THE ROLE OF FAMILY IN ALCOHOL CONSUMPTION AMONG TURKISH ADOLESCENTS
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Alcohol consumption among adolescents is an important issue because of its link to many negative social and health problems, including depression, suicide, and aggression. Drawing from Hirschi’s social bonding theory and Agnew’s general strain theory, this study examines the effects of family relations on alcohol consumption among Turkish adolescents. Social bonding theory suggests that individuals with stronger social bonds are less likely to use alcohol than individuals with weaker social bonds. General strain theory, on the other hand, proposes that individuals with higher levels of strain due to financial difficulties and/or negative relationships are more likely to consume alcohol compared to individuals with lower levels of strain. In particular, this study proposes to examine how parental attachment, parental monitoring, time spent with family, parents’ religiosity, family economic strain, and negative life events in the family predict alcohol consumption among adolescents in Turkey. 2008 Youth in Europe (YIE) project data is used in the study. In general, the results indicate that social bonding and strain factors have significant effects on the adolescents’ alcohol consumption patterns. These findings will help to inform prevention programs aimed at reducing adolescent alcohol risk behaviors by explaining the importance of family relationships.
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CHAPTER 1

INTRODUCTION

Deviant behaviors among adolescents have always been of interest to researchers from both sociology and criminology (Roberts et al. 2011). According to Burcu (2003), social norms and behavioral patterns of adolescents are different than adults. Adolescence is considered a very important part of people’s lives because it shapes the future years, impacting teens who will become as adults. Isir et al. (2007) state that the family environment is the most important factor affecting children’s development. Furthermore, parents often serve as the only role models for both children and adolescents. In a 1988 study, Le Croy found that positive attitudes of parents affect their children positively. On the other hand, harsh and threatening behaviors in the family tend to increase the likelihood of criminal activities among adolescents (Sampson and Laub 1994).

Alcohol Consumption among Adolescents

Alcohol consumption is considered a deviant behavior for adolescents, although it is very prevalent among young people. Particularly in Western societies, alcohol consumption among adolescents has been “naturalized” (Velleman et al. 2005). In other words, drinking alcohol is a normal behavior for adolescents in Western societies, where many begin drinking at a very early age. For example, 35% of Australian adolescents aged 14 to 17 reported that they drink at a risky level (AIHW 2005). In the United States, around 25% of the entire population are binge drinkers, whereas almost 10% are heavy drinkers (National Institute of Alcohol Use and Alcoholism 2012). In Turkey, around 20% of youth try alcohol before they turn 14 (TUIK 2013). These figures support Velleman et al. (2005), who assert that alcohol misuse among adolescents is common in most countries.
Alcohol consumption may lead to many adverse health outcomes for youth. Alcohol misuse, in particular, is a growing problem that may have fatal consequences. It is one of the leading causes of deaths and hospitalization for young people (Hayes et al. 2004). Ward and Snow (2008) suggest that alcohol misuse causes other negative consequences both in the short term (such as depression, suicide, aggression etc.) and in the long term (such as chronic alcohol-related diseases). According to the Australian Institute of Health and Welfare’s 2005 report, alcohol misuse is one of the most prominent reasons for illness among young people. Moreover, the human brain tends to progress rapidly during the adolescence period (De Bellis et al. 2000). However, due to its high levels of toxins, alcohol consumption may slow down the maturation process of youth’s brains (Moss 2008; Scott and Grice 2005; Ward and Snow 2008).

Social Problems Caused by Alcohol

Beyond health-related problems, alcohol misuse also causes social problems for adolescents. For example, young people consuming alcohol tend to have more conflict with both their friends and family members (Velleman et al. 2005). Furthermore, their tendency to commit crimes increases and they display behaviors that deviate from social norms and violate the rights of others (Kaner 2001). Another important point is that adolescents differ substantially from adults in terms of their drinking behavior. For example, adolescents are much more likely to drink alcohol to get drunk compared to adults who tend to prefer social drinking (Chikritzhs et al. 2003). Furthermore, adolescents tend to take more risks while drinking than adults (Carr-Gregg 2005). Combined with this risk tendency, the binge drinking patterns of adolescents may contribute to even further negative consequences for them.
Role of Family

Since family has a crucial role in the socialization process of adolescents, parents may have an influence on the alcohol consumption patterns of young people. In fact, family characteristics are considered key factors in both the prevention and the delay in the onset of alcohol consumption for adolescents (Velleman et al. 2005). Specifically, good parenting may prevent or delay alcohol consumption as it provides social support to the adolescents (Burcu 2003; Repetti et al. 2002; Sullivan and Wilson 1995; Tolan et al. 1986; Vazsonyi and Belliston 2007), and encourages adolescents’ conformity to the social norms of the society (Burcu 2003).

Purpose of the Study

This study will examine the effects of family relations on the alcohol consumption of Turkish adolescents. It proposes to determine how parental attachment, parental monitoring, time spent with family, parents’ religiosity, family financial situation, and negative life events in the family help to predict alcohol consumption among adolescents in Turkey. Finally, this study will help to inform alcohol misuse prevention programs for adolescents by highlighting the role of family relations.

Research Questions

The research questions addressed in this study are as follows:

1. Do family relations have an impact on the alcohol consumption of Turkish adolescents?
2. Do social bonding theory, strain theory, and general strain theory explain the association between alcohol consumption and family relations of Turkish adolescents?

Significance of the Study

The applicability of social bonding theory, strain theory and general strain theory has been tested for Western adolescents. However, there are few studies that include social bonding and
strain theories conducted in Turkey (Isir 2007; Ozbay and Ozcan 2006; Ozbay 2008). To what extent the hypothesized links between family relations and adolescents’ alcohol consumption have empirical support in Turkey and other non-Western cultures remains unknown. This study may indicate that these Western-oriented theories are replicable with regards to family relations and alcohol consumption in other parts of the world.

To the best of the researcher’s knowledge, there is no empirical study examining the role of family in alcohol consumption at the high school level in Turkey. There are some Turkish studies focused on the relationship between family and delinquent behaviors. However, they do not include alcohol consumption in their analysis (Isir 2007; Ozbay and Ozcan 2006; Ozbay 2008). Also, these studies are often conducted at the university level. The present study will utilize high school students as its sample. High school students are likely to provide better insight into the nature of adolescents’ alcohol consumption than university students who may be of all different ages and not considered “adolescents.” Also, university students are more likely to live with their friends than their parents. The impact of family relations on alcohol consumption tends to be weaker than the impact of friendship relations for university students. However, a great majority of high school students in Turkey live with their parents. Therefore, it is more appropriate to focus on high school students to explain the impact of family on students’ alcohol use.

