Effect of Hope on Resilience in Adolescents: Social Support and Social Connectedness as Mediators

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Abstract
The purpose of this study was to investigate the mediating role of social support and social connectedness between hope and resilience in adolescents. A total of 413 high school students (57.1% girls; \( M = 17.31, \ SD = 1.61 \)) participated in the study. Participants completed the Children’s Hope Scale (CHS), Brief Resilience Scale (BRS), Brief Perceived Social Support Questionnaire (BPSSQ), and Social Connectedness Scale (SCS). The results showed that there was a positive significant correlation between social support, resilience, social connectedness, and hope. In addition, according to the gender variable, it is seen that the resilience and hope scores of the boys are significantly higher than the girls. On the other hand, no significant difference was found in social connectedness and social support in terms of gender. The results mediation analysis showed that hope significantly and positively predicted social connectedness, social support, and resilience. Also, social connectedness positively and significantly predicted social support, and social support was a significant predictor of resilience. Most importantly, social support and social connectedness acted as mediating roles in the relationship between hope and resilience. These results suggest that social connectedness and social support are two important sources in developing resilience. This has important implications for research and practice.

Keywords: Hope, resilience, social support, social connectedness, adolescents

In the extant literature, resilience has been defined in various ways (Hall et al., 2002). Resilience is the firm stance of an individual against stressful situations and the ability to recover following negative experiences (Smith et al., 2008). As a process, resilience is the ability to cope with the difficulties and adapt new situations and managing situations. Furthermore, resilience is defined as a personality trait that provides an individual with improvement after the traumatic events (Bonanno, 2004; Masten & Wright, 2010). A resilient individual can exhibit a function above the norms despite problematic situations (Tusaie & Dyer, 2004). Resilience displays a significant function to improve well-being mental health (Arslan, 2016; Yildirim, 2019). To date, studies have shown that resilience is significantly and positively associated with social support (Kong et al., 2021; Salami, 2010; Smith et al., 2008; Turgut & Çapan, 2017), social connectedness (Bostan & Duru, 2019; Dang, 2014), positive childhood experiences, self-efficacy, and self-esteem (Arslan, 2015a; Arslan & Balks, 206; Kocatürk & Çiçek, 2021), forgiveness (Aziz & Yıldırım, 2020), hope (Kirmani et al., 2015; Uysal et al., 2017), cognitive coping (Wu et al., 2013), optimism (Smith et al., 2008), psychological well-being (Arslan, 2019; Yıldırım, 2019; Yıldırım & Arslan, 2020), subjective well-being (Bostan & Duru 2019; Yıldırım & Tanrıverdi, 2020), and meaning in life (Arslan & Yıldırım, 2021; Sagone & De Caroli, 2014; Smith et al., 2008). However, there is a negative relationship between resilience and self-blame, social and physical problems, pessimism and negative interaction (Smith et al., 2008), social anxiety and fear (Wu et al., 2013), academic stress (Hernandez et al., 2019; Smith et al., 2008).
relatedness plays a key role for mental and emotional health of an individual at every aspect of life (Arslanb, 2021b; Cornwell et al., 2008; Lee & Robbins, 1998; Stavrova & Luhmann, 2016). Social connectedness is a basic phenomenon reflecting the connection of an individual with the social environment (Lee et al., 2001). Individuals with high levels of social connectedness experience less difficulties in building social relationships with others and highly engage in social activities which promote healthy psychosocial development. Individuals with poor social connectedness experience maladaptive behavioural and emotional problems and poor relations with others (Lee & Robbins, 1998). Research on adolescents demonstrated that adolescents with high level social connectedness are able to effectively adapt to their environments (Duru, 2008b). Empirical evidence shows that social connectedness is related with many psychological variables. Social connectedness has a significant function in strengthening social support and reducing loneliness and adjustment problems (Duru, 2008a). Research also reported that there is a positive and significant relationship between social connectedness and optimism (Yildirim et al., 2021), resilience (Nitschke et al., 2021; Scarf, 2017), hope (Williamson et al., 2007), social support (Duru, 2008b; Reyes et al., 2020), well-being (Arslan, 2018; Jose, 2012; O’Donnell et al., 2021) and subjective well-being (Arslan, 2018a). These results suggest that social connectedness is an important protective factor that promotes healthy functioning.

