



Analysis of Deviant Friends' Mediator Effect on Relationships Between Adolescent Risk Behaviours and Peer Bullying, Abuse Experiences and Psychological Resilience *

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Abstract

The purpose of this study is to develop a structural equation model that explains the mediating roles of deviant friends in the relationship between high school students' risk behaviors and their childhood abuse experiences, peer bullying and also psychological resilience levels. For this purpose, data were collected from 562 students who attend Anatolian High Schools in Burdur city center. Ego Resilience Questionnaire, Peer Bullying Detection Questionnaire, Childhood Experience of Abuse Questionnaire, Deviant Friends Questionnaire and Risky Behavior Questionnaire were used as data collection tools in the study. The findings obtained within the framework of structural equation modeling revealed that deviant friends assumed a mediatory role on the relationship between adolescents' childhood abuse experiences, peer bullying, psychological resilience levels and adolescents' risk behaviors. It was asserted that, while deviant friends exhibited complete mediatory role between the relationship between childhood abuse experiences and risk behaviors, deviant friends assumed partial mediatory role on the relationship between peer bullying, psychological resilience and risk behaviors. Findings of the study were discussed in context of the literature, and some suggestions were made for future studies.

Keywords

Adolescent risky behaviors
Deviant friends
Peer bullying
Childhood abuse experiences
Psychological resilience
Structural equation modeling

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Introduction

Adolescent risk behaviors is that threaten the wellbeing of adolescents and prevent them from becoming responsible adults (Lindberg, Boggess, Porter, & Williams, 2000). The main risk behaviors are; early-period active sexual life, alcohol, smoking and drug use, dropout, suicide and antisocial behaviours, (Gençtanırım Kuru, 2010). As individuals are likely to show risky behaviors in different lifetimes, the adolescent youth is more likely to turn to risky behaviors due to the search for excitement and innovation (Steinberg, 2004). In Turkey in a study by Karakaş (2006), it has been determined that 12.2% of students enrolled in high school smoke, 23.5% of them drink alcohol and 2.3% of them use drugs at least once. Akça and Selen (2016) stated in their study that 48.5% of male students attending vocational high school are at the risk group. In another study conducted on students who have been to high school, smoking rate of students was determined as 28.1% (Çavuş, Çavuş, & Görpelioğlu, 2017). Detected rates suggest that risky behaviors are common among adolescents.

The Problem Behavior Theory grouped the risk factors and protective factors into factors that prevented the adolescents from being a healthy adult and caused the risk behaviors observed significantly in young people. According to this model, factors that increase the probability of the individual exhibiting problem behaviors are risk factors, and the factors that decrease the possibility of problem behaviors are protective factors (Jessor, 1984; Siyez & Aysan, 2007). Risk factors that increase the likelihood of adolescents exhibiting risky behaviors; alcohol history of parents, poverty, parent and friend models exhibiting deviant behavior, lack of self-confidence, risk taking tendency, and low academic success. Protective factors that reduce the likelihood of adolescents exhibiting risky behaviors are high intelligence, school quality, concerned family, compromising models, value of success, intolerance of deviance, school belonging and religious belief (Jessor, 1991).

In addition to the factors mentioned above, even being in adolescence can be a risk factor for risky behaviors. As a matter of fact, adolescence is a period of heightened vulnerability to risk behaviors because of a disjunction between novelty and sensation seeking and the development of self-regulatory competence (Steinberg, 2004). However, not every adolescent lives in this period in a similar way. However, not every teenager lives in this period in a similar way. Some of them are able to protect themselves from risky behaviors while the others lead to in risky behaviors with sensation seeking impulse of adolescence. Psychological resilience is expressed as the ability of the individual to adapt to the risk factors and to maintain normal functioning (Masten, 2001). It has been determined in the literature that individuals with high psychological resilience have less risky behaviors during adolescence and can protect themselves from risky behaviors (Arslan & Balkıs, 2016; Karimi et al., 2015). In addition to this, adolescents who are trying to adapt to physical, emotional and social changes seen in adolescence can overcome this process more healthily and compatible with family and friends support (Kurt & Ergene, 2017; Sadock & Sadock, 2012; Siyez, 2012; Uludağlı & Sayıl, 2009).

On the other hand, it is difficult for an adolescence who is treated negatively by his family or friends to complete the puberty in a healthy way. In fact, studies conducted in Turkey are shows that domestic abuse or bullying by schoolmates at school is at a high rate among children and adolescents. According to United Nations Children's Fund (UNICEF, 2010) records, 25% of children between 7 and 18 ages were neglected by their families, 51% of them are emotionally and 45% of them physically abused. Likewise, bullying rates exposed by high school students to their peers vary between 11-50% (Pişkin, 2005). Studies have shown that childhood abuse experiences are associated with substance use (Danielson et al., 2009; Mason, Russo, Chmelka, Herrenkohl, & Herrenkohl, 2017), anger and violence tendencies during adolescence (Chapple, Tyler, & Bersani, 2005; Şimşek & Cenkseven Önder, 2011), smoke (Lewis et al., 2011; Özen, Antar, & Özkan, 2007; Topitzes, Mersky, & Reynolds, 2010), problematic alcohol use (Shin, Edwards, & Heeren, 2009; Smith, Smith, & Grekin, 2014), eating problems (Dworkin, Javadani, Verona, & Campbell, 2014) and suicide attempts (Taussig, Harpin, & Maguire, 2014; Yanık & Özmen, 2002). In addition, children or adolescents who are constantly being bullied by their peers at school may also become more prone to such risky behaviors such as alcohol and substance abuse (Hong et al., 2014; Kiran, 2006; Radlif, Wheaton, Robinson, & Morris, 2012; Weiss, Mouttapa, Cen, Johnson, & Unger, 2011) and suicidal thoughts and suicide attempts (Bannink, Broeren, Van de Looij-Jansen, De Waart, & Raat, 2014; Mayes et al., 2014),

