

# Social Support and Resilience: The Mediating Role of Loneliness Among Female Sexual Assault Survivors with PTSD

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## ABSTRACT

**Objective:** Psychological resilience refers to the process of harnessing resources such as social support and meaningful interactions in order to better adjust to a host of traumatic events including sexual assault. Sexual assault is one of the most distressing events an individual can experience and still very prevalent in the world. In this study, we aimed to investigate the associations among social support, loneliness, and resilience in a sample of female survivors of sexual assault and a possible mediator role of loneliness between social support and resilience.

**Method:** The study was conducted with 81 female survivors ( $M = 21.01$ ,  $SD = 4.18$ ) who applied to the Istanbul Forensic Institute for their psychiatric evaluation. They were assessed with the UCLA Loneliness Scale, Multidimensional Perceived Social Support Scale, and Resilience Scale.

**Results:** As expected, support and loneliness are moderately correlated with resilience scores. The results of regression analysis and Sobel's significant test displayed that social support has an indirect effect on resilience, and loneliness is the mediator in between. Participants who have social support are less likely to feel lonely, which in turn contributes to more resilience.

**Conclusion:** Social support is effective only when it decreases the sense of loneliness in survivors. Because people prefer not just the presence of others but they also wish to have actual meaningful relationships that would make them feel no longer lonely and socially isolated to cope with adverse events.

**Keywords:** Sexual assault, Posttraumatic Stress Disorder, Psychological Resilience, Social Support, Loneliness

## ÖZ

**Sosyal Destek ve Psikolojik Dayanıklılık: Yalnızlığın TSSB'li Cinsel Saldırı Mağduru Kadınlardaki Aracı Etkisi**

**Amaç:** Psikolojik dayanıklılık, cinsel saldırı dahil birçok travmatik olaya daha iyi uyum sağlamak için sosyal destek ve anlamlı etkileşimler gibi kaynaklardan yararlanma sürecini ifade eder. Cinsel saldırı, bir bireyin yaşayabileceği ve dünyada hala çok yaygın olan en üzücü olaylardan biridir. Bu çalışmada, cinsel taciz mağduru kadınlardan oluşan bir örneklemede sosyal destek, yalnızlık ve dayanıklılık arasındaki ilişkileri ve sosyal destek ile dayanıklılık arasındaki yalnızlığın olası aracı rolünü araştırmayı amaçladık.

**Yöntem:** Çalışma, İstanbul Adli Tıp Kurumu'na psikiyatrik değerlendirme için başvuran 81 ( $Ort = 21,01$ ,  $SS = 4,18$ ) kadın mağdur ile gerçekleştirildi. Katılımcılar, UCLA Yalnızlık Ölçeği, Çok Boyutlu Algılanan Sosyal Destek Ölçeği ve Psikolojik Dayanıklılık Ölçeği (Kendini Toparlama Gücü) ile değerlendirildi.

**Bulgular:** Beklenildiği üzere, destek ve yalnızlık puanları dayanıklılık ile ilişkili bulunmuştur. Regresyon ve Sobel testi'ne göre, sosyal destek dayanıklılık üzerinde yalnızlığın aracılık ettiği dolaylı bir etkiye sahiptir. Sosyal desteği olan katılımcıların kendilerini yalnız hissetme olasılıkları daha düşüktür, bu da dayanıklılığa daha fazla katkıda bulunur.

**Sonuç:** Sosyal destek cinsel travması olan mağdurlarda yalnızlık hissini azalttığı etkilidir. Çünkü insanlar olumsuz olaylarla başa çıkabilmek için sadece başkalarının fiziksel varlığını değil, aynı zamanda sosyal olarak dışlanmış ve izole olmadıklarını hissettiren gerçek anlamlı ilişkilere sahip olmak isterler.

**Anahtar Sözcükler:** Cinsel saldırı, Travma Sonrası Stres Bozukluğu, Psikolojik Dayanıklılık, Sosyal Destek, Yalnızlık

## INTRODUCTION

Studies indicate that between 13% and 25% of women experience interpersonal violence such as sexual assault at some time in their lives,<sup>1,2</sup> which has devastating short-term and long-term impacts on their psychological, cognitive, social and physical health.<sup>3-5</sup> A great deal of research suggests that low self-esteem, suicidal tendencies, sexual problems, substance abuse, somatization, eating disorders, feelings of shame, self-blame, anxiety, and depression are the most common mental health consequences of sexual victimization including PTSD, which is nearly 10 times more likely to develop in a case of sexual assault than any other trauma.<sup>3,4,7-10</sup> Even though research findings suggest that pre-assault (comorbid disorders, prior traumas, etc.), peri-assault (severity, number, physical injury, relationship with the offender, etc.) and post-assault (social resources-support, relationships and coping, etc.) factors are very critical determinants in developing psychopathology, primarily, the PTSD.<sup>11,12</sup> It has been also known that individuals' reactions toward adverse events, even for sexual assault, can differ extensively.

