Friendship Quality and Psychological Well-Being: The Mediating Role of Perceived Social Support

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ABSTRACT

The current study was designed to examine the mediating role of perceived social support between friendship quality and psychological well-being. There were 529 participants in the study (309 girls and 220 boys), adolescents who are in the 9th, 10th, 11th and 12th grades of six state high schools from the city of Uşak, Turkey. Their ages were between 14 and 19. These participants were assessed using the Friendship Qualities Scale and Multidimensional Scale of Perceived Social Support. Structural Equation Modeling (SEM) techniques were used for assessing the mediation model. The results showed that a social support-family fully mediated the relationship between the quality of companionship-friendship, the quality of conflict-friendship, and psychological well-being; a social support-special person fully mediated the relationship between companionship and psychological well-being; and social support-friends fully mediated the relationship between security (friendship quality subscale) and psychological well-being.

Keywords: Friendship quality, Psychological well-being, Perceived social support, Adolescence, Mediating effect

Introduction

Social support is the general support or supportive behaviors from others that enhance an individual’s functioning or/and help someone to be more robust when exposed to difficulties. The social support systems of a person may include family, friends, a significant other (e.g., teachers, neighbors, boy/girlfriends, fiancé, relative, doctor), religious and ethnic groups, society and some institutions (e.g., school, workplace, sports club) (Rinn, Reynolds & Mcquenn, 2011; Yıldırım, 1997). Perceived social support reflects the person’s thought about the support that is provided from these sources (Shahry, Kalhori, Esfandiyari & Zamani-Alavijeh, 2016). Social support systems can give an individual emotional comfort, help him/her cope with problems by providing guidance, give necessary feedback which helps to develop performance, contribute to personal development and protect individuals against the negative effects of stress (Eker, Arkar & Yaldız, 2001). In contrast, poor social relations can lead to conflict, internalization and behavior problems (Garcia-Reid, Reid, & Peterson, 2005).

In adolescence, friendship is a very important tool and a social support source for an adolescent’s development by providing approval, understanding, insight and social skills (Hiatt, Laursen, Mooney & Rubin, 2015). During this period, adolescents communicate with their friends more than their parents to meet the needs of trust and close relationship (Santrock, 2011; Smith, 2015). For this reason they spent a lot of time with their friends (Doğan, Karaman, Çoban & Çok, 2012). However, the quality of this relationship has gained importance because some types of friendships may include some risks and can adversely affect young people (Atik, Çoban, Doğan, & Güney-Karaman, 2014). Some adolescents have school adaptation...
problems and exhibit shyness (Fordham & Stevenson-Hinde, 1999); antisocial behaviors (Zettergen, 2005); depression (Nangle, Erdley, Newman, Mason & Carpenter, 2003); and conflict (Rabaglietti & Ciairano, 2008).

The quality of the friendships that an adolescent has is one of the most important aspects of friendship development in adolescence, more than the amount of friends that he/she has (Berndt, 2002; Tipton, Christensen, & Blacher, 2013). A high-quality friendship provides intimacy, positive social behavior and low levels of conflicts and competition (Berndt, 2002). In the literature, this concept is described in five dimensions: companionship, conflict, help, security and closeness. Respectively, companionship refers to the time spent with friends voluntarily; conflict refers to the frequency of disagreements; help refers to mutually helping each other; security refers to trust for overcoming the problems together and closeness refers to emotional connectedness to each other (Atik et al., 2014; Bukowski, Hoza & Boivin, 1994). In addition, the adolescent’s gender is an important variable in predicting friendship quality (Doğan et al., 2012; Smith, 2015). It was found that peer relationships were more important for girls and they experienced greater friendship quality than did boys (Totan, 2008; Smith, 2015). In the conflict dimension of friendship, the boys’ scores were higher than the girls’; On the contrary, in the help, security and closeness dimensions, the girls’ scores were higher than the boys’ (Doğan et al., 2012).