At the same time another risky factor for the adolescent risky behavior is deviant friends group. Friends who are more likely to commit crime (smoking, alcohol use, damage to property, theft) are defined as deviant friends (Sayıl et al., 2012). Many studies have shown that deviant friends are a very important factor in the adolescent risk behaviors (Cattelino et al., 2014; Çavuş et al., 2017; De Matos, 2012; Lee, Padilla-Walker, & Memmott-Elison, 2016; Negriff, Brensilver, & Trickett, 2015; Pesola et al., 2015; Wongtongkam, Ward, Day, & Winefield, 2014). In this context, it is thought that knowing the role played by deviant friends in influencing risky behaviors will contribute to prevention and intervention programs of risky behaviors. Research conducted in recent years has examined the mediator role of deviant friends in relationships between parental monitoring (Goldstein, Davis-Kean, & Eccles, 2005; Kim & Neff, 2010), parenting style (Janssen, Eichelsheim, Dekovic, & Bruinsma, 2015), abuse experiences (Negriff et al., 2015), depression (Pesola et al., 2015) peer bullying (Jiang, Yu, Zhang, Bao, & Zhu, 2016; Zhu et al., 2016) and risky behaviors. It is expected that this research will provide a holistic view for mediator effect of deviant friends in the relationship between peer bullying, psychological resilience and childhood abuse experiences and risky behaviours unlike to the previous researches (see Figure 1).

Thus, it is aimed that the developed model will lead the way while conducting preventive studies for risky behaviours for teachers and school counsellors and designing intervention programs for risky behaviours. Besides, it is aimed to guide families to protect their children against risky behaviors. To this end, in this research the question which is “Is there any mediator effect of deviant friends in the relationship between peer bullying, childhood abuse experiences and psychological resilience among adolescent risky behaviours?” has been attempted to be answered. The model to be tested is presented visually as follows.

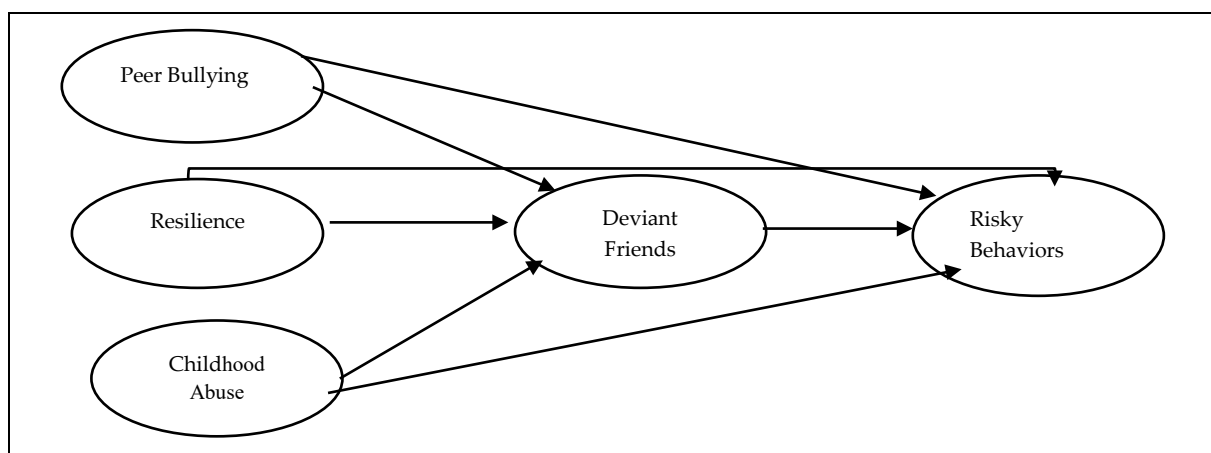


Figure 1. Recommended Structural Model

Hypotheses described below have been formed for testing the model shown in Figure 1.

- Being victim of peer bullying, childhood abuse experiences, psychological resilience is directly associated with adolescent's risky behaviours.
- There is a mediator effect of deviant friends in the relationship between peer bullying, childhood abuse experiences and psychological resilience among adolescent's risky behaviours.

Method

Research Model

This research is a relational study designed to examine the relationship between childhood abuse experiences, peer bullying, psychological resilience, deviant friends and adolescent's risky behaviours. The independent variables of the study are psychological resilience, peer violence victimization and childhood abuse experiences. The dependent variable of the study is risky behaviours. Deviant friends are identified as mediator variable.

Population and Sample

Adolescence is a period, when students are more prone to risky behaviors than other ages (Steinberg, 2004). For this reason, the research has been conducted on the students attending high school. The number of students who continue to the Anatolian High School from the Provincial Directorate of National Education and the permission to practice these students were requested. Once the required application permissions have been granted, the application process is passed. The population of the research consists of 2675 students enrolled at Anatolian High Schools in central district of Burdur province in spring term of 2014-2015 education year. The numbers of 9th, 10th, 11th and 12th classes of each high school were determined and the classes were selected randomly through random sampling method according to their class levels. The designated schools and classes have been implemented within a course hour (usually in the course of painting, music, physical education classes) which the school administration considers appropriate. One hour of course time allowed by teachers was enough to survey. During the surveys, all the classes are explained one by one so that the work done is not an evaluation and the information will not be shared with anybody. In this way, students are encouraged to answer questions about risky behaviors evenhandedly. The questions asked by students were answered instantly by the researcher, so it is tried to prevent errors that may arise from misunderstanding.