Another important point is that this study will be conducted in Turkey, a “gray area” located between Islamic and Western societies, both physically and in terms of culture. Although Turkey is a secular state, more than 95% of the population is Muslim (Joshua Project 2014). Thus, Turkish people are very likely to be under the indirect influence of Islamic rules in most aspects of their lives. Ozbay and Ozcan (2006) state that the social bonds are stronger in Islamic societies than in Western societies. These stronger bonds in collectivistic Islamic societies may have a larger impact
on people’s behaviors compared to individualistic societies, such as Australia, Canada, Great Britain, and the United States. Moreover, Islam prohibits alcohol. Thus, alcohol consumption of adolescents is not only forbidden by legal forces, but it is also morally forbidden in countries with large Muslim populations. This may cause Turkish adolescents to display unique attitudes towards alcohol. Although there are empirical studies conducted in Western societies about the family and adolescents’ alcohol consumption, it will be interesting to test the family and alcohol relationship in Turkey’s Islamic-Western “gray area” environment.

Finally, adolescents are very important to the future of society. They will soon become adults and constitute the essence of society in the near future (Burcu 2003). Therefore, it is highly beneficial to determine the family factors that affect adolescents’ alcohol consumption. Once these factors are determined, they can provide a significant contribution to alcohol prevention programs for adolescents.
CHAPTER 2
THEORETICAL FRAMEWORK

This study will utilize Hirschi’s (1969) social bonding theory and Agnew’s (1995) general strain theory to explain the role of family in alcohol consumption among Turkish adolescents. First, these two theories are explained briefly. Then, an integrated perspective of these theories is presented in the paper.

Social Bonding Theory

Social bonding theory is one of the most prominent control theories (Akers 2000), as well as one of the most tested criminological theories (Lanier and Henry 2004). It has been almost half a century since Hirschi (1969) first proposed social bonding theory. However, as Gottfredson (2006) expressed, it still maintains its validity. Akers (2000) explains why social bonding theory has remained so prevalent in criminology for this long. Primarily, it is an easy theory to understand with its straightforward assumptions. Also, the concepts in the theory are well supported by clear empirical measures. Hirschi’s syntheses of theory, concepts, and empirical testing is still a model for researchers today (Akers 2000). Although this well constructed theory has been tested many times, there are few studies using social bonding theory to explain delinquent behaviors and there is no study on alcohol consumption in Turkey.

This theory suggests that an individual with a higher level of social bonding in society is less likely to display delinquent behaviors. There are four main elements in Hirschi’s (1969) social bonding theory: “attachment,” “commitment,” “involvement,” and “belief.” He acknowledges these four elements as the determinants of delinquency or crime. These elements are explained below:
Attachment

As Ozbay and Ozcan (2006) explain, attachment refers to an individual’s bonds to his/her parents, friends, and other significant others. The current study will focus on parental attachment and parental monitoring. Parental attachment is the idea that children and adolescents take their parents’ thoughts into consideration when making decisions about their behaviors (Akers and Sellers 2004). Parental attachment encourages adolescents to conform to conventional behaviors and avoid delinquent and criminal behaviors (Akers 2000).

Commitment

Commitment is one’s dedication to the accepted goals in a society (i.e. attending college or university, getting a job). Individuals who strive for these goals do not want to risk achieving them by displaying delinquent behaviors or committing crimes (Akers and Sellers 2004). Thus, adolescents with less commitment to societal goals will have less achievement to risk, and they will be more likely to display delinquent behaviors. There will not be an independent measure of commitment in this study.

Involvement

Involvement refers to spending time in conventional activities such as sports and education (Lanier and Henry 2004). Adolescents who participate in conventional activities with their friends or families lack the time needed for delinquent activities (Akers 2000). Spending time with family will be included in this study to predict adolescent alcohol consumption.

Belief

Belief refers to one’s acceptance of the moral values of society (Akers 2000). These values can be both legally codified laws and social norms (Lanier and Henry 2004; Ozbay 2008). People who do not respect these conventional values and norms are more likely to engage in delinquent
behaviors (Akers 2000). Since this study examines family’s impact on alcohol consumption, parent’s religiosity will be included in the analysis. Parents with higher religiosity are less likely to approve alcohol consumption. Thus, parents’ religiosity would be negatively related with adolescents’ alcohol consumption. Briefly, these social bonding variables are expected to be negatively related to the alcohol consumption of adolescents.

Strain Theory

Before explaining Agnew’s (1992) general strain theory, it would be useful to mention Merton’s (1968) strain theory, upon which Agnew’s theory expanded. Merton (1968) asserted that “unfulfilled desires” lead to delinquent behaviors. For instance, money is valued in society. When people cannot get it through hard work, they may tend towards delinquent behaviors such as stealing (Ozbay 2008). Also, strain theory suggests that lower classes are more likely to exhibit delinquent behaviors because they lack material resources to fulfil their desires. They may display these behaviors to overcome their inadequacy (Merton 1968). The present study will include family economic strain as a factor to explain adolescents’ alcohol use. Poor economic conditions may create strain in the family, and this strain may cause adolescents to display delinquent behaviors.

General Strain Theory

The classical strain theory of Merton (1968) has been exposed to several theoretical criticisms. Particularly, it is considered a narrow conceptualization of strain (Moon et al. 2008). Therefore, Agnew (1992; 2006) proposed the general strain theory to modify Robert Merton’s (1968) classical strain theory (Cheung and Cheung 2010). While Merton’s (1968) strain theory focuses on macro level factors that cause strain, Agnew’s (1992; 2006) general strain theory highlights the importance of micro level factors that may produce strain. These micro level factors
generally refer to negative personal relationships with peers, family members, etc. (Botchkovar 2009). According to Agnew (1995), when adolescents have negative relationships at home, they experience strain that may cause delinquent behaviors. These behaviors are generally seen as an escape from or means to alleviate the existing strain (Botchkovar 2009).

In general strain theory, there are three sources of strain: failure to achieve goals, lacking positive stimuli, and having negative stimuli (Agnew 2006; Cheung and Cheung 2010). Moon et al. (2008) explain each of these sources very well. According to their explanation, failure to achieve goals refers to the difference between one’s expectations and their actual achievements. A person may want to graduate from a university. If he or she cannot achieve this goal, this may cause strain and eventually delinquency. Lacking positive stimuli occurs while experiencing stressful life events and loss, such as divorce or death of family members. Finally, having negative stimuli is the result of both emotional and physical abuse. The strain produced by these sources creates anger, frustration, and pressure to engage in delinquent behaviors as a “corrective action” (Agnew 2006).