Experiences with friends can form the happiness of adolescents (Ladd, Kochenderfer, & Coleman, 1996). Research on friendship has consistently demonstrated that high-quality friendships are related to psychological adaptive variables (Akın, Akin & Uğur, 2016). In other words, having supportive friendships is associated to better psychological adjustment and well-being (Chow, Ruhl & Buhrmester, 2013; Rinn et al., 2011; Siyez, 2008; Smith, 2015; Wills, Vaccaro & McNamara, 1992). Moreover, Falci & McNeely (2009), found that adolescents who perceived much social support from their friends had low levels of depressive symptoms.

In a study conducted by Akın et al., (2016) on university students in Turkey, a positive and significant relationship was found between friendship quality and subjective happiness. Şahin (2011) found a positive and significant relationship between perceived social support and psychological well-being; Doğan & Yıldırım (2006) found a positive and significant relationship between psychological well-being and friendship of university students. Remarkably, these findings were not tested with Turkish high school students. The aim of this study is to examine the mediating effect of perceived social support between the friendship quality and psychological well-being of Turkish female and male high school students. Accordingly, the hypothesis of the study is:

Hypothesis 1: Friendship quality is positively associated with psychological well-being.
Hypothesis 2: Friendship quality is positively associated with perceived social support.
Hypothesis 3: Perceived social support is positively associated with psychological well-being
Hypothesis 4: Perceived social support mediates the link between friendship quality and psychological well-being.

Method

Participants and procedure

In this study, convenience sampling was used to recruit participants. The study sample consisted of high school students in 9th (n=159), 10th (n=156), 11th (n=156), and 12th (n=58) grades of six state high schools from Uşak, Turkey. The participants (n = 529) were composed of 309 (58.4%) girls and 220 (41.6%) boys, ranging from the ages of 14 and 19 (M_age = 16.26, SD_age = .99). Participation was entirely on a voluntary basis. After the necessary permission was obtained, the students completed the scale in their classrooms.

Measures

Friendship Qualities Scale (FQS). The FQS was created to measure friendship qualities for children and adolescents with their best friends. The initial version of the scale included draft items by Berndt and Perry (1983 as cited in Bukowski et al., 1994), which were taken and finalized by Bukowski et al. (1994). The final version of the scale was made up of five factors which are tested through 23 items. The breakdown of the scale is as follows: Companionship (4 items), Conflict (4 items), Help (5 items), Security (5 items), and Closeness (5 items). The FQS uses a 5 point Likert-type scale for each of the factors, so that analysis of each factor could be done separately and the total scores could be used individually. Confirmatory Factor
Analyses (CFA) was used to test the construct validity of the scale, and the structure was determined to be valid ($\chi^2$/df=19.83/12, p=.08, NNFI=.98) with an internal consistency between .71 and .86 (Bukowski et al., 1994). The scale was adapted to Turkish by Atik, Çok, Çoban, Doğan, Güney-Karaman (2014). Before the CFA was performed, the assumption of missing values, outliers, normality, and collinearity were checked. According to the results, the FQS had acceptable goodness of fit indexes ($\chi^2$/df = 669.12/199, p= .00, RMSEA = .063, CFI = .97, GFI = .88, NNFI = .96). The Cronbach alpha coefficients of the subscales ranged between .66 and .86. The scores from the scale point correlate with the quality of friendship: as one increases, so does the other. In the current study it was found acceptable goodness of fit indexes ($\chi^2$=516.577, df=197, $\chi^2$/df= 2.62, IFI=.94, CFI=.94, SRMR=.05, RMSEA=.05) and Cronbach alpha coefficients of the subscales ranged between .71 and .90.