Thus, 680 students in total were reached in five High Schools. Despite all preventions, the analyses were maintained on totally 643 data set, without taking into account the missing forms (passing without filling a scale) and the forms filled with sloppy (all the same markers). Mahalanobis distance was calculated and 81 data which is multiple extreme value determined was deducted from data set and 562 data were included in the analysis. 62.3% (350 persons) of the students of the sampling are female while 37.5% (211 persons) are male. One student did not explain his/her gender. According to class levels, it is seen that 166 persons (29.5%) are first graders, 179 persons (31.9%) are second graders, 102 persons (18.1%) third graders, 114 persons (20.3%) are fourth graders.

Data Collection Tools

Personal Information Form: There are demographical questions about students' gender and class level in this form.

Risky Behaviour Questionnaire (RBQ)

RBQ has been developed by Gençtanırım Kuru (2010) in order to determine risky behaviours of secondary school's students. This scale provides information on six subscales of risky behaviors: antisocial behaviors, nutritional habits, suicide attempt, drop-out, alcohol and smoking. The five-point self-narrative type questionnaire consists of 36 items. High marks display the density of risky behaviours while low marks show low level of risky behaviours. Cronbach Alpha internal consistency coefficient of the total point of the questionnaire is .91, and test-retest reliability coefficient is .85 (Gençtanırım Kuru, 2010). In this research, Cronbach Alpha internal consistency coefficient of the questionnaire has been found as .89. In addition, confirmatory factor analysis of the questionnaire has been done. On examining RBQ's fit indexes, ($\chi^2 = 1401.59$, $N = 562$, $df = 579$, $\chi^2/df = 2.42$ $p = .00$; RMSEA = .052, NNFI = .96, CFI = .96, SRMR = .059) it has been found that it has a reasonable fit index (Çokluk, Şekercioğlu, & Büyüköztürk, 2010; Tabachnick & Fidell, 2007).

Ego Resilience Questionnaire (ERQ)

The scale was developed by Block and Kremen (1996) to determine the ego resilience (psychological resilience) levels of individuals. Kararmak (2007) carried out adaptation studies to Turkish. Total variance of the questionnaire consisting of three factors, which are insight regarding interpersonal relations, individual strong strengths for recovery and being open to new ideas has been found as 47%. The four-point Likert type questionnaire consists of 14 items. High marks collected from the scale indicate high levels of psychological resilience. Cronbach Alpha internal consistency coefficient of the questionnaire has been found as .80 and test-retest reliability coefficient .76 in validity and reliability study in Turkey (Kararmak, 2007). In this research, Cronbach Alpha internal consistency coefficient has been found as .81, fit indexes of Ego Resilience Questionnaire ($\chi^2 = 287.93$, $N = 562$, $df = 77$, $\chi^2/df = 3.73$, $p = .00$; RMSEA = .072, NNFI = .93, CFI = .94, SRMR = .055) have proved good fit and the questionnaire has been found to be appropriate for the sampling (Çokluk et al., 2010; Tabachnick & Fidell, 2007).

Childhood Experience of Abuse Questionnaire (CEAQ)

CEAQ is a questionnaire developed in order to determine childhood abuse experiences by Bernstein, Ahluvalia, Pogge, and Handelsman (1997). Validity and reliability studies of the questionnaire in Turkey were conducted by Aslan and Alparslan (1999). It has been determined the questionnaire is composed of three sub-scales which are emotional abuse and negligence, physical abuse and sexual abuse. Five-point Likert type questionnaire composed of 40 items. Cronbach Alpha internal consistency coefficient of the scale was found as .96 as a result of the fitting study Cronbach Alpha internal consistency coefficients of three sub-scales were found between .94 and .96 (Aslan & Alparslan, 1999). Cronbach Alpha internal consistency coefficient of the questionnaire in this research has been found as .85. It has been found as a result of confirmatory factor analysis that fit indexes of Childhood Experience of Abuse Questionnaire ($\chi^2 = 4770.45$, $N = 562$, $df = 737$, $\chi^2/df = 6.47$, $p = 0.00$; RMSEA = .09, NNFI = .90, CFI = .91, SRMR = .089) have proved sufficient fit for the relevant sampling (Çokluk et al., 2010; Tabachnick & Fidell, 2007).

Peer Bullying Detection Questionnaire (PBDQ)

Peer Bullying Detection Questionnaire was developed by Gültekin and Sayıl (2005) in order to determine the level of exposure to peer violence by students who attend secondary school and high school. In the development of the scale, the item pool of the Peer Bullying Victims Scale was utilized which was developed by Mynard and Joseph (2000). It was determined that the questionnaire has a five-factor structure which are terrorizing/suppression, mocking, aggression, relational aggression and aggression towards personal belongings. The three-point self-narrative type questionnaire consists of 27 items. Cronbach Alpha internal consistency coefficient of the scale was found as .86. (Gültekin & Sayıl, 2005). Cronbach Alpha internal consistency coefficient of the questionnaire in this research was found as .84. As a result of confirmative factor analysis, fit indexes of the questionnaire ($\chi^2 = 1044.62$, $N = 562$, $df = 314$, $\chi^2/df = 3.32$, $p = .00$; RMSEA = .064, NNFI = .89, CFI = .90, SRMR = .066) proved sufficient fit (Çokluk et al., 2010; Tabachnick & Fidell, 2007).