Agnew’s (2006) contribution to Merton’s (1968) strain theory is that psychological factors, in the form of “negative emotions” (at the micro level), also have an impact on delinquent behaviors (Lanier and Henry 2004:276). This contribution has been acknowledged as a significant theoretical development in delinquency research in recent years (Cheung and Cheung 2010). According to Moon et al. (2008), with Agnew’s (2006) ongoing contributions and modifications, general strain theory maintains its validity among crime and delinquency researchers.

Although there have been numerous studies using general strain theory in Western literature, they do not offer strong conclusions about the relationship between strain factors and delinquency (Botchkovar 2009). Moreover, there are only a few studies conducted in non-Western
countries, most of which are in Asia (Bao et al. 2007; Moon et al. 2008). The relative weakness of strain theory to explain delinquent behaviors is linked to the moderation effect of some social bonding factors, including religiosity (Jang and Johnson 2005). The current study will provide an important contribution to the literature for the following reasons: First, it is conducted in a non-Western social environment in Turkey. Second, it incorporates both social bonding factors and strain factors in the analyses.

Since the present study focuses on families and adolescents, both strain theory and general strain theory will be utilized to explain the impact of family on adolescents’ alcohol consumption. While family economic strain will be included as a macro factor, negative relationships within families (i.e. violence and conflict in family) will be included as micro level factors to explain the relationship between strain and adolescents’ alcohol consumption. In short, strain within the family is expected to increase alcohol consumption of adolescents.

An Integrated Perspective of Social Bonding and Strain Theories

One of the first efforts to integrate social bonding and strain theories was conducted by Elliot et al. (1979). They proposed integrating social bonding and strain theories to explain delinquent behaviors. Their integrated theory assumes that the early socialization experiences of adolescents differ. That is, different adolescents have different commitment and integration levels in terms of conventional social groups. The authors suggest that the strength of adolescents’ initial social bonds affects the relationship between failure to achieve conventional goals and delinquent behavior. If an adolescent has strong initial bonds, limited opportunities to achieve conventional goals may produce strain and ultimately delinquent behavior. However, when an adolescent has weak initial social bonds, strain caused by limited opportunities has little or no impact on delinquent behaviors.
One of the scholars who drew attention to the relationship between social bonds and strain is Agnew (2001), the proposer of general strain theory. He expressed that when one’s social bonds to family members and friends are weak, he or she is more likely to display delinquent behaviors under stressful conditions. Not only do individuals with stronger social bonds face an increased cost of committing a crime, they also tend to have better emotional and cognitive abilities and are better supported socially and financially. Thus, they are less likely to display delinquent behaviors and commit crimes compared to individuals with weaker social bonds (Moon et al. 2008).

In a more recent study, Ozbay (2008) proposes a similar integration of social bonding and general strain theories. According to him, the impact of social bonding variables is stronger than the impact of strain variables. While Ozbay’s (2008) study is focused on general delinquency, the current study focuses specifically on family relations and alcohol use. Thus, the present study will fill an important gap in the literature.

**Statistical Models**

In order to explain the impact of family relations on alcohol consumption among adolescents, there are four statistical models in the analysis. The first model includes the control variables. The second one includes the control variables and the social bonding variables. In the third model, control variables and strain variables are used. Finally, the fourth model contains control variables, social bonding variables, and strain variables at the same time. This type of analytical strategy enables the present study to explain the independent effects of demographic factors, social bonding factors, and strain factors. Also, when both social bonding and strain variables are included in the same model, the changes in significance values and coefficients can be observed and compared to their independent effects.
CHAPTER 3
LITERATURE REVIEW

There are not many tests of crime theories in the Turkish literature. However, some scholars have recently begun to test these theories in Turkey (Kaner 2001; Ozbay 2002; Yilmaz 2002). Social bonding theory and general strain theory have been the most popular ones to test (Ozbay 2008). Despite the recent efforts to test crime theories, Ozbay’s (2008) study is the only one that tests social bonding and general strain theory simultaneously. Using these two theories, he tries to explain adolescents’ delinquent behaviors such as hitting others, attacking someone, being involved in fights, and damaging public property. Neither Ozbay’s (2008) study nor any other study that uses social bonding and general strain theory have examined adolescents’ alcohol drinking in Turkey. This makes the current study a unique one. Moreover, the present study includes the impact of family relations on alcohol consumption into the analyses. Finally, most studies in Turkey do not include key social bonding variables (commitment, attachment, involvement, belief) and strain variables (economic strain, death, divorce, witnessing argument, witnessing violence, and sexual abuse) as a whole (Delikara 2002; Kaner 2002; Yilmaz 2002). The present study, however, is a very comprehensive in its inclusion of both social bonding and strain variables.

Ozbay and Ozcan (2006) state that social bonding variables are often consistent in the Turkish literature. However, this consistency has mostly been observed in the school setting through measures such as attachment to teachers and school commitment. There is no study testing social bonding variables at home. Thus, the current study tests social bonds at home and their impact on adolescents’ alcohol consumption through parental attachment, parental monitoring, time spent with family, and parents’ religiosity.
As for strain variables, economic strain is somewhat consistent in the Turkish literature (Ozbay 2008). However, no study examines the impact of other types of strain experienced within the family environment. The present study will make an important contribution to the literature as it explores the effects of various family strain variables, including death of a family member, divorce of parents, arguments of parents, violence in the family, and sexual abuse in the family on adolescent alcohol use.

Social Bonding Literature

Previous studies have considered the family as a key factor in preventing and delaying alcohol consumption among adolescents (Velleman et al. 2005). They generally examined the effects of parental attachment, parental monitoring, conflict within the family, economic condition of the family, etc., on adolescents’ alcohol consumption. As Burcu (2003) summarizes, social control is among the most important functions of the family. When this function does not work well, adolescents tend to exhibit delinquent behaviors, including alcohol consumption.

Parental Attachment

Fagan et al. (2007) suggested that high parental attachment is needed to decrease alcohol consumption among adolescents. This attachment notion refers to the bonds between family and children. Stronger family-child bonds are associated with less alcohol consumption among adolescents (Kandel et al. 1987; Catalano and Hawkins 1996). Moreover, these stronger bonds also decrease alcohol consumption indirectly as they lead adolescents to non-drinker friends (Bahr et al. 1995). This relationship can be explained by the finding that families with weaker bonds lack control over their children (Doherty and Allen 1994). Also, stronger family-child bonds may delay the onset of alcohol consumption (Duncan et al. 1995). This may be an important finding because when people delay their onset of alcohol consumption, they may develop in maturity before they
start drinking. However, if people begin drinking alcohol at earlier ages, they may not be fully aware of the negative consequences they may encounter due to drinking (Spoth et al. 1999). Many scholars found that a high level of communication is necessary to strengthen family-child bonds (Brook et al. 1990; Coie et al. 1993; Kosterman et al. 2001). Higher communication is expected to decrease alcohol consumption among adolescents (Engels et al. 2007; Yoshikawa 1994).