The concept of social support is defined as a psychological and physical support received by family, friends, and significant others. Social support plays a significant role in minimizing psychological pressure and tension on individuals and improving their abilities to adapt to environment (Cobb, 1976). Social support can be assessed as emotional, subjective and empirical processes (Mak & Kim, 2011; Zimet et al., 1988). Social support can be considered emotional, financial and personal help provided by family, friends, and others (Bowen et al., 2015; Zimet et al., 1988). This assistance helps to individuals to use their coping strategies in a more effective way (Hodges & Winstanley, 2012; Yildirim et al., 2020). Studies showed that social support has many positive functions and promotes well-being (Arslan, 2021; Alshehri et al., 2020; Brausch & Decer, 2014; Watson et al., 2019). Social support has a positive relation with hope (Zhao et al., 2018; Xiang et al., 2020), social interaction (Yildirim, 2020), post-traumatic growth and self-
respective well-being (Salami, 2010; Zhou et al., 2018; Zhou & Wu, 2016), well-being (Arslan, 2018b; Yarcheski, Mahon & Yarcheski, 2001), optimism (Xie et al., 2018), subjective well-being (Xie et al., 2017), social connectedness (Duru, 2008b), and life satisfaction and resilience (Achour & Nor, 2014). Furthermore, studies documented a negative relationship between social support and negative mental health outcomes such as depression (Bell et al., 2018; Chang et al., 2018), stress (Ortega, 2002), anxiety (Moghtader & Shamloo, 2019), and post-trauma stress disorder (Salami, 2010). For example, in a study conducted on adolescents, Frederic et al. (2018) found that there is a negative relationship between social support and depression and social support functions as a potential protective factor against development of symptoms of depression.

Current Study
The purpose of this study was to examine mediating roles of social support and social connectedness between hope and resilience in adolescents. Many studies have shown that social support and social connectedness have positive effects on adolescents’ mental health and well-being (Arslan, 2018; Adler-Constantinescu et al., 2013; Chang et al., 2018; Lambling et al., 2017; Stumblingbear-Riddle & Romans, 2012; Zhou et al., 2018) and that they have protective functions against negativities (Chang et al., 2018; Fredrick et al., 2018; Zhou et al., 2018). However, evidence regarding the mechanism underlying this relationship is limited. Therefore, it would be important to understand mediating roles of social support and social connectedness with hope and resilience. Moreover, COVID-19 pandemic had psychological, social and educational effects on adolescents and college students (Adnan & Anwar, 2020; Chen et al., 2020; Çiçek, 2021; Çiçek et al., 2021; Çiçek et al., 2020; Gazmararian et al., 2021; Imran et al., 2020; Tanhan, 2020; Tanhan et al., 2020; Waters et al., 2021; Zhang et al., 2020). Thus, it would be important to understand the associations between above-mentioned variables in the face of adversity like the current pandemic. For this purpose, four hypotheses were defined for the study: (i) Hope would positively and significantly predict social connectedness, social support and resilience, (ii) Social support and social connectedness would positively and significantly predict resilience, (iii) Social connectedness would positively and significantly predict social support, (iv) Social support and social connectedness play mediating roles between hope and resilience.

Measures
Brief Perceived Social Support Questionnaire (BPSSQ). The BPSSQ was developed by Kliem et al. (2015) and includes 6 items scored on a 5-point Likert ranging from 1 (not true at all) to 5 (very true). (e.g. “I have friends with whom I can share my joys and sorrows”). High scores on the scale show a high level of perceived social support. Yıldırım and Çelik (2021) adapted the BPSSQ to Turkish and provided good evidence of reliability and validity. Cronbach alpha coefficient for the scale in this study was .90.

Brief Resilience Scale (BRS). The BRS was developed by Smith et al. (2008) and consisting of 6 items rated on a 5-point Likert-type scale. (e.g. “It takes a long time to recover from the negative effects of my life”). Each response ranges from 1 (strongly disagree) to 5 (strongly agree). High scores obtained from the scale indicate that individuals’ resilience and resistance to negativities are high. The adaptation of the scale to Turkish was done by Doğan (2015). In this study, Cronbach’s alpha value of the scale was .75.