Deviant Friends Questionnaire (DFQ)

Adaptation study of the questionnaire developed by Galambos and Maggs (1991) to Turkish culture was carried out by Sayıl et al. (2012). The five-point questionnaire consists of 7 items. Cronbach Alpha internal consistency coefficient was found as .82 (Sayıl et al., 2012). Cronbach Alpha internal consistency coefficient of the questionnaire in this research was found as .78. Fit indexes obtained as a result of the confirmative factor analysis of the questionnaire indicated that the model does not sufficiently fit ($\chi^2 = 237.48$, $N = 562$, $df = 14$, $\chi^2/df = 16.96$, $p = .00$; RMSEA = .17, NNFI = .81, CFI = .87, SRMR = .070). Upon examination of the modifications generated by the program as a result of the analysis, error covariance of item 1 and 2 were found to be associated. Since this relationship affect fit indexes of the model in a negative way, relationships regarding error covariance of the specified items were added to the model. Thus, fit indexes obtained ($\chi^2 = 32.98$, $N = 562$, $df = 13$, $\chi^2/df = 2.53$, $p = .00$;

RMSEA = .052, NNFI = .98, CFI = .99, SRMR = .032) indicate sufficient fit (Çokluk et al., 2010; Tabachnick & Fidell, 2007).

Data Analysis

Structural Equation Modelling (SEM) was used in order to test theoretical model regarding the research hypothesis. Structural equation model is the whole set of techniques that allow us to examine latent constructs through observable variables (Jöreskog & Sörbom, 1996). SEM was found to be ideal for the relationship analysis between the latent variables and all the indicator variables included in the model as well as for the analysis of error variances. Data obtained as a result of the delivered questionnaires were transferred to electronic medium via SPSS package program in accordance with the aim of the study. Descriptive statistics regarding variables, correlation and variance analyses were conducted in SPSS 17.0 program, and the model was tested in LISREL program. "Maximum Likelihood (ML)" and "Covariance Matrix" are used as parameter estimation methods.

Initially, it is examined whether the data obtained meet the necessary hypotheses in order to enable the structural equation modelling to be established. End values were examined in order to enable univariate normality. The data whose z value ranges from +3 to -3 among end values (Çokluk et al., 2010) were extracted from the analysis. Mahalanobis distances were calculated in order to see multivariate end values. As a result of these two examinations, 81 data were excluded from analysis and normality hypotheses were met. Hence, 562 observations were left in the data set. In addition, coefficient of skewness and kurtosis coefficients of total points were examined in order to see univariate normalities (Table 1). It is stated in the literature the fact that coefficient of skewness and kurtosis coefficient range from -2 to +2 is sufficient for normal distribution in social sciences (Bryne, 2010; Hair, Black, Babin, & Anderson, 2010) Thus, it is accepted that the data meet hypothesis of normality.

Table 1. Skewness, Kurtosis, Average and Standard Deviation Values of Latent Variables

	N	Average	Standard Deviation	Skewness Value	Kurtosis Value
Risky behaviours	562	67,9485	18,13868	1,139	1,127
Psychological resilience	562	40,0984	7,04224	,056	-,371
Deviant friends	562	9,9469	3,30070	1,544	2,312
Abuse experiences	562	68,4218	15,40344	1,388	1,726
Peer bullying	562	31,2000	5,14773	1,504	2,101

The existence of relationships among variables (see Table 2) and scatter graphics were examined for multiple linearity hypothesis. It is detected that the data indicate multiple linearity. Lastly, correlations among variables were re-examined in order to see multiple connection error (see Table 2). It was found that none of the correlation values among variables is at .80 or over and the data does not prove any multiple connection problem (Çokluk et al., 2010). Thus, it is seen that necessary hypotheses were enabled for data analysis.

Table 2. Latent Variables' Average and Standard Deviation Values and Binary Correlations

	M	SS	2	3	4	5
(1) Risky behaviours	67.9485	18.13868	.368**	.323**	.615**	.160**
(2) Peer bullying	31.2000	5.14773		.406**	.290**	-.018
(3) Abuse	68.4218	15.40344			.261**	-.045
(4) Deviant friends	9.9469	3.30070				.180**
(5) Psychological resilience	40.0984	7.04224				

** p<.01

Artificial observed variables were formed through item parcelling in order to decrease the number of parameters of latent variables displaying single factor structure before analysis of structural equation modelling. Psychological Resilience Questionnaire, in a single factor structure, was determined in three parcels according to the number of the items while Deviant Friends Questionnaire was determined in two parcels due to lower number of items. Since childhood abuse experiences, peer bullying and risky behaviours are sub-dimensions of latent variables, these sub-dimensions were determined as observed variable. Thus, in the established model, totally five latent and 19 observed variables were determined. In Table 3, numbers and names of latent and observed variables are specified below.

Table 3. Numbers and names of observed variables and names of the latent variables included in the model

Latent Variables	Number of Observed Variables	Observed Variables
Childhood abuse experiences (abuse)	3	emotional, physical, sexual
Peer Bullying (bully)	5	aggression, terrorizing, mocking, relational, property
Risky behaviours (risk)	6	antisocial, alcohol, smoking, suicide, feeding, drop-out
Psychological Resilience (ego)	3	egopar1, egopar2, egopar3
Deviant Friends (deviant)	2	devipar1, devipar2

**egopar1 = ego parcel 1, egopar2 = ego parcel 2, egopar3 = ego parcel 3, devipar1 = deviant parcel1, devipar2 = deviant parcel 2*

Baron and Kenny (1986) talked about three basic steps for the mediated structural model test. Since the aim of this study was to measure the mediating effect of deviant friends, the conditions taken by Baron and Kenny (1986) were followed in order. These steps are as follows; 1) The effect of independent variables (psychological resilience, victim of peer bullying, experience of childhood abuse) over dependent variable (adolescence risky behaviour) must be significant. 2) The effect of independent variables (psychological resilience, victim of peer bullying, experience of childhood abuse) on mediator variable (deviant friends) must be significant. 3) Mediator variable (deviant friends) must predict dependent variable (adolescence risky behaviour) as significant. When all these criteria are met, it is expected if the mediator variable is included in the analyse, it is expected that there must be a significant decrease in the amount of relationship between independent variables and dependent variable or this relationship must finally be insignificant. The fact that the relationship disappears means that only one mediator variable (full mediator effect); on the other side, when it falls but maintain the significance it points out partial mediator effect.

