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***Research Article***

# Determining the Demographic and Psychosocial Factors That Influence Smoking Addiction*

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**Abstract**

The aim of this study is to determine the demographic and psychosocial factors influencing smoking addiction. The research group consists of 429 (257 female, 172 male) university students and between the ages of 18-27 years old (M= 20.66 ± 1.60). The Fagerström Test for Nicotine Dependence, Utrecht-Management of Identity Commitments Scale, Quick Big Five Personality Test, Autonomous-Related Self in Family Scales, and Inventory of Parent and Peer Attachment were used for collecting data. The results of this study indicate demographic and psychosocial factors to be related to smoking and have revealed the necessity of considering demographic and psychosocial factors while preparing programs to prevent smoking.

**Keywords**

Smoking addiction • Demographic factors • Psychosocial factors • Adolescence • Emerging adulthood

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Smoking is the second most important risk factor threatening human life around the world (Reitsma et al., 2017). More than five million people in the world a year die due to smoking (Singh, Kumar, Qurashi, & Baleanu, 2017). Compared to nonsmokers, the risk for heart attacks among smokers is 70% and lung cancer 10% higher. Smokers have a 10-13 year shorter lifespan than non-smokers (Singh, Kumar, Qurashi, & Baleanu, 2017). Smoking addiction has rapidly been increasing among all age groups, especially among adolescents and emerging adults. Approximately 1.2 billion people smoke worldwide. Ten million people are estimated to die in 2020 due to smoking addiction, with 80% of these deaths in developing countries if smoking increases at its current rate (Akgül & Kutluk, 2015; Warren et al., 2008). According to the World Health Organization (WHO), the prevalence of smoking among people over 15 is 26% worldwide and 35.3% in Europe (Çapık & Cingil, 2013; WHO, 2009). 31.3% of people 15 and older use tobacco or tobacco products every day or occasionally according to the Global Adult Tobacco Survey (Turkish Statistical Institute [TurkStat], 2000) which has been the most comprehensive survey on this topic in Turkey.

Figures appearing throughout the world and Turkey show smoking and smoking addiction to be especially prevalent among adolescents. Moreover, (Singh, Kumar, Qurashi, & Baleanu, 2017) individuals who start smoking in adolescence regularly continue smoking and are less prone to quit (Tyas & Pederson, 1998). According to the literature on developmental psychology, changes in each developmental stage have been stated to appear in three domains: biological, cognitive, and psychosocial. This study focuses on the psychosocial processes. Psychosocial variables show the changes to be related to the individual and the changes in one's relationships with others (Santrock, 2012). Identity development, personality traits, self construals, and attachment types have been examined as the psychosocial processes in this study.

Erikson (1968) defined adolescence as a period of identity-versus-role confusion. Individuals who pass the identity development process healthily are healthier in adulthood, more easily take on the roles required in this period, and have more positive mental health characteristics (Erikson, 1968; Morsünbül & Çok, 2013; Schwartz et al., 2011). Many models have been proposed based on Erikson's thoughts about identity development. This study focuses on the three-dimensional model. In this model, three processes have been defined in identity development (Crocetti et al., 2008, 2010). Commitment is defined as the permanent selection of different development areas. In-depth exploration shows how effectively people think about their existing commitments and try to collect additional information about them. Reconsidering commitment shows that individuals compare their existing commitments with different alternatives and research in this direction. Individuals in this dimension look for new identity patterns as they are not satisfied with their current ones (Crocetti, Rubini, Luyckx, & Meeus, 2008; Crocetti, Schwartz, Fermani, & Meeus, 2010).

The second psychosocial factor examined in this study is personality. Personality has been one of the most examined subjects among areas examining human behavior. Various approaches (i.e., psychoanalytic, behaviorist, trait approaches) have been proposed for examining personality. The Big Five Personality Theory has come to the forefront, suggesting that personality traits can be evaluated under five factors (Mc Aams & Olson, 2010). Many researchers (McCrae & Costa, 2003; Goldberg, 1990) have agreed that the focus of personality can be grouped under five dimensions. Compared with other traits, extraverts have higher scores for social skills, being outgoing, and being energetic. Agreeable people have higher scores for friendship, sympathy, respectfulness, and compassion. People high in emotional stability have higher scores for being secure, calm, and confident. People with high conscientiousness have higher self-discipline, efficiency, and organization scores. People with greater openness to experience have higher scores for inventiveness, curiosity, and openness to new ideas (Mc Aams & Olson, 2010; Morsünbül, 2014). Studies that have examined the relationships of personality traits with depression, anxiety, aggression, loneliness, and self-esteem indicate the five personality traits to be negatively associated with psychological problems while positively associated with positive psychological variables (Mc Aams & Olson, 2010: Morsünbül, 2014).