Social Connectedness Scale (SCS). The SCS was developed by Lee and Robbins (1995) and includes 7 items that are scored on a 6-point Likert scale (ranging from 1 = totally agree to 6 = totally disagree). (e.g. “I feel disconnected from my surroundings”). High scores on the scale refer to a high level of social connectedness. The scale was adapted into Turkish by Duru (2007). In this study, the Cronbach’s alpha value of the scale was .88.

Children’s Hope Scale (CHS). The CHS was developed by Synder et al. (1997) and comprises 6 items rated on a 6-point Likert Scale (ranging from 1=Never to 6= always). (e. g. “I know that I can find methods or ways to solve the problem, even if others want to give up”). The adaptation of the scale into Turkish was conducted by Atik and Kemer (2009). In the Turkish adaptation the scale includes will and pathways dimensions. In this study, a total score of the scale was computed. The Cronbach’s alpha value of the scale was found to be .82 in this study.

Data Analysis
Prior to testing the mediation model, preliminary analyses were performed to examine descriptive statistics, the assumptions of normality, and correlations between the study variables. Skewness and kurtosis values were checked to examine the assumption of normality, and scores of these statistics lower than |<1| are considered as acceptable level for normality (Field, 2009; Tabachnick & Fidell, 2013).
Pearson product-moment correlation was carried out to examine the relationships between the variables of this study. After examining preliminary analyses and correlations for the study variables, mediation analyses were utilized to examine direct and indirect relationships between the variables and test the mediating roles of social support and social connectedness in the association between hope and adolescents’ resilience (Model 6) using the PROCESS macro version 3.5 (Hayes, 2018) for SPSS. The indirect effects in the model were assessed using bias-corrected bootstrapping approach with a 95% confidence interval (Hayes, 2018; Preacher & Hayes, 2008). All study analyses were conducted using SPSS version 25 for Windows.

Results

Preliminary Analyses

Results from preliminary analyses showed that skewness values ranged between -.37 and .13, and kurtosis values ranged between -.82 and .09. These results suggest that all study measures had relatively normal distribution. Pearson correlation results demonstrated that hope was significantly and positively associated with social connectedness (r = .27), social support (r = .34), and resilience (r = .42). Resilience was also significantly and positively related to social connectedness (r = .28) and social support (r = .34). Finally, social connectedness was positively related to social support (r = .48). Descriptive statistics and correlation analysis results reporting the relationships between the variables of study are shown in Table 1.

Table 1. Descriptive statistics and correlation results

<table>
<thead>
<tr>
<th>Scales</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hope</td>
<td>-.34</td>
<td>-.27</td>
<td>-.42</td>
<td></td>
</tr>
<tr>
<td>2. Social support</td>
<td>-.48</td>
<td>-.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Social connectedness</td>
<td>-.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>34.34</td>
<td>54.48</td>
<td>29.07</td>
<td>18.65</td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>6.63</td>
<td>17.61</td>
<td>10.70</td>
<td>4.47</td>
</tr>
<tr>
<td><strong>Skewness</strong></td>
<td>-.37</td>
<td>-.30</td>
<td>-.11</td>
<td>.13</td>
</tr>
<tr>
<td><strong>Kurtosis</strong></td>
<td>-.40</td>
<td>-.80</td>
<td>-.82</td>
<td>.09</td>
</tr>
<tr>
<td>Internal reliability estimates (α)</td>
<td>.82</td>
<td>.90</td>
<td>.88</td>
<td>.75</td>
</tr>
</tbody>
</table>

**All correlation coefficients significant at level p<.001.

Additionally, according to the gender variable, it shows that the resilience and hope scores of boys differ significantly from those of girls. In other hand, no significant difference was found in social connectedness and social support in terms of gender.