Psychological Well-Being Scale (PWBS). The PWBS was created by Diener et al. (2010) and was adapted into Turkish by Telef (2013). The sample of the study were pre-service teachers, and a total of 529 participated, 339 (64%) of whom were female and 190 (36%) of whom were male. The exploratory factor analysis showed that the total explained variance was 42% and that the items were grouped under one factor. Psychological well-being scales and a need satisfaction scale were used to establish criterion validity. The Pearson product moment correlation between these two scales, the psychological well-being scales and a need satisfaction scale, was found to be between .56 and .73. The scale was found to have a Cronbach alpha coefficient of .80. Test-retest results demonstrated that there was a high level of positive and meaningful relation between the first and second applications of the scale (r= 0.86). In the present study it was found acceptable goodness of fit indexes ($\chi^2$=81.330, df=18, $\chi^2$/df= 4.51, IFI=.95, CFI=.95, SRMR=.04, RMSEA=.08) and Cronbach’s alpha coefficient was found to be .88.

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS was originally developed by Zimet et al. (1988) and has since been adapted into Turkish by Eker et al., (2001). The EFA confirmed the factorial structure of the scale. The scale has a high internal consistency for both the subscales and the total scale (.80-.95). To establish the validity of the scale, the Turkish version of the U.C.L.A. Loneliness Scale, Perceived Social Support from Family and Friends Scale, the Symptom Check List-90-R, and the Beck Hopelessness Scale were used. The scores from both the subscales and the total scale correlated as expected with the measures of social support, loneliness, hopelessness, negative social interaction and a symptom check list, particularly in the psychiatry and the surgery samples. In the current study it was found acceptable goodness of fit indexes ($\chi^2$=76.524, df=50, $\chi^2$/df= 1.53, IFI=.99, CFI=.99, SRMR=.03, RMSEA=.03) and Cronbach alpha coefficients of the subscales ranged between .83 and .86.

Data Analysis

All of the statistical analyses were carried out by getting use of SPSS (v.17) and AMOS (v.21). Path modeling was utilized to analyze the relationships between all of the study variables. Performed structural equation modeling procedures were used to examine the direct, indirect and meditational impacts of the study variables. Bias corrected (BC) bootstrap method, which was to calculate Confidence Intervals (CI), was used to examine hypothesized mediation impacts.

The ratio of the chi square value to the degrees of freedom was used firstly in order to form an estimate of the suitability of the CFA results model. Within this framework, the ratio ought to be less than 3 (Tabachnick & Fidell, 2001). Many of indexes for the goodness of fit such as Incremental Fit Index (IFI), Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) were utilized in order to evaluate model-data fit in the confirmatory factor analysis. Based on the studies by Hu & Bentler (1999), Beauducel & Wittmann (2005), and Schreiber, Nora, Stage, Barlow, & King (2006), the best way for the data is given by IFI, CFI, and GFI values being close to .95, a standardized root mean square residual (SRMR) value which is less than or equal to .08, while RMSEA values being close to .08. The Expected Cross Validation Index (ECVI) and Bayesian Information Criterion (BIC) values were compared with the study models.

Results

Preliminary analysis

Table 1 shows the means, standard deviations, composite reliability, and Pearson r correlations of all measured variables. All independent variables and mediator variables were significantly positively
correlated with psychological well-being. All predictor variables support a significant positive correlation with mediator variables with the exception that the social support-special person correlated conflict was not significant.