Results

The findings of the research are presented in accordance with the conditions developed by Baron and Kenny (1986) for the analysis of mediator through structural equation modelling. According to this, it is examined in the correlation table displayed in Table 2 whether the correlation between independent variables, mediator variable and dependent variable in the suggested model is significant or not. It is found that all relationships are statistically significant. Thus, it is likely to state that the initial three conditions needed for Baron and Kenny's (1986) mediation test are met. After the preconditions was provided, a two-stage way for mediation analysis for the structural equation model was followed (Anderson & Gerbing, 1988). In the first stage, it was tested through confirmative factor analysis if there is a reasonable fit between the measurement and the data. In the second stage, structural relations among latent structures were tested through structural model.

To begin with, measurement model was determined in order to identify the relationship between latent and observed variables. The measurement model where such variables as adolescent's risky behaviours, childhood abuse experiences, peer bullying, psychological resilience and deviant friends take place was tested through confirmative factor analysis. As a result of confirmative factor analysis, chi-square regarding the model was found significant as $\chi^2 = 542.20$, $df = 142$, $p < .0001$ on examining goodness of fit of the measurement model. Other model goodness of fit values were also found sufficient ($\chi^2/sd = 3.81$, $NNFI = .92$, $GFI = .91$, $CFI = .94$, $SRMR = .06$, $RMSEA = .07$) (Çokluk et al., 2010; Tabachnick & Fidell, 2007). Therefore, it is likely to state measurement model has a good fit, in other words, it can be said that the observed variables represent the latent variables in a meaningful way.

Following verification of the measurement model, structural model analysis, which is the second step, has been undertaken. In this step, first of all, the model data compatibility of the structural equation model explaining the relation between dependent and independent variables is examined and then stepped through the testing of the mediated structural model. The path diagram for the structural model explaining the effects of childhood abuse experiences, peer bullying and psychological well-being on adolescent risk behaviors is presented in Figure 2.

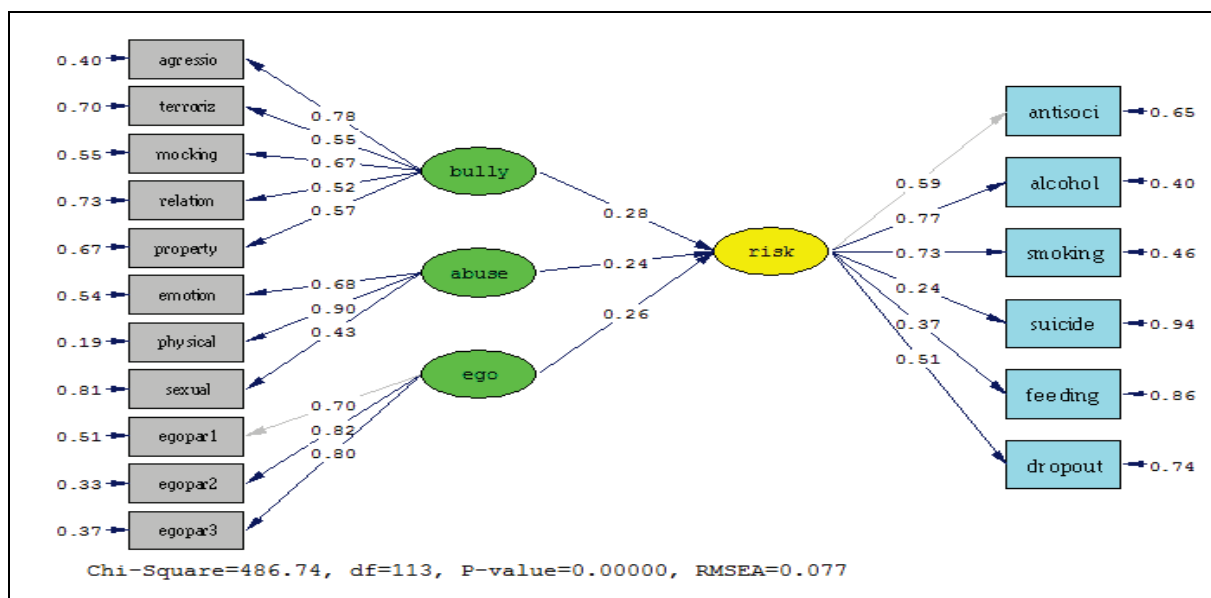


Figure 2. Path Diagram of Direct Relationships between Independent and Dependent Variables

As seen in Figure 2, the structural model describing the relationship between abuse experiences, peer bullying and psychological resilience and adolescent risk behaviors is statistically significant. Chi-square regarding the model was found significant as $\chi^2 = 486.74$, $df = 113$, $p < .0000$. Among fit goodness indexes of the structural model ($\chi^2/sd = 4.3$, $RMSEA = .077$, $SRMR = .06$, $NNFI = .90$, $GFI = .91$ and $CFI = .92$) are seen sufficient for model fit (Çokluk et al., 2010; Tabachnick & Fidell, 2007). Thus, it is likely to mention that abuse experiences ($\beta = 0.24$, $t = 4.29$, $p < 0.05$), peer bullying ($\beta = 0.28$, $t = 3.77$, $p < 0.05$) and psychological resilience ($\beta = 0.26$, $t = 5.03$, $p < 0.05$) variables predict adolescent's risky behaviours in a positive way.