Testing Mediation Model

After examining descriptive statistics and correlation analysis, the mediating effects of social support and social connectedness on the relationship between hope and resilience were examined. Mediation analysis results indicating the direct and indirect effects of hope on resilience through social support and social connectedness are presented in Table 2. Findings from mediation analyses revealed that hope had a significant predictive effect on social connectedness (β = .27) and social support (β = .23). Social connectedness was also a significant predictor of adolescents’ social support (β = .41). Hope explained 7% of the total variance in social connectedness and hope and connectedness accounted for 27% of the total variance in social support. These results indicate that social connectedness mediates the effect of hope on social support, and adolescents with social connectedness are more likely to have high levels of social support.

The results of mediation analyses additionally showed that resilience was significantly predicted by social support (β = .17) and social connectedness (β = .11). Hope had also a significant predictive effect on resilience (β = .33), as shown in Figure 1. Hope, social support, and social connectedness, together, accounted for 23% of the total variance in adolescents’ resilience. Additionally, social support and social connectedness partially mediating between hope and resilience in adolescents. These results suggest that social connectedness and social support are important resources in promoting resilience among high school adolescents. Specifically, social support serves as a unique factor in supporting resilience. The indirect effect for both mediators in the model were significant (standardized total indirect effect = .09, SE = .02 [BootCI = .05, .13]).

Discussion

The purpose of this study was to investigate whether social support and social connectedness play mediating roles in the relationship between hope and resilience in adolescents. The results supported the hypotheses of this study. The results of the study show that hope positively and significantly predicted social connectedness, social support and resilience.
**Table 2. Unstandardized direct and indirect coefficients for the mediation model**

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Consequent</th>
<th>$M_1$ (Social connectedness)</th>
<th>$M_2$ (Social support)</th>
<th>$Y$ (Resilience)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$X$ (Hope)</td>
<td>$M_1$ (Social connectedness)</td>
<td>Coeff.</td>
<td>SE</td>
<td>t</td>
</tr>
<tr>
<td>Constant</td>
<td>$M_1$ (Social connectedness)</td>
<td>.44</td>
<td>.08</td>
<td>5.72</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>18.40</td>
<td>1.93</td>
<td>9.52</td>
</tr>
</tbody>
</table>

$R^2 = .07$  
$F = 32.71; p < .001$

$R^2 = .27$  
$F = 76.62; p < .001$

$R^2 = .23$  
$F = 4.59; p < .001$

Indirect effects of hope on resilience

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>BootLLCI</th>
<th>BootULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hope→connectedness→resilience</td>
<td>.02</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Hope→support→resilience</td>
<td>.03</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Hope→connectedness→support→resilience</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. SE = standard error. Coeff = unstandardized coefficient. X = independent variable; M = mediator variables; Y = dependent variables. Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

**Figure 2. Standardized direct and indirect effects indicating the mediating roles of social connectedness and social support in the association between hope with resilience**

Note. *p<.05, **p<.001.

These results are consistent with earlier studies (Li & Kirmani et al., 2015; Xiang et al., 2020). For example, Zhou et al. (2018) found that hope positively predicted social support among adolescents. Likewise, Zhou et al. (2018) found that social support was positively predicted by hope which mediated the relationship between social support and post-traumatic stress disorder in adolescents. Another study by Liu et al. (2020) revealed that hope had a positive effect on school engagement, and as children's hope levels increase, their level of school engagement also increases. Furthermore, Griggs and Walker (2016) reported a positive and significant relationship between hope and resilience. This suggests that hope has many
positive effects on adolescents’ psychological health. Similarly, Hidayat and Nurhayati (2019) documented that resilience was positively predicted by hope which explained 27.8% of the total variance in resilience. These results collectively support the notion that having a high level of hope substantially affects the resilience of individuals in a positive way.

The results also support the hypothesis that social connectedness and social support positively affect resilience. Similar results as to this hypothesis were obtained in previous research findings (Chang & Yarmal, 2018; Hidayat & Nurhayati, 2019; Kwon, 2018; O’Neill et al., 2020; Rahat & Ilhan, 2016; Salami, 2010; Wilks, 2008; Yıldırım & Çelik-Tanriverdi, 2021). For instance, Achour and Nor (2014) found that there was an association relationship between social support and resilience among high school students. In another recent study, Turgut and Çapan (2017), found that school belonging, and social connectedness significantly predicted resilience in a large sample of high school students. Similarly, studies highlighted that perceived social support from family and peers is an important predictor of high school students’ resilience (Arastaman & Balci, 2013; Bostan & Erding, 2019; Sabouripour & Roslan, 2015). The relationships among the above-mentioned variables have also been confirmed in experimental studies. For example, Scarf et al. (2017) revealed that social connectedness and social support have a positive effect on adolescents’ resilience. In a study conducted by Arslan and Allen (2021) on secondary school students, belonging to school was found to be positively predicted resilience. In summary, all these results show that social connectedness and social support are two important psychological factors in strengthening and improving the resilience of individuals.