The third psychosocial factor examined in this study is self construals. Cultural psychology focuses on the impact of culture on self (Matsumato & Juang 2008; Markus & Kitiyama, 1991). Kağıtçıbaşı (2005) proposed three self-types based on sociocultural contexts and family models. The autonomous-separate self refers to individuals with high autonomy and separation. The heteronomous-related self indicates individuals with high heteronomy and relatedness. Finally, the autonomous-related self refers to individuals with high autonomy and relatedness. Studies have shown the autonomous-separate self to positively relate to psychological problems. Conversely, the autonomous-related self negatively relates to psychological problems (Kağıtçıbaşı, 1996, 2007; Morsünbül, 2013).

The last psychosocial factor examined in this study is attachment. Bowlby (1973) described attachment as the strong emotional bonds people develop towards those they consider important to them. Individuals with secure attachment have a sense of valance, lovability, and high self-esteem. They are stress-resistant in case of trouble and communicate with their families and friends in problem situations (Bartholomew & Horowitz, 1991). Individuals with insecure attachment doubt the value of other people. Studies (Bartholomew & Horowitz, 1991; Morsünbül, 2009) have indicated insecure attachment to possibly be associated with risk taking and substance use.

Studies on smoking addiction in Turkey have focused on demographic variables and the negative effects of smoking on health. But smoking addiction among the young is still rapidly increasing. Thus, studies are needed that examine the psychosocial

factors that lead to starting and continuing to smoke. In light of this knowledge, the purpose of this study is to examine the demographic and psychosocial factors that affect smoking addiction.

## Method

### Participants

The participants are 429 university students (57.9% female) between 18-27 years old ($M_{age}$ = 20.66, $SD_{age}$ = 1.60). Of the participants 239 (47.6% female) are smokers and 190 (%75.2 female) are nonsmokers.

### Measures

**Personal data form.** A personal data form has been used to obtain data on participants' demographic features such as age, gender, and smoking.

**The Fagerström Test for Nicotine Dependence (FTND).** The FTND has been used in order to measure nicotine dependence. It was developed by Heatherton, Kozlowski, Frecker, and Fagerström (1991) and adapted to Turkish by Uysal, Karadağ, Karşıdağ, Bayram, and Yılmaz (2004). The FTND consists of six items.

**The Utrecht-Management of Identity Commitments Scale (U-MICS).** The U-MICS has been used in order to measure the dimensions of identity. It was developed by Crocetti et al. (2008) and adapted to Turkish by Morsünbül, Crocetti, Cok, and Meeus (2014). The U-MICS consists of 26 items, and its Cronbach`s alphas are .87 for commitment, .80 for in-depth exploration, and .75 for reconsideration of commitment.

**Quick Big Five Personality Test (QBFT).** The QBFT has been used in order to measure personality traits. Developed by Verlmuts and Gerits (2005) and adapted to Turkish by Morsünbül (2014), the QBFT consists of 30 items. Its Cronbach`s alphas are .83 for extraversion, .82 for conscientiousness, .72 for agreeableness, .72 for openness to experience, and .71 for emotional stability.

**Autonomous-Related Self in Family Scales (ARSFS).** The ARSFS has been used in order to measure self construals. Developed by Kağıtçıbaşı (2007), the ARSFS consists of 22 items. Its Cronbach`s alphas are .84 for heteronomous-related self,.71 for autonomous-separate self, and .78 for autonomous-related self.

**The Inventory of Parent and Peer Attachment (IPPA).** The IPPA has been used in order to measure attachment. It was developed by Armsden and Greenberg (1987) and adapted to Turkish by Günaydın, Selçuk, Sümer, and Uysal (2005). Its Cronbach`s alphas are .87, .90, and .78 for relationship with mother, father, and peers, respectively.

## Procedure

Data have been collected using group applications from the participants during course hours at their university with the permission of course managers. While collecting the data, the participants were first informed about the purpose of the study, and those who wanted to participate in the study were given the measurement tools. Additional explanations were made to the participants as necessary. Applying the measuring instruments ranged from 35 to 45 minutes.

## Data Analysis

The data were analyzed using SPSS, the statistical program. Frequency and percentage analyses have been used for analyzing participants' demographic characteristics and mean scores from the measurement tools. Correlation analyses have been performed to determine the relationships of the demographic variables and psychosocial factors with cigarette dependence. Regression analysis has been performed to examine the contribution of these demographic and psychosocial factors on smoking addiction.