As a final step, the structural model in which relations between dependent and independent variables are verified that deviant friends were included as a mediation variable and the level of significance of the mediated structural model was tested. The path diagram of the model with mediator established for this aim is displayed in Figure 3.

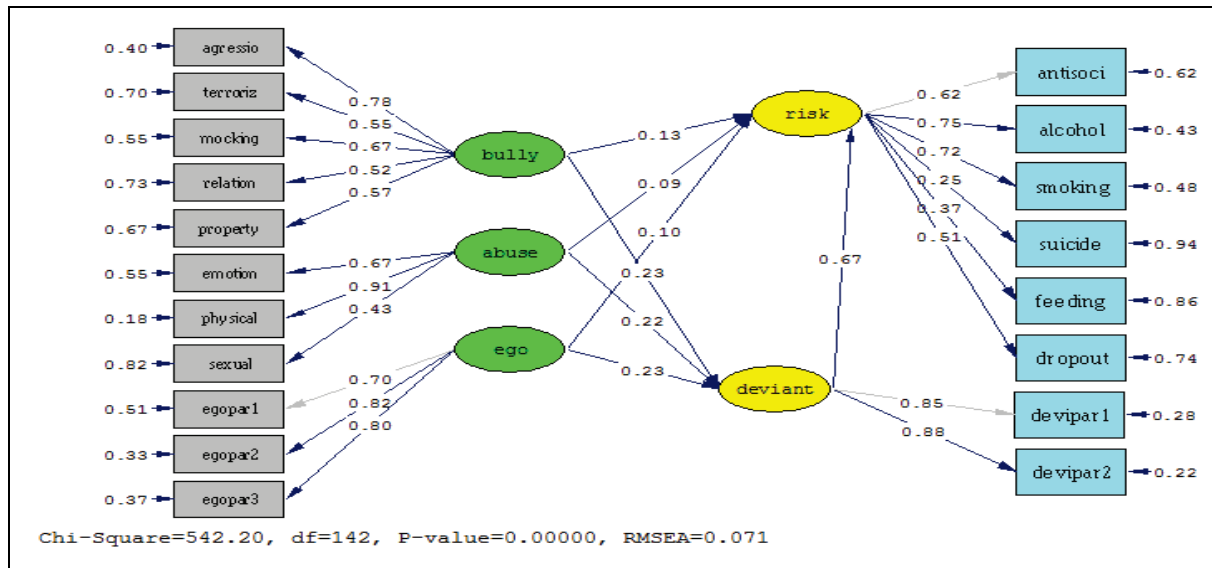


Figure 3. Path Diagram of Model with Mediator

According to the model shown in Figure 3, Chi-square regarding the model was found significant as $\chi^2 = 542.20$, $df = 142$, $p < .0001$. Fit goodness indexes of the structural model, ($\chi^2/sd = 3.81$, $RMSEA = .071$, $SRMR = .065$, $NNFI = .92$, $GFI = .91$, $CFI = .94$) are found to be at reasonable level (Çokluk et al., 2010; Tabachnick & Fidell, 2007). These values indicate that the structural model has a good fit. Thus, the hypothesis which claims deviant friends have a mediator effect on the relationship between abuse experiences, peer bullying and psychological resilience and risky behaviours is confirmed. According to this result, childhood abuse experiences, peer bullying, psychological resilience and deviant friends account for 63% of total adolescence risk behaviors.

After deviant friends were included in the model as mediator variable, it is seen that the correlation coefficient (β) of traumatic experiences with risky behaviors decreased from 0.24 to 0.9. Similarly, the coefficient of correlation between peer bullying and risky behaviors decreased from 0.28 to 0.13. The coefficient of correlation between psychological resilience and risky behaviors decreased from 0.26 to 0.10. After deviant friends were included in the model as mediator variable, the t values have been examined in order to test the meaningfulness of relations between dependent and independent variables (Figure 4).