Research findings showed that social connectedness positively and significantly predicts social support. As social connectedness levels of adolescent’s increase, their social support levels increase, and they feel more confident. Social connectedness is an important positive predictor of social support among adolescents (Cao et al., 2018; Lee et al., 2017). Collectively, individuals' feeling of belonging and connectedness contributes to their social support.

Finally, the results obtained from this study suggest that the relationship between hope and resilience was mediated by social support and social connectedness. This result shows that social connectedness and social support are two important parameters in strengthening the positive aspects of individuals and improving their psychological health. There is scarcity of evidence regarding simultaneous effects of social connectedness and social support in the relationship between the analysed variables (Duru, 2008b; Hashemi et al., 2020). Despite this, it is important to note that there are studies examining the mediating roles of social connectedness and social support between many variables separately (Gallagher et al., 2014; Hou et al., 2021; Kapıkiran, 2013; Nilsen et al., 2013; Yuan et al., 2018; Zhang et al., 2021; Zhao et al., 2018). For example, Chen et al. (2017) found that social support and self-esteem mediated the relationship between parental attachment and life satisfaction in high school students aged 10-20 years. Arslan (2018) found that social connectedness mediated the relationship between psychological maltreatment and subjective well-being. Likewise, You et al. (2008) revealed that school engagement played a mediating role in the relationship between hope and life satisfaction. Kong et al. (2021), established that social support mediates the relationship between continuous gratitude and subjective well-being and is an important source in increasing gratitude and subjective well-being in adolescents. Furthermore, Wang and Xu (2017) revealed that social support has a mediating role between resilience and quality of life. Liu et al. (2020) determined that the effect of school engagement on reducing the victimization of students and increasing their psychological well-being levels is important. The positive role of social connectedness on important life outcomes has been also established in the face of adversity. For example, Yıldırım et al. (2021) found that social connectedness and optimism mediated the relationship between coronavirus stress and COVID-19 burnout. In summary, high levels of social connectedness and social support make a great contribution to greater hope and strengthen resilience.

**Limitations**

This study is not without limitations. First, the data for this study were collected during the COVID-19 pandemic and in a classroom environment. Therefore, not all students had a chance to participate in the survey as most students did not come to school due to the pandemic. Second, the data for the study were collected from those who were residing in a city center located in south-eastern Turkey. Thus, the results of this study cannot be generalized to all high school students. It would be important to conduct new studies with larger groups and in different cities. Third, the study group...
consists of only high school students. Future studies should conduct studies by including primary and secondary school students. Finally, self-report scales were used to collect data for the study. As such, the participants may have marked their answers biasedly. In this regard, different research methods such as interview and focus groups can be used in future research.

**Conclusion**
The results of the study show that there are positive and significant relationships between social support, social connectedness, hope and resilience in adolescents. A high level of resilience is supported through social connectedness and social support. A high level of hope enables adolescents to possess strong social connectedness, social support, and resilience. Most importantly, social connectedness and social support played a key mediating role in the relationship between hope and resilience of adolescents. Adolescents' positive expectations about the future, high sense of belonging and connectedness, and sufficient support from their social environment affect the development of students' resilience levels positively.

**Compliance with Ethical Standards**

**Ethical Standards**

All study procedures involving human participants followed institutional and/or national research committee ethical standards and the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The research was approved by Batman University/Turkey Ethics Committee.

**Funding**
The author did not receive support from any organization for the submitted work.

**Conflicts of Interest/Competing Interests**
The author declare that they have no conflict of interest.

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Received: July 12, 2021
Accepted: August 8, 2021
Published Online: August 11, 2021

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