Table 1. Descriptive Statistics (means, standard deviations, composite reliability, correlations) for all variables of study and mean differences using independent t-test between all variables by gender (n=529)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.CP</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.CT</td>
<td>-.09NS</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.HP</td>
<td>.46**</td>
<td>.11'</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.SY</td>
<td>.49**</td>
<td>.14'</td>
<td>.67**</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.CS</td>
<td>.44**</td>
<td>.14'</td>
<td>.62**</td>
<td>.69**</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.SS-F</td>
<td>.22**</td>
<td>.15'</td>
<td>.23**</td>
<td>.21'</td>
<td>.18**</td>
<td>.83</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.SS-SP</td>
<td>.23**</td>
<td>-.02NS</td>
<td>.20'</td>
<td>.21'</td>
<td>.13'</td>
<td>.29**</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.SS-FR</td>
<td>.38**</td>
<td>.18'</td>
<td>.52**</td>
<td>.51'</td>
<td>.44**</td>
<td>.47'</td>
<td>.32'</td>
<td>.86</td>
<td></td>
</tr>
<tr>
<td>9.PWB</td>
<td>.26**</td>
<td>.13'</td>
<td>.24**</td>
<td>.24'</td>
<td>.18**</td>
<td>.44**</td>
<td>.32**</td>
<td>.37**</td>
<td>.88</td>
</tr>
<tr>
<td>Mean</td>
<td>12.36</td>
<td>15.05</td>
<td>20.69</td>
<td>14.64</td>
<td>18.59</td>
<td>22.71</td>
<td>17.85</td>
<td>22.54</td>
<td>40.31</td>
</tr>
<tr>
<td>SD</td>
<td>3.68</td>
<td>3.78</td>
<td>4.94</td>
<td>4.12</td>
<td>5.30</td>
<td>6.20</td>
<td>9.43</td>
<td>6.32</td>
<td>9.96</td>
</tr>
<tr>
<td>MeanGirls</td>
<td>12.67</td>
<td>15.57</td>
<td>21.66</td>
<td>15.55</td>
<td>20.35</td>
<td>22.72</td>
<td>17.82</td>
<td>23.12</td>
<td>40.24</td>
</tr>
<tr>
<td>MeanBoys</td>
<td>11.93</td>
<td>14.33</td>
<td>19.33</td>
<td>13.35</td>
<td>16.11</td>
<td>22.70</td>
<td>17.90</td>
<td>21.73</td>
<td>40.40</td>
</tr>
<tr>
<td>SDBoys</td>
<td>3.61</td>
<td>3.84</td>
<td>5.14</td>
<td>3.94</td>
<td>5.11</td>
<td>5.74</td>
<td>9.85</td>
<td>6.15</td>
<td>10.22</td>
</tr>
<tr>
<td>T</td>
<td>2.30*</td>
<td>3.76**</td>
<td>5.49**</td>
<td>6.25**</td>
<td>9.84**</td>
<td>.037NS</td>
<td>.103NS</td>
<td>.249*</td>
<td>.184NS</td>
</tr>
</tbody>
</table>

Note: 1.CP=companionship, 2.CT= conflict, 3.HP=help, 4.SY=security, 5.CS=closeness, 6.SS-F=social support-family, 7.SS-SP=social support- special person, 8.SS-FR=social support-friends, 9.PWB=psychological well-being, SD=standard deviation, composite reliability (CR) for each variables are presented along the diagonal. *p<.01, **p<.05.

Study variables were tested using an independent t-test for gender differences. Independent t-test analysis indicated that there were significant differences by gender for all the independent study variables and the mediating variable (social support-friends). There were no significant differences between the groups for social support-family, social support- special person and psychological well-being.

Structural Models

We used SEM to test the structural relationships among all study variables. The results indicated the hypothesized partial model (Model 1). The direct path from the independent variables (companionship, conflict, help, security, closeness) predicts the mediator variables (social support-family, social support-special person and social support-friends) and then all these variables predict psychological well-being. This model, with five independent variables, three mediators and a dependent variable indicated a good fit to the data: χ²=1802.477, df=780, χ²/df= 2.06, IFI=.91, CFI=.91, SRMR=.08, RMSEA=.05[.047-.053], ECVI=3.880, BIC=2573.809. However, the paths from social support-family→ security, social support-special person→ security and social support-special person→ conflict are not significant. In addition, the paths between the mediator variables and psychological well-being are not significant. In the current study, help and closeness didn't have significant paths to any of the mediator variables or the dependent variable. Thus, help and closeness (independent variables) were omitted from the suggested full mediation model (Model 2). The full mediation model was re-estimated to include three independent variables (companionship, conflict, and security), three mediator variables (social support-family, social support-special person and social support-friends) and a dependent variable (psychological well-being). The results showed that Model 2 also fit well to the data: χ²=913.508, df=443, χ²/df= 2.06, IFI=.93, CFI=.93, SRMR=.09, RMSEA=.05, ECVI=2.052, BIC=1446.542.