Although the Western literature suggests that parental attachment is negatively associated with alcohol consumption among adolescents, Cenkseven-Onder et al. (2010) did not find a significant effect of parental attachment on various outcomes, including internal and external conflicts of Turkish adolescents.

With its Muslim and Middle Eastern influence, Turkish culture includes certain social norms that differ compared to Western countries, such as more interdependence and stronger family relations (Hortacsu et al. 1993). According to a recent study by Varan et al (2008), empirical findings show that most adolescents consider their parents warm and loving in Turkey. Similarly, Kagitcibasi and Sunar (2002) define Turkish family relations as a culture of relationships with strong emotional intimacy and substantial support among family members. The excessive warmth and love exhibited to the adolescents in Turkey may decrease the importance of parental attachment as a predictor of adolescents’ alcohol consumption in the country.

The “attachment” element in Hirschi’s (1969) social bonding theory and the related Western literature inform the first hypothesis in this study. However, we are aware that the impact of parental attachment on adolescents’ delinquent behaviors is uncertain in the Turkish literature.

H1: The level of attachment to parents is negatively associated with alcohol consumption among Turkish adolescents.
Parental Monitoring

Parental monitoring is another factor that affects the alcohol consumption of adolescents. Parental monitoring is found to decrease alcohol consumption among adolescents, and it can also delay the onset of drinking (Barnes et al. 2006; Hayes 2004; White and Hayman 2006). Demuth and Brown (2004) found that sufficient parental control is necessary to prevent adolescents from drinking alcohol. When parents do not control their children sufficiently, alcohol consumption tends to increase among adolescents (Harris-McKoy and Cui 2013). Ward and Snow (2008) stated that adolescents are more likely to drink alcohol at private parties with their peers where parental monitoring is reduced. Salom et al. (2005) also mentioned that it has become very common for adolescents to drink alcohol at school parties that are organized at the end of the year. Thus, parents need to monitor their children by knowing where they are and what they are doing (Hayes et al. 2004). However, this monitoring should be supported by an affectionate relationship between parents and adolescents in order to be effective. Otherwise, an “authoritarian monitoring” style may actually lower the level of trust in the parent-child relationship (Stattin and Kerr 2000).

According to Okorodudu (2010), implementing harsh discipline on children increases their delinquent behaviors including alcohol consumption. Instead, he suggests that warmth and affection should constitute the essence of the family relations. Furthermore, Hayes et al. (2004) argued that although parents may monitor their children in terms of where they are and what they are doing, they often do not know about their children’s alcohol consumption. That is, parents underestimate how much alcohol their children consume. Moreover, alcohol consumption of adolescents is even becoming naturalized by some parents. Almost half of the parents do not consider “underage drinking” a problem (Taylor and Carroll 2001). The “involvement” element of social bonding theory and findings from previous studies lead to the following hypotheses:
H2: Greater parental monitoring is associated with lower likelihood of alcohol consumption among Turkish adolescents.

H3: More time spent with the family decreases the likelihood of consuming alcohol among Turkish adolescents.

Parents’ Religiosity

Rules about alcohol misuse are found to have an impact on alcohol consumption among adolescents. These rules are likely to delay the onset of alcohol consumption, controlling for other factors (Van der Vorst et al. 2007; Van Zundert et al. 2006). When parents establish alcohol prevention rules, the alcohol consumption rate of adolescents tends to decrease. Parents’ disapproval of alcohol at an early age prevents or postpones the onset of drinking among adolescents (Jackson et al. 1999; Wood et al. 2004). Thus, parental norms have a significant impact on the alcohol consumption of adolescents. Dishion and McMahon (1998) asserted that the anti-alcohol attitudes of parents are likely to decrease adolescents’ drinking level. Furthermore, they argued that anti-alcohol values are stronger in the United States than in Australia. According to them, these stronger values play an important role in the two country’s different levels of alcohol consumption among adolescents. Also, Bjarnason et al. (2002) expressed that countries with less sympathy towards adolescent’s alcohol consumption may have lower youth drinking rates than countries that are more tolerant towards it. Considering Turkey’s more conservative orientation towards alcohol compared to Western societies, we can expect that the impact of anti-alcohol attitudes of parents will be even stronger among Turkish adolescents. The “belief” element is used along with the previous literature to inform the next hypothesis:

H4: Higher parental religiosity is associated with lower alcohol consumption among Turkish adolescents.
Strain Literature

*Family Economy*

According to previous studies, the relationship between family economic condition and adolescents’ alcohol consumption is unstable. While some studies found that adolescents in wealthier families drink more alcohol than poor families, other studies came to the opposite conclusion (Hayes et al. 2004). Burcu (2003) claims that very rich and very poor families are not interested in their children enough. She proposes specific reasons for this situation. Very poor families face unemployment, working mothers with little children, and working adolescents. Very rich families, on the other hand, have an environment in which adolescents are too independent, where they can engage in delinquent behaviors behind their parents’ back. According to Hawkins et al. (1992), low economic status is associated with increased adolescent alcohol consumption only in extreme poverty. However, they warn that this extreme poverty may induce other factors (such as family conflict and violence) that may increase the alcohol consumption of adolescents. Since the impact of family economic status has an uncertain relationship with adolescents’ behaviors in the current literature, it will be interesting to test it in Turkey.

**H5:** Experiencing financial problems in the family is likely to increase the probability of alcohol consumption among Turkish adolescents.

*Negative Life Events in Family*

There are not many studies about the relationship between conflict in the family environment and alcohol consumption. Yet, Ary et al. (1999) found that a high level of family conflict leads to increased alcohol consumption among adolescents. Similarly, in a more recent study, Esmaeili and Yacoob (2011) found that there is a positive relationship between the level of family conflict and adolescents’ alcohol consumption. Moreover, Demuth and Brown (2004)
stated that negative life events such as parental divorce and death of a family member may also cause adolescents to drink alcohol. With the support of the relevant literature, general strain theory suggests the last hypotheses in the current study:

H6: Experiencing negative events within the family is likely to increase the probability of alcohol consumption among Turkish adolescents.
CHAPTER 4

METHODS

This study incorporates logistic regression analyses to indicate how parental attachment, parental monitoring, time spent with family, parents’ religiosity, family economic condition, and negative life events in the family predict alcohol consumption among adolescents in Turkey.