# Results

The descriptive statistics on smokers are given in this section, followed by the regression analysis results.

Table 1
*Characteristics of the Participants Who Smoke*

| **Variable** | | ***n*** | **%** |
|---|---|---|---|
| Smoking status | Yes | 239 | 100 |
| | Middle school or before | 35 | 14.6 |
| When did you start smoking? | High school | 121 | 50.6 |
| | Between high school and university | 44 | 18.4 |
| | University | 39 | 16.3 |
| | Peer pressure | 94 | 39.3 |
| For what reason did you start smoking? | Sress/distress | 79 | 33.1 |
| | Affectation | 22 | 9.2 |
| | Curiosity | 28 | 11.7 |
| | Others | 16 | 6.7 |
| Do you know smoking hurts you? | Yes | 233 | 97.5 |
| | No | 6 | 2.5 |
| Does your mother smoke? | Yes | 39 | 16.3 |
| | No | 200 | 83.7 |
| Does your father smoke? | Yes | 111 | 46.4 |
| | No | 128 | 53.6 |
| Total | | 239 | 100.0 |

**Findings on Smokers' Characteristics**

As can be seen in Table 1, half the smokers started smoking during high school. When looking at the participants' reasons for starting smoking, more than half of the group is seen to have started smoking due to friends (peer pressure) or stress/ distress. Considering the question about the harmful effects of smoking, almost all of the participants are seen to be aware that smoking is harmful. When examining the smoking status of smokers' parents, most mothers and more than half the fathers are seen to not smoke.

The Fagerström Test for Nicotine Dependence has been used for determining participants' nicotine dependence levels. A maximum of 10 points can be obtained from the test. People scoring 7 or greater are considered to have strong signs of addiction (Bilir, 2004). As a result of the descriptive statistics, 203 participants are seen to have scored 6 or less, with the rest scoring 7 or greater. The results indicate the majority of smokers to not have high levels of nicotine addiction.

**The Variables' Correlations with Smoking Addiction**

Table 2 presents the means and standard deviations for the variables and their correlations with smoking status.

Table 2
*Variables' Means, Standard Deviations, and Correlations with Smoking Status*

| Variable | *M* | *SD* | Smoking Status |
|---|---|---|---|
| Commitment | 3.87 | .62 | -.08 |
| In-depth exploration | 3.17 | .57 | -.01 |
| Reconsideration of commitment | 2.39 | .67 | .18 * |
| Agreeableness | 5.43 | .83 | -.02 |
| Extraversion | 4.18 | 1.22 | .13 * * |
| Conscientiousness | 4.46 | 1.25 | -.16 * * |
| Emotional stability | 3.96 | 1.02 | -.07 |
| Openness to experience | 5.00 | .89 | .11 * |
| Autonomous-separate self | 3.28 | .57 | -.03 |
| Heteronomus-related self | 4.32 | .59 | -.01 |
| Autonomous-related self | 4.62 | .49 | -.15 * * |
| Mother attachment | 4.86 | .79 | .11 * |
| Father attachment | 4.33 | 1.05 | .04 |
| Peer attachment | 4.63 | .63 | .03 |

* $p < .05$, ** $p < .01$.

As can be seen in Table 2, reconsideration of commitment ($r = .18$, $p < .05$), extraversion ($r = .13$, $p < .05$), and mother attachment ($r = .11$, $p < .05$) positively relate to smoking status, while conscientiousness ($r = -.16$, $p < .05$) and autonomous-related self ($r = -.15$, $p < .05$) negatively relate to smoking status.

## Regression Analysis Results

Regression analysis has been conducted in order to learn how well the demographic and psychosocial factors predict smoking status.