In order to find best model, an alternative model was tested. The paths from social support-family→ security, social support-special person→ security and social support-special person→ conflict are not significant to model 1 and model 2. Therefore, these paths were deleted and the model was re-estimated. Finally, the results showed the suggested full mediation model 3 also fit well to the data: χ²=920.860, df=448, χ²/df= 2.06, IFI=.93, CFI=.93, SRMR=.05, RMSEA=.05, ECVI=2.047, BIC=1422.539. The partial (model 1), the...
full mediation (model 2) and the suggested full mediation (model 3) were compared with the Expected Cross Validation Index (ECVI) and Bayesian Information Criterion (BIC) values. When comparing the different models, smaller values of ECVI and BIC represent a better fit (Schreiber et al., 2006). In this study, the suggested full mediation (model 3) also had the lowest ECVI and BIC values. Therefore, Model 3 was selected as the best fit. The path coefficients from companionship→social support-family, companionship→social support-special person, conflict→social support-family and security→social support-friends are shown in Table 2 (Figure 1). These results suggested that social support-family, social support-special person and social support-friends might partially mediate the relationship between companionship, conflict, security and psychological well-being.

Table 2. Path coefficients for the final model

<table>
<thead>
<tr>
<th>Paths</th>
<th>B</th>
<th>SE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP→SS-F</td>
<td>.496</td>
<td>.100</td>
<td>4.978***</td>
</tr>
<tr>
<td>CP→SS-SP</td>
<td>.796</td>
<td>.139</td>
<td>5.705***</td>
</tr>
<tr>
<td>CT→SS-F</td>
<td>.345</td>
<td>.091</td>
<td>3.782***</td>
</tr>
<tr>
<td>SY→SS-FR</td>
<td>1.093</td>
<td>.098</td>
<td>11.128***</td>
</tr>
<tr>
<td>SS-SP→PWB</td>
<td>.115</td>
<td>.033</td>
<td>3.449***</td>
</tr>
<tr>
<td>SS-F→PWB</td>
<td>.352</td>
<td>.055</td>
<td>6.401***</td>
</tr>
<tr>
<td>SS-FR→PWB</td>
<td>.124</td>
<td>.049</td>
<td>2.503*</td>
</tr>
</tbody>
</table>

Note: CP=companionship, CT= conflict, SY=security, SS-F=social support-family, SS-SP=social support-special person, SS-FR=social support-friends, PWB=psychological well-being, *p<.05, **p<.005, ***p<.001

By using the bootstrap estimation procedure in AMOS, we tested the mediating effects of social support-family, social support-special person, and social support-friends for significance in the selected model, which is the suggested full mediation model 3.

![Figure 1. Results of finalized structural model.](image)

Note: 1.CP=companionship, 2.CT= conflict, 3.SY=security, 4.SS-F=social support-family, 5.SS-SP=social support-special person, 6.SS-FR=social support-friends, 7.PWB=psychological well-being, *p < 05 , **p < 005, ***p < 001
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Table 3. Indirect effects and 95 %CI for the final model

<table>
<thead>
<tr>
<th>Model pathways</th>
<th>Estimated</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP→SS-F→PWB</td>
<td>.153</td>
<td>.095</td>
<td>.226**</td>
</tr>
<tr>
<td>CP→SS-SP→PWB</td>
<td>.127</td>
<td>.079</td>
<td>.184**</td>
</tr>
<tr>
<td>CT→SS-F→PWB</td>
<td>.102</td>
<td>.048</td>
<td>.164**</td>
</tr>
<tr>
<td>SY→SS-FR→PWB</td>
<td>.293</td>
<td>.223</td>
<td>.375**</td>
</tr>
</tbody>
</table>

Note: CI= confidence interval. Biased-corrected bootstrap with 2000 replications. CP=companionship, CT= conflict, SY=security, SS-F=social support-family, SS-SP=social support- special person, SS-FR=social support-friends, PWB=psychological well-being, **p<.005.

