (2008). Addressing heavy drinking in smoking cessation treatment: A randomized clinical trial. Journal of Consulting and Clinical Psychology, 76(5), 852-862. doi:10.1037/a0012717

[17] Heatherton, T. F., Kozlowski, L. T., Frecker, R. C., & Fagerstrom, K. (1991). Fagerström Test for Cigarette Dependence. PsycTESTS Dataset. doi:10.1037/t03773-000

[18] Greenwald, A. G., Mcghee, D. E., & Schwartz, J. L. (1998). Implicit Association Test. PsycTESTS Dataset. doi:10.1037/t03782-000

[19] Nosek, B. A., Bar-Anan, Y., Sriram, N., Axt, J., & Greenwald, A. G. (2014). Understanding and using the brief implicit association test: Recommended scoring procedures. PloS One, 9(12), e110938.

[20] Sriram, N., & Greenwald, A. G. (2009). Brief Implicit Association Test. PsycTESTS Dataset. doi:10.1037/t59740-000

[21] Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. Journal of Personality and Social Psychology, 85(2), 197-216.

[22] Hughes, J. R., & Naud, S. (2016). Perceived role of motivation and self-efficacy in smoking cessation: A secondary data analysis. Addictive Behaviors, 61, 58-61. doi:10.1016/j.addbeh.2016.05.010

[23] Mackereth, P. (2015). Plain packs and more: Towards a smoke-free future. British Journal of Nursing, 24(5), 256-256. doi:10.12968/bjon.2015.24.5.256

[24] Hammond, D. (2010). "Plain packaging" regulations for tobacco products: The impact of standardizing the color and design of cigarette packs. Salud Pública De México, 52. doi:10.1590/s0036-36342010000800018