Data

In this study, a part of the Youth in Europe (YIE) project data is used. YIE is an international project aimed at preventing drug use among young people. It is a research oriented survey conducted in cooperating member cities of the European Cities Against Drugs (ECAD) organization (Sigfussdottir 2012). In 2008, data for the project were collected in Bagcilar, a district of the city of Istanbul, Turkey. The data was collected at one point in time, and thus, it is cross-sectional (Engin 2008).

With a population of over 750,000, Bagcilar is the most crowded district of Istanbul and the fifth most crowded district in Turkey. The average income of families in Bagcilar is below the national level (TURKSTAT 2013).

Sample

The target population of this study is 10th grade students in Bagcilar. There were a total of 162 classes of the tenth grade in Bagcilar in 2008. Using a random sampling technique, 85 of those classes were selected for the study. The sampling frame was created using Bagcilar Public School District records. After being translated into Turkish, the mother language of the sample, the survey was administered to all students in the 85 selected classes. The total number of students who were given the survey was 2,898, while 2,740 students completed it, yielding a response rate of almost 95%. In the end, there were 2,457 valid cases (Altuner et al. 2009).
Measurements of the Variables

**Dependent Variable: Alcohol Consumption**

The dependent variable in this study is alcohol consumption. Each respondent was asked how often he or she had consumed beer, alcopops, wine, or spirits during the last 30 days. Offered responses ranged from (1) never to (7) 40 times or more. Since the alcohol consumption variable is positively skewed, meaning most of the cases are (1) never, logistic regression will be used in this study. The distribution of the dependent variable does not allow us to conduct an OLS regression (Allison 1999). After recoding, the dependent variable will become a dichotomous variable with two response categories: (0) did not drink alcohol of any kind in the last 30 days and (1) drank alcohol of any kind in the last 30 days.

**Independent Variables**

Since social bonding theory and general strain theory are used in this study to explain the role of family in alcohol consumption among Turkish adolescents, the independent variables will be categorized as social bonding variables and strain variables.

The first independent variable related to social bonding theory is parental attachment. The parental attachment index is a combined measure of five specified parental attachment items. The index demonstrates high internal consistency (alpha = .735). Higher values in the parental attachment scale indicate higher levels of parental attachment.

Another independent variable of social bonding theory is parental monitoring. It will be measured with an index composed of eleven statements about children’s monitoring by their parents. The reliability coefficient for this index (alpha = .807) is also above the standard for scales.
used in etiological research (Thorndike 1971). Higher levels of parental monitoring is indicated by higher values on the parental monitoring index.

Time spent with family is also included in the study as an independent variable. This variable is a combined measure of the time adolescents spend with their parents on the weekdays and on the weekends. An alpha of .736 suggests that there is high internal consistency for this measure. It is a five point scale and higher values are associated with more time spent with family.

Parents’ religiosity is the last independent variable of social bonding theory. The level of parents’ religiosity is measured with a scale composed of the father’s religiosity and the mother’s religiosity. The reliability coefficient for this scale is very high (.941). With this four-point scale, higher values indicate higher levels of religiosity.

Family economic strain is the first independent variable related to general strain theory. It is measured with a combination of four statements about families’ economic condition. The alpha level for this combined measure (.799) suggests a high internal consistency. In this scale, higher values represent higher level of economic strain.

The other independent variable related to general strain theory is a combined measure of certain negative life experiences of adolescents. These events include divorce of parents, witnessing parental arguments, witnessing physical violence at home, death of a parent or a sibling, and sexual abuse by family members. The negative life experiences index has high internal consistency with an alpha level of .721. For each of these events, respondents were asked if they had experienced any of these events in the last 30 days, in the last 12 months, or more than 12 months ago. Higher values are associated with more negative life events experienced.

*Control Variables*
In order to reduce any spurious relationships between the dependent variable and the independent variables, seven control variables are included in the current study. These are age, gender, family structure, mother’s employment, father’s employment, mother’s education, and father’s education.

Age and gender are acknowledged as very important factors in criminology literature. Therefore, they are often included as control variables in empirical studies (Felson et al. 2011; Ozbay 2008; Ozdemir et al.; 2013; Sigfusdottir 2012). The original form of the gender variable is divided into two categories: (1) boys and (2) girls. Since this is a nominal variable, one dummy variable will be created for gender. After recoding, the gender of adolescents will be coded as (1) boy and (0) girl. “Girls” will be the reference group. The target population of the present study is 10th graders who are 14 or 15 years of age. However, the ages of adolescents surveyed ranges from 12 and 18. Thus, age is controlled in this study to see if it has any effect on the dependent variable.

Besides these commonly used control variables, family structure, mother’s employment, father’s employment, mother’s education, and father’s education are also included as control factors. They are related to the characteristics of the family environment that can effect adolescents’ alcohol consumption.

Family structure is included as a control variable because living with both biological parents may increase parental attachment, parental monitoring, and time spent with family compared to other living arrangements. Although family structure may have some impact on the social bonding factors, it is not a direct measure of any of the components articulated in the theory. Therefore, family structure is included as a control variable. Also, it has been commonly used as a control factor by previous studies (Ozdemir et al. 2013; Sigfussdottir 2012). The question for family structure asks with whom the adolescent lives. Although there are a number of response
categories for this question, they will be collapsed to form a dichotomous variable with 1 = “living with both biological parents” and 0 = “living in other arrangements.”

As for parents’ employment, working full-time outside the home can decrease the level of parental attachment, parental monitoring, and time spent with family compared to other employment statuses. However, parents’ employment cannot be categorized under any of the components of social bonding theory. Thus, it is a control factor in the current study. The response categories for the question about both mother’s and father’s employment status are numerous. However, this study focuses on parents who work full-time outside the home. Therefore, two dummy variables will be created: one of them will be for mother’s employment status, and it will be coded as (1) mother works full-time outside the home and (0) other. The other dummy variable will be for father’s employment status, and it will have two response categories: (1) father works full-time outside the home (0) other.

Another factor that may affect adolescents’ alcohol consumption is parents’ education level. Parents with low education may have an authoritarian approach towards their children and therefore they may not approve adolescents’ alcohol consumption. On the other hand, parents with high education may be better aware of the social and health related problems of alcohol consumption among adolescents. For both variables, the response categories range from (1) Primary school or less to (7) Graduated from a university.