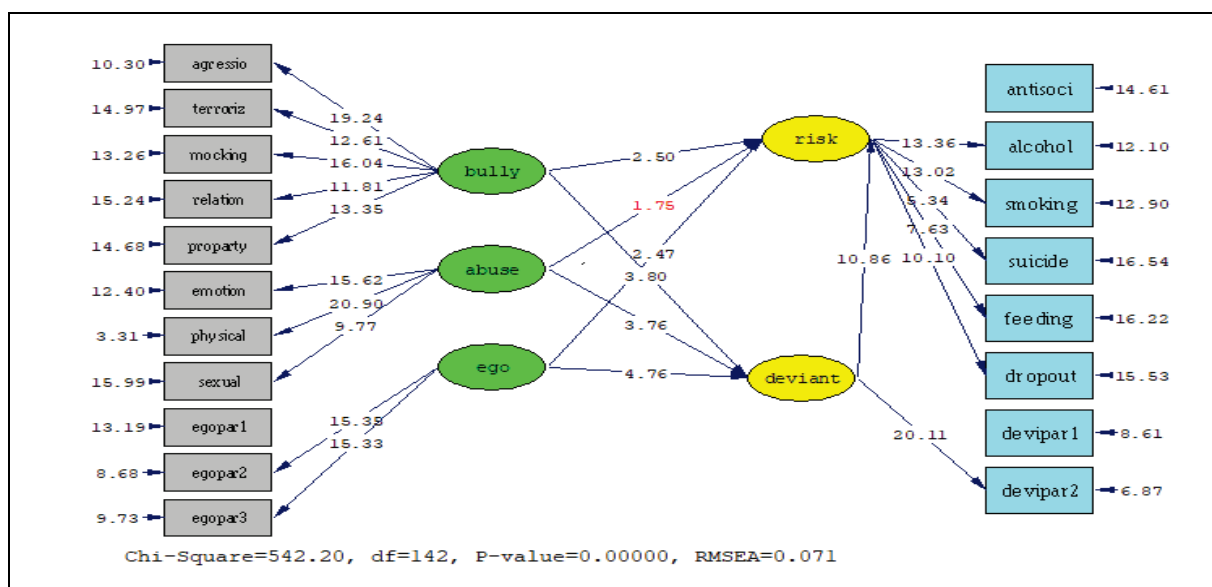


Figure 4. Path Diagram of Mediator Model's t Values

According to the model shown in Figure 4, peer bullying ($t = 2,49$ $p < 0,05$) and psychological resilience ($t = 3,79$ $p < 0,05$) have still significant correlation with risky behaviours. However, upon including deviant friends in the analysis as mediator variable, the correlation between abuse experiences and risky behaviours are not significant ($t = 1,74$ $p > 0,05$). In this case, it is likely to state that deviant friends have “partly mediator effect” in the relationship between peer bullying and risky behaviours. Similarly, it can be said that the relationship between psychological resilience and adolescence risky behaviors is partly mediated by the deviant friends. On the other hand, deviant friends have “fully mediator effect” in the relationship between childhood abuse experiences and risky behaviours (Baron & Kenny, 1986).

Discussion and Conclusion

According to research findings, there is a direct relationship between peer bullying victimization, childhood abuse experiences, psychological resilience and adolescent risk behaviors. These relations are positive and meaningful. Many research findings support this relationship. Other findings support the relationship between peer bullying victimization and suicide attempt (Bannink et al., 2014; Mayes et al., 2014), smoking, alcohol and drug-use (Hong et al., 2014; Kıran, 2002; Radliff, Wheaton, Robinson, & Morris, 2012; Topper, Castellanos-Ryan, Mackie, & Conrod, 2011; Weiss et al., 2011). This relationship may be due to adolescent bullying victim turn to risky behavior as an ineffective coping strategy (eg, alcohol or substance abuse, suicide, drop-out).

The positive relationship between childhood abuse experiences and risky behaviors is also supported by different research findings. Researches have put forward the fact that there is a significant relationship between smoking (Lewis et al., 2011; Özen et al., 2007; Topitzes et al., 2010), alcohol use (Jones et al., 2010; Shin et al., 2009; Smith et al., 2014), nutritional habits (Dworkin et al., 2014), drug-use (Danielson et al., 2009; Mason et al., 2017; Simpson & Miller, 2002), suicide (Miller & Esposito-Smythers, 2013; Saçarçelik, 2009; Taussig et al., 2014; Yanık & Özmen, 2002) and antisocial behavior (Sousa et al., 2011) among risky behaviours and childhood abuse experiences. Likewise, in the recent studies of Ateş and Çeçen Eroğlu (2017), they found a positive relationship between physical abuse and risky behaviors, but they did not find any relationship between emotional abuse and risky behaviors. On the contrary, Arslan and Balkis (2014) stated that emotional abuse, perceived from the family, has a significant relationship with risky behaviors. According to Ecological Theory, family and friends constitute two important microsystems of the individual and have direct influence on the behavior of the child (Bronfenbrenner, 1979). Based on all these findings, it is expected that the levels of social support perceived by parents or friends of adolescents abused by their parents in their childhood or bullied by their peers in school years are expected to be low. Kurt and Ergene (2017) found that the decrease in the level of social support they perceive from friends and family of adolescents increases the likelihood of risky behaviors. In this context, it can be said that each of the traumatic experiences (family or friends) exposed during childhood has increased the possibility that the adolescents tend to risk behaviors.

The finding that appears differently in the study from the literature is the positive relationship between psychological resilience and risky behaviors. However, the findings of the literature have put forward that this relationship is negative (Arslan & Balkis, 2016; Karimi et al., 2015; Lee & Cranford, 2008). On the other hand, these studies has focused on different dimensions of psychological resilience (attachment among family members, social skills, self-esteem, personality traits, religious beliefs). It is believed that the reason for the differentiation of findings from the literature is due to the measured qualities of the Ego Stability Scale used to determine the psychological resilience level. As a matter of fact, the measurement tool used to determine the level of psychological resilience in this research has focused on internal protective factors of psychological resilience. These are such personal characteristics as being being open to new ideas, aware of personal strengths and insight into interpersonal relationships (Kararımak, 2007). When the findings are interpreted in this context, it is seen that the characteristics of adolescents showing risky behaviors overlap with those of innovation and excitement search impulse and psychological resilience being open to innovations.