Table 3
*Regression Analysis Results*

| **Variables** | ***ß*** | ***SD*** | ***ß*** | ***t*** |
|---|---|---|---|---|
| Gender | -.24 | .04 | -.23 | -5.06** |
| Age | .08 | .01 | .26 | 5.98** |
| Commitment | -.00 | .04 | .00 | .08 |
| In-depth exploration | -.01 | .04 | -.01 | -.03 |
| Reconsideration of commitment | .09 | .03 | .13 | 2.86* |
| Agreeableness | -.02 | .03 | -.03 | -.71 |
| Extraversion | .07 | .02 | .17 | 3.51** |
| Conscientiousness | -.06 | .01 | -.17 | -3.65* |
| Emotional stability | -.07 | .02 | -.15 | -3.00* |
| Openness to experience | .03 | .02 | .06 | 1.31 |
| Autonomous-separate self | -.00 | .04 | -.00 | -.18 |
| Heteronomous-related self | .01 | .04 | .01 | .21 |
| Autonomous-related self | -.10. | .04 | -.10 | -2.17* |
| Mother attachment | .06 | .03 | .09 | 1.79 |
| Father attachment | .01 | .02 | .04 | .82 |
| Peer attachment | .05 | .04 | .07 | 1.37 |

$r = .52$; $r^2 = .27$; $f = 9.74$; * $p < .05$, ** $p < .01$.

As can be seen in Table 3, the independent variables significantly predict smoking status ($R = .52$, $r^2 = .27$, $f = 9.74$** $p < .01$). This finding presents the independent variables to account for 27% of the variance in smoking status. According to regression analysis, age ($\beta = .26, p < .01$) is the best predictor of smoking status, while autonomous-related self ($\beta = -.10, p < .05$) is the weakest predictor of smoking status.

## Discussion

The aim of the study has been to determine smokers' demographic characteristics and to examine how well identity dimensions, personality traits, self construals, and attachment can predict smoking status.

When considering smokers' characteristics, most started to smoke in high school and in university. Individuals experience many changes during adolescence and emerging adulthood (Arnett, 2000; Erikson, 1968). Individuals can tend to take more risks and use different substances (Morsünbül, 2013).

One of the most important results of this study regarding smokers' characteristics is that almost all participants know about the damage caused by smoking. Individuals still smoke even though they are aware of its harmful effects. This result is consistent with results from previous studies (Atak, 2011; Gökgöz & Koçoğlu, 2007). It can be interpreted as studies conducted against smoking have increased individuals'

knowledge levels about smoking but haven't had a great effect on their attitudes towards smoking.

According to the regression analysis results, independent variables account for 27% of the variance in smoking status. Males can be seen to smoke more than females. This result is consistent with results from previous studies (Atak, 2011; Tot et al., 2002). Smoking rates are higher among males than females in most countries of the world (Reitsma et al., 2017). Smoking rates among females in developing and eastern countries are higher than in developed and western countries (Mandil et al., 2010). Women's being smokers less often than men appears to largely relate to gender. While smoking is perceived as having a negative impact on women, it is perceived as a positive situation for men (Lopez, Collinshaw, & Piha, 1994; Mandil et al., 2010).

The study's findings indicate age to positively predict smoking status. In other words, as an individual's age increases, their smoking status is more likely to increase. Smoking may appear more normal in the community's eyes as individuals get older.

According to identity dimensions, reconsideration of commitment positively predicts smoking status. Reconsideration of commitment shows that individuals compare their existing commitment with different alternatives and research in this direction (Crocetti et al., 2008, 2010). Based on the results of this study, individuals can be said to become more prone to smoking if they cannot form a continuous identity and start searching for what causes stress and anxiety.

In terms of personality traits, extraversion is seen to positively predict smoking status, while conscientiousness and emotional stability negatively predict smoking status. According to Eysenck, extraverted individuals are more likely to smoke because they seek more stimuli (Terracciano & Costa, 2004). Studies on the brain have indicated smoking to create a state of excitement by stimulating the central nervous system. Therefore, extroverts may be more prone to smoking (Carton, Jouvent, & Widlocher 1994; Terracciano & Costa, 2004). The results from this study show individuals with predominantly responsibility characteristics smoke less. Individuals who score low in conscientiousness experience a lot of trouble starting and maintaining a job. These individuals are more likely to start and continue smoking due to these characteristics (Costa & McCrea, 1992; Terracciano & Costa, 2004). Individuals with high emotional stability also have personal harmony. They experience less stress in daily events (Burger, 2006). Individuals with low emotional stability may be more likely to smoke because they experience more stress in interpersonal relationships or daily events (Cherrry & Kiernan, 1976; Terracciano & Costa, 2004).

In terms of self-construals, the autonomous-related self is seen to significantly and negatively predict smoking behavior. Individuals with autonomous-

related self try to deal effectively with stressful situations and attempt to get help from people with whom they have an emotional connection when necessary (Kağıtçıbaşı, 2005; Morsünbül, 2013). These individuals may be less likely to smoke in stressful situations due to these characteristics. They can also be more resistant to the pressure of their environment in starting or experimenting with smoking because of their autonomy.