**Analytical Strategy**

As mentioned earlier, binary logistic regression analysis is used to analyze the effects of the independent variables on the dependent variable because the dependent variable, alcohol consumption, is positively skewed, most of the cases are (1) never. Conducting OLS regression is not possible due to the distribution of the dependent variable.
There are four models estimated in the study. The first model regresses the dependent variable alcohol consumption on all control variables. In the second model, the dependent variable is regressed on the control variables and the social bonding variables (parental attachment, parental monitoring, time with family, and parents’ religiosity). The third model regresses the dependent variable on the strain variables (family economic condition and negative life events). Finally, in the fourth model, the dependent variable is regressed on the control variables and all the independent variables (social bonding and strain). SPSS 22 software for Windows was utilized to perform the statistical analysis in this study. Multi-collinearity diagnostics checks were run, revealing no issues. All tolerance values are above 0.2 (lowest=0.810) and all variance inflation factors are under 5.0 (highest=1.234) (Allison 1999:142).
CHAPTER 5

RESULTS

Descriptive Statistics

(Table 1 about here)

The minimum and maximum values, means, and standard deviations of the variables in the current study are presented in Table 1. According to the descriptive statistics table, almost 13% of the adolescents who participated in the study drank alcohol of any kind during the last 30 days before the study was conducted. The average age is 14.64 years. The mean score for the gender variable is .5061, indicating that around 51% of the respondents in the current study are male. Furthermore, around 92% of the adolescents who participated in the study live with both biological parents, as the mean score for family structure variable is .9205. While almost 66% of the participants’ fathers work full-time outside the home, only around 10% of their mothers work full-time outside the home.

As for the social bonding variables, the mean score of the parental attachment variable is 2.97. This indicates that, on average, participants reported rather high parental attachment (Range 1-5). Also, a 2.95 mean score for the parental monitoring variable suggests that, on average, the participants reported a high level of parental monitoring (Range 1-4). The mean score for time spent with family is 3.71 indicating that on average participants spend time with their parents somewhere between sometimes and often. Parents’ religiosity has a mean score of 3.21. This shows that, on average, participants report that having religious parents applies to them rather well.
Finally, the descriptive statistics for strain variables are also presented. The mean score for family economic strain is 2.17. This value implies that participants experience economic strain in their families between seldom and sometimes. On the other hand, a mean score of .91 for negative life events variable indicates that adolescents in the sample, on average, experienced around one of the seven events that constitutes the negative events scale.

Multivariate Analyses

(Table 2 about here)

Logistic regression estimates are presented in Table 2. There are four models in the analyses. Since the Pseudo $R^2$ of the fourth model (.183) is higher than all other models, model 4 best fits the data. Therefore, the figures from the fourth model will be used to interpret the empirical results. Also, model 4 has the lowest -2 log-likelihood (1389.14) and the highest model $\chi^2$ (215.66).

Parental attachment has a significant effect on alcohol consumption among Turkish adolescents ($B=.292$, $p\leq .05$). However, in contrast to expectations, this relationship is positive. That is, on average the odds of alcohol consumption increase by 34% with each additional level of increase in attachment to parents, all else equal (Odds ratio=1.34). Therefore, the results are exactly the opposite of the first hypotheses. An explanation for this result may be the following: Similar to the positive effect of excessive parental control on alcohol consumption, excessive love and affection experienced by the children can increase the odds of alcohol consumption among adolescents. Especially among Turkish families, the substantial love and care shown to the children can decrease the supervision of parents and the discipline over adolescents. Therefore, this result suggests that there should be an equilibrium between parental attachment and parental control factors to minimize the odds of consuming alcohol among Turkish adolescents.
As predicted in the second hypothesis, parental monitoring has a significant negative effect on adolescents’ alcohol consumption (B = -.362, p ≤ .01). On average, the odds of alcohol consumption decrease by 30% with each additional level of increase in parental monitoring controlling for other factors (Odds ratio = .70).

The third hypothesis is supported by the empirical findings. Time spent with family has a significant negative effect on alcohol consumption among Turkish adolescents (B = -.437, p ≤ .001). On average, each additional level of increase in time spent with family decreases the odds of alcohol consumption by 35%, holding other factors constant (Odds ratio = .65).

Hypothesis 4 is also supported by the empirical findings in the study. Religiosity of parents is negatively associated with adolescents’ alcohol consumption (B = -.360, ≤ .001). On average, each additional increase in level of parents’ religiosity decreases the odds of alcohol consumption by 30%, all else equal (Odds ratio = .70).

As for general strain variables, experiencing family economic strain does not have a significant effect on alcohol consumption among Turkish adolescents. Thus, hypothesis 5 does not have empirical support. As expressed in the previous literature, the effect of family economic condition on alcohol consumption is not stable. Better results may be obtained by comparing the extremely poor and extremely rich families with other families.

Finally, experiencing negative life events in the family has a significant positive effect on adolescents’ alcohol consumption (B = .228, p ≤ .001). That is, hypothesis 6 is supported by the empirical findings. On average, each additional one point increase in the negative life events scale increases the odds of adolescents’ alcohol consumption by 26% in Turkey, controlling for all other factors (Odds ratio = 1.26).
When the control variables are examined, it is observed that age has a significant effect on the dependent variable alcohol consumption ($B=-.281$, $p \leq .01$). On average, each additional one year increase in age decreases the odds of alcohol consumption among Turkish adolescents by 24%, all else equal (Odds ratio=.76).

Another significant control variable is mother’s employment status ($B=.714$, $p \leq .001$). On average, the odds of alcohol consumption is 104% more for adolescents whose mothers work full-time outside the home compared to other adolescents (Odds ratio=2.04).

The results showed that gender, mother’s education, father’s education, and father’s employment status have no statistically significant effect on adolescents’ alcohol consumption.
CHAPTER 6
DISCUSSIONS AND CONCLUSIONS

This study investigated the impact of family relations on alcohol consumption among Turkish adolescents. It is the most comprehensive study using social bonding and general strain theories to explain adolescents’ alcohol consumption in the Turkish literature. In particular, the current study examined the effects of social bonding factors (parental attachment, parental monitoring, time spent with family, and parents’ religiosity) and general strain factors (family economic strain and negative life events in the family). Two prominent criminological theories are used in the study: social bonding theory and general strain theory. Social bonding theory suggests that weaker social bonds lead to delinquent behaviors, alcohol consumption, smoking, drug use, suicide, etc. On the other hand, general strain theory implies that economic strain and negative inter-personal relationships cause individuals to display delinquent behaviors.

In general, the present study supports the arguments of social bonding theory. Parental monitoring, time spent with family, and parents’ religiosity variables in the study indicate that weaker bonds within the family increases the odds of alcohol consumption among Turkish adolescents.