Another finding of the study is that, the hypothesis which claims deviant friends have a mediator effect on the relationship between abuse experiences, peer bullying and psychological resilience among risky behaviours is confirmed. In other words, deviant friends reinforce the relationship between peer bullying, childhood abuse experiences, psychological resilience and risky behaviours. If these relationships were examined one by one, it could be seen deviant friends act as a partial mediator in the relationship between peer bullying victimization and adolescent's risky behaviours. Namely, relationships with deviant friends reinforce the relationship between peer bullying victimization and risky behaviours. In two recent studies (Jiang et al., 2016; Zhu et al., 2016) examining these three variables together in the literature, it has been detected that deviant friends have mediator's role in the relationship between peer bullying victimization and risky behaviours. The adolescents tend to choose people who are similar to themselves as life and ideas as friends (Veenstra & Dijkstra, 2011). In this context, bullying victims can become spontaneously connected to deviant peers who do not have a school affiliation (Rudolph et al., 2014; Zhu, Zhang, Yu, & Bao, 2015). As a further factor, due to low peer recognition, victims may only have a chance to be accepted among deviant friends. Bullying victims can be expected to prevent certain characteristics (eg, aggression) of a deviant friends from protecting the victim (Gifford-Smith & Brownell, 2003; Rudolph et al., 2014). These relationships, established with deviant friends, can make the bullying victim more vulnerable to risky behaviour.

According the another finding of the study, deviant friends have a partial mediator effect on the relationship between psychological resilience and adolescent's risky behaviours. In other words, it is probable to mention that deviant friends reinforce the relationship between psychological resilience and risky behaviours. No similar research finding examining these three variables together has been encountered in the literature. On the contrary, there are researches that show that adolescents with high psychological resilience are less affected than their peers (Nicholls, Morley, & Perry, 2016). If the findings obtained differently from the literature are interpreted, it can be said that deviant friend environment may be a function of normalizing risky behaviors. For example, even an adolescent with healthy development may be influenced by a peer easily in a social environment where alcohol is accepted (Purdie & Downey, 2000) since s/he may perceive this as a natural element of development not as a risk. Bao, Li, Zhang, and Wang (2015), similarly, set forth significant relationship between school environment and risky behaviours. In light of these findings, it can be said that although the adolescent has a high level of psychological resilience being in a deviant friend environment has increased the tendency to show risky behaviors.

Another remarkable finding of the study, deviant friends act as a full mediator in the relationship between childhood abuse experiences and adolescent's risky behaviours. This finding sets forth the relationship between childhood abuse experiences and risky behaviours stem from deviant friends. Similarly, Van Ryzin, Fosco, and Dishion (2012) found that parental follow-up and family relationships indirectly explain adolescent's substance use through deviant friends. on the adolescent similar finding was found. According to Ellis and Wolfe's (2009) research the research, the willing to become popular among the adolescent and peer group command reinforce the relationship between physical abuse and risky behaviours. Research findings indicate that individuals who have experienced physical and emotional abuse generally develop unhealthy peer relationships (Bolger & Patterson, 2001; Holt, Buckley, & Whelan, 2008). Abused children mostly make friendships which are low quality and unsatisfactory (Wolfe, Wekerle, Reitzel-Jaffe, & Lefebvre, 1998), based on aggression and pressure (Parker & Herrera, 1996). In other words, the level of the relationship the child has established within the family affects the choice of friends in a similar way. At this point, the experience of childhood abuse becomes a threat to risky behaviors, even if the adolescent does not pose a direct threat to risky behaviors, but because the adolescent increases his tendency to make friends with risky behavior. As a matter of fact, deviant friends play a major role in orienting adolescents to risky behaviors (Çavuş et al., 2017; Lee et al., 2016; Negri et al., 2015; Pesola et al., 2015; Wongtongkam et al., 2014).

This research shows that the risk factors such as the parental relationship with the child and the exposure of the adolescent to bullying by their peers do not really affect the adolescent's risky behaviors alone. These factors bring the student one step closer to group of deviant friends, one of the greatest risks for risky behaviors, which increases the likelihood of risky behavior. Similarly, adolescents with high levels of psychological resilience can present this power in the form of risky behaviors in a deviant friend environment.

Suggestions

Findings of this research are limited to the data obtained from students of general Anatolian High Schools in the central province of Burdur. As a result of the research, it was determined that the students at these schools do not have highly risky behaviours. In this sense, the model designed can be repeated in various high schools such as Anatolian Technical and Vocational High Schools where risky behaviours of adolescents are encountered more (Akça & Selen, 2016), which may make the model stronger. In addition to this, only students with risky behaviors can be identified and the model can be re-tested on students already presenting risky behaviors. Another suggestion is to expand the model further by adding new innovations to the variables being investigated. For example, other risk factors and preventive factors (such as poverty, family ties, family-friend communication, self-esteem, personality traits, leisure activities, beliefs, culture, membership in school activities, etc.) can be added as a variable to make the model more comprehensive.

Another limitation of the research is that the variables that are taken into the research are limited to qualities that measure the means of measurement used. As mentioned before, there is a positive relationship between psychological resilience and risky behaviors in the study. It may be another suggestion for further research, retesting this relationship with different measurement tools that focus on different dimensions of psychological resilience.

Since risky behaviors are often observed during high school years, research findings may contribute to school psychological counsellors in providing preventive services against risky behaviors. In this context, based on the finding that adolescents abused by family are more prone to risky behaviors, it can be said that it is important for school psychological counsellors to inform parents about the effects of abuse and effects on children. In fact, families may not be aware of the negative effects of their behaviors on the child. Another problem associated with adolescent risky behaviors was found to be peer bullying in schools. Detection of groups involved in peer bullying at schools and conducting preventive studies to dissolve the groups can avoid occurrence of risky behaviours. Encouraging students with tendency to bullying and risky behaviours about diverse sport, social and cultural activities at schools may be an essential precaution. In addition, students can be taught to improve their communication skills, conflict and problem solving abilities, coping skills, and to solve their problems effectively instead of risky behaviors. Given the influence of the deviant friends, it can be said that intervention programs, which include peers beyond the cooperation of school management, teachers, family and psychological counsellors, may be more effective in prevention efforts.

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