Table 3 displays the indirect effects and their associated 95% confidence intervals (CI). As table 3 shows, the results supporting model 3 of indirect effects were statistically significant.

Discussion

The present study investigated the direct and indirect relations among friendship quality, and psychological well-being, and perceived social support as a mediator for Turkish female and male high school students. Consistent with the first hypothesis, a positive and significant correlations with all factors of friendship quality (companionship, conflict, help, security and closeness) and psychological well-being were found. This result is consistent with the studies conducted by Chow et al., 2013; Doğan & Yıldırım, 2006; Rodríguez et al., 2003. Consequently, high levels of friendship quality have been linked to positive psychological outcomes. Particularly in periods of transition like childhood and adolescence, friendship quality predicts well-being (Bagwell et al., 2005).

The second hypothesis of the study was that friendship quality is positively associated with perceived social support. Consistent with this hypothesis, a positive and significant correlation between these variables was found. This result is consistent with the studies conducted by Berndt (2002); Tipton, Christensen, & Blacher (2013). It is known that having qualified friendships in adolescence is an important social support for young people.

Relative to the other results of the study, a positive and significant relationship between perceived social support and psychological well-being was found. Many research studies concluded that social support has a protective effect on mental health and contributed to psychological well-being (Eker et al., 2001; Jasinska-Lahti; Liekind; Jaakkola & Reuter, 2006; Rigby 2000; Şahin 2011; Thoits, 1985). Consequently, the third finding of the study was in line with the literature.

The last hypothesis of the study was that perceived social support mediates the link between friendship quality and psychological well-being. The final model from our study indicated that social support-family fully mediated the relationship between companionship-friendship quality, conflict-friendship quality and psychological well-being. No previous mediating studies reached this result; however, there are similar research findings. For example, a correlation between family support and subjective well-being was discovered (Nguyen, Chatters, Taylor, & Mouzon, 2016; Schnettler et al. 2014). It is known that family and parental support are very important in an individual’s development and psychological health. Moreover, adolescents who are securely attached to their family and friends reported greater satisfaction with themselves and less symptomatic responses to stressful life events (Armsden & Greenberg, 1987; Raja, McGee, & Stanton, 1992). These young people experience less conflict in all their relationships (Berndt, 2002; Demir & Urberg, 2004).

In our suggested model, another result of the study was that social support-special person fully mediated the relationship between companionship and psychological well-being. There is no previous study which suggested this model. It is known that in the high school years dating relationships among young people increase and become more important than other relationships and a major task of this period is developing appropriate ways of dealing with the opposite sex (Feldman & Gowen, 1998; Jackson, Cram & Seymour, 2000). Therefore, the companionship of a special person (especially girl/boyfriend) may affect the psychological well-being of adolescents in the high school years.
In our suggested model, another finding of the study indicated that social support-friends fully mediated the relationship between security (friendship quality) and psychological well-being. No previous mediating studies reached this result. It is known that qualified peer relationships enhance the feelings of security and intimacy (Totan, 2008). It is thought that having this type of friendship can contribute of the well-being of adolescents. There is some research results supporting this finding (Berndt, 2002; Chow et al., 2013; Hiatt et al., 2015; Rinn et al., 2011).

**Strengths and Limitations**

The current study contributes to the literature on the relationship between the friendship quality and well-being though perceived social support. This study is important because it is the first mediating study which examines these variables in high school students. It is known that a major task of this period is dealing with identity crisis. It is important for adolescents to know their support systems in order to help them enhance their psychological well-being. For this reason, the professionals who work with high school students can benefit from the results of this study.

As with every study, this study has several limitations. The study was carried out only in the context of Uşak high schools. In the future, this research model must be replicated with different sample groups in Turkey. Moreover, the gender differences can be tested and different models for female and male groups can be suggested. In summary, the findings of this study suggest some important social support systems which can contribute to psychological well-being of Turkish female and male high school students.

**References**


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