An unexpected finding is found in the relationship between parental attachment and adolescents’ alcohol consumption. Although the current study indicates that parental attachment has a significant effect on alcohol consumption, the direction of the relationship is the opposite of the hypothesized relationship. The results show that parental attachment is positively associated with adolescents’ alcohol consumption. That is, high parental attachment increases the odds of
alcohol consumption among Turkish adolescents. This finding contradicts the hypothesized relationship of social bonding theory. As explained before, Western literature is quite consistent in terms of the parental attachment factor. However, studies conducted in Turkey failed to indicate a significant effect on various outcome including internal and external conflict outcomes (Cenkseven-Onder et al. 2010). Within Turkish families, there is generally more interdependence and stronger family relations compared to Western countries (Hortacsu et al. 1993). This difference is likely the main reason why parental attachment is not a consistent predictor of alcohol consumption in the Turkish context. The excessive warmth and love exhibited to Turkish adolescents seems to decrease the importance of parental attachment as a predictor of adolescents’ alcohol consumption in the country (Kagitcibasi and Sunar 2002).

As for strain factors, experiencing negative life events is a significant predictor of alcohol consumption. That is, one of the hypotheses regarding general strain theory is supported in this study. However, the present study did not find a significant relationship between family economic condition and adolescents’ alcohol consumption. Actually, the previous empirical studies did not suggest a stable relationship between family economic strain and the dependent variable. Some studies suggest that adolescents in very rich and very poor families are more likely to consume alcohol than others (Smart et al. 2004). For very poor families, unemployment, working mothers with small children, and working adolescents increase the odds of adolescents’ alcohol consumption. On the other hand, being too independent causes adolescents in very rich families to consume alcohol (Burcu 2003). In the current study, no significant relationship is found between family economic strain and alcohol consumption. The lack of empirical support is likely to be the result of the unstable structure of economic condition as a predictor of alcohol consumption. That is, the odds of consuming alcohol tend to increase for both very poor and very rich adolescents,
but not for others. Therefore, the family economic strain variable used in the present study may fail to indicate a significant effect on the dependent variable.

Finally, mother’s employment status has a significant effect on the dependent variable. Adolescents whose mothers work full-time outside the home have increased odds of consuming alcohol than other adolescents. This may be an important finding to prevent alcohol risk behaviors among adolescents.

Policy Implications

The present study suggests a number of policy implications. First of all, family plays an important role in preventing adolescents from consuming alcohol. The role of family in alcohol consumption can be twofold: It can increase the odds of consuming alcohol for adolescents, or alternatively, it can also decrease the odds. Therefore, families should be involved in alcohol consumption prevention programs.

Another important point is that parents need to monitor their children to prevent them from consuming alcohol. The present study indicates that adolescents with lower parental control are more likely to consume alcohol than adolescents with higher parental control. In particular, parents need to know where their children are and what they are doing.

Since setting definite rules about alcohol consumption is likely to decrease alcohol consumption among adolescents, parents should set clear and definite rules to prohibit this behavior among their children. Parents should clearly express that it is not appropriate for children to drink alcohol, and just as they need to become adults in order to drive, they need to become adults before they begin drinking alcohol. Setting these rules when adolescents are very young will decrease the odds of alcohol consumption significantly among adolescents. As mentioned, even
delaying the onset of alcohol consumption is very important for decreasing the possible social and health problems associated with alcohol.

The current study makes another implied point about the relationship between parents. For instance, parents should not argue with their children. Arguments are less likely to be useful and constructive for family problem solving. During arguments, both sides only try to impose his or her ideas on the other person. There is no empathy in this process. Instead, parents should communicate by speaking calmly. They should clearly explain the harms that alcohol can cause. Also, parents should not argue with each other in front of the children. These negative interpersonal relationships between parents have various adverse effects on the children, including increased odds of alcohol consumption.

Needless to say, parents should not use physical violence on their children. Although physical violence can cause a large number of unfavorable outcomes on the children, it also increases the odds of alcohol consumption. Similarly, witnessing physical violence also increases the probability of alcohol consumption among children. Therefore, physical violence between parents should also be eliminated. Women who are subject to violence should be protected by the authorities.

Another important implication of the study addresses divorced families. The odds of alcohol consumption is likely to increase when parents get divorced. Therefore, parents with children in the adolescence phase should reconsider their decision if they decide to get divorced. At the very least, they should provide the needed support to their children in order to minimize the negative effects of the divorce.

The results also indicate that mothers’ full-time working status has a significant positive effect on adolescents’ alcohol consumption whereas the fathers’ working status is not a significant
predictor of the dependent variable. Considering this result, parents should be aware that when both of them work full-time outside the home the odds of alcohol consumption is likely to increase for their children. Therefore, working mothers should put more effort into spending time with their children, particularly those who are adolescents.

Limitations of the Study

As mentioned earlier, the present study makes a significant contribution to the literature as it empirically examines the impact of family relations on alcohol use among Turkish adolescents. However, there are some limitations in the study.

The first limitation is about the theoretical framework used. The present study utilizes an integration of social bonding theory and general strain theory. It lacks the social learning perspective that may affect adolescents’ alcohol use. Social learning factors in the family, such as imitation of mother or father drinking behaviors, can be important determinants of adolescents’ alcohol consumption. However, the data set used in the current study does not include questions regarding the social learning process in the family environment. It only asks some questions in terms of the social learning process among peers.

The second limitation of the study is about the generalizability of the results. Since the data was collected only in the Bagcilar district of Istanbul, it is hard to generalize the results to the national level. The external validity of the results can be increased by collecting data from different areas of Turkey to create a nationally representative sample.

Another limitation related to the sample is that it consists of youth participants between the ages of 12 and 18. The main validity problem of studies using youth samples is that adolescents may give some erroneous answers to the questions in the survey. For example, adolescents from
poor families may tend to report better economic conditions on the survey due to pressures of social desirability.

Finally, the present study is a cross-sectional one. Although it may suggest correlations between variables, it is not possible to suggest causal relationships with this study. Longitudinal research is needed to explain causal relationships with regards to family relations and alcohol consumption.

Recommendations for Future Research

The present study suggests a positive relationship between full-time working status of mothers and alcohol consumption. The odds of consuming alcohol increase considerably for adolescents whose mothers work full-time outside the home compared to other adolescents. Therefore, future research should examine the effect of parents’ working status on adolescents’ alcohol consumption in more detail.

This study does not show the differences in alcohol consumption due to the school types because there is no such variable in the dataset. However, the type of school can imply important policies regarding alcohol consumption among Turkish adolescents. Further studies with multi-level modeling may reveal important relationships using school type as a predictor.