Another psychosocial variable that has been examined in this study in relation to smoking status is attachment. It has been examined at the specific level at the plane of attachment to mother, father, and friends. However, the study's results show the three attachment characteristics to not significantly predict smoking status.

The results of this study reveal the need to consider demographic and psychosocial factors while preparing programs for preventing smoking.

## References

Akgül, S., & Kutluk, S. (2015). Çocuk ve ergenlerde tütün kontrolü psycho-social markers of smoking, and the relationships between smoking and life satisfaction, and subjective well-being in the years of transition to adulthood [Tobacco control among children and adolescents]. *Sürekli Tıp Eğitim Dergisi*, *24*, 1–6.

Armsden, G. C., & Greenberg, M. T. (1987). the inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427–454.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469–480.

Atak, H. (2011). Yetişkinliğe geçiş yıllarında sigara içme davranışının psikososyal belirleyicileri ve sigara içmenin yaşam doyumu ve öznel iyi oluşla ilişkisi [Psycho-social markers of smoking, and the relationships between smoking and life satisfaction, and subjective well-being in the years of transition to adulthood]. *Klinik Psikiyatri Dergisi*, *14*, 29–43.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four category model. *Journal of Personality and Social Psychology*, *61*, 226–244.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York, NY: Basic Books.

Burger, J. M. (2006*). Kişilik. Psikoloji biliminin insan doğasina dair söyledikleri* [Personality. What psychology says about human nature] (İ. D. E. Sarıoğlu, Trans.). İstanbul, Turkey: Kaknüs Yayınları.

Carton, S. Jouvent, R., & Widlöcher, D. (1994). Nicotine dependence and motives for smoking in depression. *Journal Substance Abuse, 6*, 67–76.

Cherry, N., & Kiernan, K. (1976). Personality scores and smoking behaviour: A longitudinal study. *British Journal of Preventive and Social Medicine, 30*, 123–131.

Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity formation in early and middle adolescents from various ethnic groups: From three dimensions to five statuses. *Journal of Youth and Adolescence, 37*, 983–996.

Crocetti, E., Schwartz, S., Fermani, A., & Meeus, W. (2010). The Utrecht Management of Identity Commitment Scale (U-MICS): Italian validation and cross national comparisons. *European Journal of Psychological Assessment, 26*, 169–183.

Çapık, C., & Cingil, D. (2013). Hemşirelik öğrencilerinde sigara kullanımı, nikotin bağımlılık düzeyi ve ilişkili etmenler [Cigarette smoking, nicotine dependency level and associated factors among nursing students]. *Kafkas Tıp Bilimleri Dergisi*, *3*, 55–61.

Erikson, E. (1968). *Identity, youth and crisis*. New York, NY: Norton.

Goldberg, R. L. (1990). An alternative "Description of personality": The-big five factor structure. *Journal of Personality and Social Psychology*, *59*, 1216–1229.

Gökgöz, Ş., & Koçoğlu, G. (2007). Adolesan çağda sigara ve alkol içme davranışı [The effects of trainning about smoking at adolescence period]. *Fırat Tıp Dergisi, 15*, 19–26.

Gunaydın, G., Selcuk, E., Sumer, N., & Uysal, A. (2005). The psychometric evaluation of the short form of inventory of parent and peer attachment. *Türk Psikoloji Yazıları, 8*, 12–23.

Heatherton, T. F., Kozlowski, L.T., Frecker, R.C., & Fagerström, K. O. (1991). The fagerström test for nicotine depencence: A revision of the Fagerström Tolarence Questionnaire. *British Journal of Addiction, 86*, 1119–1127.

Kağıtçıbaşı, Ç. (1996). Özerk-ilişkisel benlik: Yeni bir sentez [The autonomous-related self: A new synthesis]. *Türk Psikoloji Dergisi*, *11*, 36–44.

Kağıtçıbaşı, Ç. (2005). Autonomy and relatedness in cultural context. Implication for self and family. *Journal of Cross-Cultural Psychology*, *36*, 403–422.

Kağıtçıbaşı, Ç. (2007). *Family, self, and human development across cultures: Theory and applications*. London, UK: Lawrence Erlbaum Associates.

Lopez, A. D., Collishaw, N. E., & Piha, T. (1994). A descriptive model of the cigarette epidemic in developed countries. *Tobacco Control, 3*, 242–247.

Mandil, A., BinSaeed, A., Ahmad, S., Al-Dabbagh, R., Alsaadi, M., & Khan, M. (2010). Smoking among university students: A gender analysis. *Journal of Infect Public Health, 3*, 179–187.

Markus, H. R., & Kitiyama, S. (1991). Culture and self: Implication for cognition, emotion and motivation. *Psychology Review*, *98*, 224–253.

Matsumto, D., & Juang, L. (2008). *Culture&Psychology*. Belmont: Thomson-Wadsworth.

McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review Psychology*, *61*, 517–542.

McCrae, R. R., & Costa, P. T. (2003). *Personality in adulthood*. New York, NY: The Guilford Press.

McCrae, R. R., & Costa, P. T. (2004). An contemplated revision of the NEO Five Factor Inventory. *Personality and Individual Differences, 36*, 587–596.

Morsünbül, Ü. (2009). Attachment and risk taking: Are they interrelated? International Journal of Human and Social Sciences, *4*, 234–238

Morsünbül, Ü., & Çok, F. (2013). Kimlik gelişiminde yeni bir boyut: Seçeneklerin saplantılı araştırılması [A new dimension in identity development: Ruminative exploration]. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, *5*, 232–244.

Morsünbül, Ü. (2013). The relationship between identity status and risk taking in adolescence. *İlköğretim Online, 12*, 347–355.

Morsünbül, Ü. (2013). Benlik kurgularının ergenlerin yaşam doyumu ve depresyon düzeylerine olan etkisi [The effects of self construals on adolescent's life satisfaction and depression level]. *Klinik Psikiyatri Dergisi, 16*, 18–26.

Morsünbül, Ü. (2014). The validity and reliability study of the Turkish version of Quick Big Five Personality Test. *The Journal of Psychiatry and Neurological Sciences, 27*, 316–322.

Morsünbül, Ü., Crocetti, E., Cok, F., & Meeus, W. (2014). Brief report: The Utrecht-Management of Identity Commitments Scale (U-MICS): Gender and age measurement invariance and convergent validity of the Turkish version. *Journal of Adolescence*, *37*, 799–805.

Reitsma, M. B., Fullman, N., Salama, J. S., Abajobir, A., Akate, K. H., Abbafati, C. ... Gakidou, E. (2017). Smoking prevalance and attributable disease burden in 195 countries and territories, 1990-2015: A systematic analysis from the Global Burden of Disease study 2015. *Lancet, 389*, 1885–1906.

Santrock, J. W. (2012). *Ergenlik*, Nobel Yayınevi.

Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L. ve Forthun, L. F. … Waterman, A. S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence, 40*, 839–859.

Singh, J., Kumar, Devendra, Qurashi, M. A., & Baleanu, D. (2017). A new fractional model for giving up smoking Dynamics. *Advances in Difference Equations*, *88*, 1–16.

Tot, Ş., Yazıcı, K., Ertekin, A., Erdem, P., Bal, N., Metin, Ö., & Çamdeviren, H. (2002). Mersin Üniversitesi öğrencilerinde sigara ve alkol kullanım yaygınlığı ve ilişkili özellikler [The prevalence of smoking and alcohol use and related sociodemographic variables among students of Mersin University]. *Anadolu Psikiyatri Dergisi, 3*, 227–231.

TUIK. (2008). *Küresel yetişkin tütün araştırması* [Global tobacco survey]. Retrieved from http://www.tuik.gov.tr

Teracciano, A., & Costa, P. T. (2004). Smoking and five factor model of personality. *Addiction, 99*, 472–481.

Tyas, S., & Pedeson, L. (1998). Psychososcial factors related to adolescent smoking: a critical review of the literature. *Tobacco Control*, *7*, 409–420.

Uysal, M. A., Kadakal, F., Karşıdağ, Ç., Bayram, N. G., Uysal, Ö., & Yılmaz, V. (2004). Fagerstrom test for nicotine dependence: Reability in a Turkish sapmle and factor analysis. *Tüberküloz ve Toraks Dergisi*, *52*, 115–121.

Vermulst, A. A., & Gerris, J. R. M. (2005). *QBF: Quick Big Five persoonlijkheidstest handleiding* [Quick Big Five personality test manual]. Leeuwarden, Netherlands: LDC Publications.

Warren, C. W., Jones, N. R., Peruga, A., Chauvin, J., Baptiste, J., Costa, V. … Fisburn, B. (2008). Global youth tobacco surveillance, 2000-2007. *Morbidity and Mortality Weekly Report Surveillance Summaries*, *57*, 1–28.

World Health Organization. (2009). *World health statistics 2009*. Retrieved from htpp://www.who.int/whosis/whostat/2009