Furthermore, the current study does not contain a social learning perspective as the dataset lacks social learning variables. However, the learning process of adolescents may make significant contributions to explain the alcohol drinking patterns of adolescents. Future studies comparing peer and parent effects on alcohol consumption among Turkish adolescents are needed.

Since this study does not have use nationally representative sample, it is not possible to generalize the results to the country level. Studies with nationally representative samples can overcome this limitation in the future.
Finally, the current study utilized a cross-sectional dataset. Thus, it can only suggest correlations between variables, not causal relationships. Longitudinal research is needed to reveal the causal relationships between family relations and alcohol consumption.
Table 1. Descriptive Statistics Predicting the Factors Affecting Alcohol Consumption among Turkish Adolescents YIE (Youth in Europe) 2008 (N = 2090)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol Consumption</td>
<td>.13</td>
<td>.33</td>
<td>.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Age</td>
<td>2.64</td>
<td>.68</td>
<td>1.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Gender (1= male)&gt;a</td>
<td>.51</td>
<td>.50</td>
<td>.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Family Structure (1= living with both biological parents)&gt;b</td>
<td>.92</td>
<td>.27</td>
<td>.00</td>
<td>1.00</td>
</tr>
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<td>Mother’s Employment (1=full-time work outside the home)&gt;c</td>
<td>.10</td>
<td>.30</td>
<td>.00</td>
<td>1.00</td>
</tr>
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<td>Father’s Employment (1= full-time work outside the home)&gt;d</td>
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<td>.47</td>
<td>.00</td>
<td>1.00</td>
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<td>Mother’s Education</td>
<td>6.11</td>
<td>1.12</td>
<td>1.00</td>
<td>8.00</td>
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<td>Father’s Education</td>
<td>5.77</td>
<td>1.12</td>
<td>1.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Parental Attachment</td>
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<td>.63</td>
<td>1.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Parental Monitoring</td>
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<td>.54</td>
<td>1.00</td>
<td>4.00</td>
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<tr>
<td>Time Spent with Family</td>
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<td>1.11</td>
<td>1.00</td>
<td>5.00</td>
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<td>Parent’s Religiosity</td>
<td>3.21</td>
<td>1.06</td>
<td>1.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Family Economic Condition</td>
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<td>.97</td>
<td>1.00</td>
<td>5.00</td>
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<tr>
<td>Negative Life Events in Family</td>
<td>.91</td>
<td>1.56</td>
<td>.00</td>
<td>7.00</td>
</tr>
</tbody>
</table>

*a*<Females> is the reference group.

*b*<Living in other arrangements> is the reference group.

*c*<Other employment status> is the reference group.

*d*<Other employment status> is the reference group.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
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<th>Model 4</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>Odds Ratio</td>
<td>B (SE)</td>
<td>Odds Ratio</td>
<td>B (SE)</td>
<td>Odds Ratio</td>
<td>B (SE)</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>-.410*** (.092)</td>
<td>.663</td>
<td>-.300** (.097)</td>
<td>.741</td>
<td>-.377*** (.094)</td>
<td>.686</td>
<td>-.281** (.099)</td>
<td>.755</td>
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<td><strong>Gender of respondent (1= male)</strong></td>
<td>.299* (.139)</td>
<td>1.348</td>
<td>-.012 (.149)</td>
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<td>.348* (.141)</td>
<td>1.417</td>
<td>.060 (.151)</td>
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<td>.698</td>
<td>-.066 (.237)</td>
<td>.937</td>
<td>-.178 (.187)</td>
<td>.837</td>
<td>.083 (.244)</td>
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<td>.984*** (.182)</td>
<td>2.675</td>
<td>.792*** (.194)</td>
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<td>.872*** (.151)</td>
<td>2.391</td>
<td>.714*** (.196)</td>
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<tr>
<td><strong>Father’s Employment (1= full-time work outside the home)</strong></td>
<td>.039 (.147)</td>
<td>1.040</td>
<td>.065 (.152)</td>
<td>1.068</td>
<td>.078 (.233)</td>
<td>1.081</td>
<td>.084 (.156)</td>
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<td>.904</td>
<td>-.068 (.57)</td>
<td>.934</td>
<td>-.120* (.056)</td>
<td>.887</td>
<td>-.084 (.058)</td>
<td>.919</td>
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<td>.927</td>
<td>-.088 (.57)</td>
<td>.916</td>
<td>-.071 (.056)</td>
<td>.932</td>
<td>-.079 (.056)</td>
<td>.924</td>
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<td>1.226</td>
<td>.292* (.121)</td>
<td>1.339</td>
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<td>-3.62** (.130)</td>
<td>.697</td>
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<tr>
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<td>.626</td>
<td></td>
<td></td>
<td>-4.37*** (.065)</td>
<td>.646</td>
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<td><strong>Parent’s Religiosity</strong></td>
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<td></td>
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<td>-3.60*** (.059)</td>
<td>.698</td>
<td></td>
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<tr>
<td>Family Economic Condition</td>
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<td>-0.075</td>
<td>0.928</td>
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<td></td>
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<tr>
<td></td>
<td>(.077)</td>
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<td>(.078)</td>
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<td>(.031)</td>
<td>(.037)</td>
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<tr>
<td>Constant</td>
<td>0.185</td>
<td>1.203</td>
<td>2.841</td>
<td>17.133</td>
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<tr>
<td></td>
<td>(.500)</td>
<td>(.706)</td>
<td>(.534)</td>
<td>(.764)</td>
<td></td>
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<tr>
<td>Pseudo R²</td>
<td>0.056</td>
<td>0.153</td>
<td>0.104</td>
<td>0.183</td>
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<tr>
<td>-2 Log Likelihood</td>
<td>1540.75</td>
<td>1426.55</td>
<td>1485.09</td>
<td>1389.14</td>
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<tr>
<td>Model $\chi^2$</td>
<td>64.05</td>
<td>178.25</td>
<td>119.71</td>
<td>215.66</td>
<td></td>
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<tr>
<td>Model Degrees of Freedom</td>
<td>7</td>
<td>11</td>
<td>9</td>
<td>13</td>
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</tr>
</tbody>
</table>

Note: B (SE) = unstandardized estimate of the logistic regression coefficient (and its standard error).

*a* <Females> is the reference group.

*b* <Living in other arrangements> is the reference group.

*c* <Other employment status> is the reference group.

*d* <Other employment status> is the reference group.

*** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$ (two-tailed tests)
REFERENCES


Kaner, S. (2001). Ana Baba denetimi ile ergenlerin suç kabul edilen davranışlar arasındaki ilişkinin incelenmesi. *An examination of the relationship between parental supervision and adolescents’ behaviors that are considered as crimes*. In, 1, 229-254.