There have been many distinct but interrelated trauma responses in the trauma literature, so far, including posttraumatic growth, recovery, resistance, adjustment and psychological resilience that involve certain personal characteristics leading survivors to cope better with the adversities. For instance, posttraumatic growth (PTG) refers to the positive psychological consequences experienced as a result of the struggle in coping with traumatic events that are positively associated with posttraumatic stress,<sup>13</sup> whereas recovery is defined as gradually returning to the baseline or pre-level of functioning.<sup>14</sup> Psychological resilience is a more complex and multidimensional phenomenon that has no universally accepted definition. According to the American Psychological Association resilience refers to "the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant source of threat."<sup>15</sup> Nevertheless, Bonnano<sup>16</sup> defines resilience as a personality trait rather than a process such as the ability to bounce back and maintain a stable equilibrium, experiencing disruptions for a while and having none or fewer symptoms of PTSD. Nevertheless, a couple of studies suggest that PTG is also positively associated with resilience, which might indicate that the traumatic stress may play a more crucial role in the process of resilience than we predict, as PTG includes traumatic stress.<sup>17,18</sup> Furthermore, there are only cross-sectional studies that have shown that resilience is associated with the absence of PTSD. Surely, it would be more helpful to study resilience with longitudinal designs in order to fully understand the true nature and dynamics of the posttraumatic process. There are inconsistencies in both definitions of resilience whether it is a trait, a state, an outcome, a process or a coping mechanism and there is only a small body of research about resilience and PTSD,<sup>19,20</sup> which led us to do further research on this topic, especially in a sample of sexual assault survivors in Turkey. As resilience is the most frequent consequence of traumatic events,<sup>16</sup> in this study, we attempt to find out the correlates of resilience such as high level of social support and low level of loneliness among sexual assault survivors, diagnosed with PTSD.

Resilience has been a very well-studied research topic that was observed in earthquake survivors,<sup>19,20</sup> veterans,<sup>21</sup> university students,<sup>22</sup> adolescents,<sup>23</sup> Alzheimer's disease caregivers,<sup>24</sup> 9/11 terrorist attack survivors,<sup>25</sup> various cancer patients including ovary and breast cancers as well as HIV/AIDS patients<sup>26-28</sup> and found to be correlated with various psychological, biological and social factors. For instance, it has been linked to high self-esteem and optimism,<sup>29</sup> positive early temperament, and support from primary caregivers,<sup>30</sup> high self-efficacy, control, planning, persistence, and low anxiety,<sup>31</sup> more tolerance and less defensive attitudes toward stressful situations, more positive cop-

ing strategies and self-talk, more empathy and high level of perceived control as well as self-confidence,<sup>32,33</sup> the ability to regulate emotions, strong social support, social connectedness, religiousness, altruism, cognitive flexibility,<sup>34</sup> and high gene-environment interaction including more reactivity in the sympathetic nervous system (SNS), the hypothalamic-pituitary-adrenal axis (HPA axis), the serotonin system, and neuropeptide Y (NPY) levels.<sup>35,36</sup>

In line with these findings, constant overwhelming exposure of stress such as maltreatment during infancy and childhood generates exaggerated responsiveness of SNS and HPA axis which disrupts adaptive stress reactions or stress-threat management for the rest of one's life. Nevertheless, a couple of gene-environment interaction studies have also indicated that changing psychosocial environments such as enhancing social support and feeling of connectedness can inhibit the activation of genes such as short alleles of the serotonin transporter in the appearance of depression.<sup>37,38</sup> In other words, plenty of studies have supported consistently that receiving social support and having meaningful relationships can lead to better adjustments after traumatic events.

Broadly defined, social support is an experience provided by others with emotional (moral support, sympathy or comforting) or instrumental resources (advice or guidance) that helps people cope with stress<sup>39</sup> whereas loneliness refers to subjective feelings and thoughts of being isolated, disconnected or separated from others.<sup>40</sup> Numerous research suggests that both the presence of supportive social network and lack of feeling loneliness generate the sense of solidarity, belongingness, bonding, altruism and mutual helping which increase resilience and psychological health by decreasing the behavioral and physiological stress reactions and increasing the use of adaptive coping mechanisms as well as regulating overwhelming emotions such as anxiety, fear, mistrust, and hopelessness.<sup>35,41-46</sup> Accordingly, most of the studies related to the associations among social support, loneliness, and resilience with a variety of samples of sexual assault survivors have indicated that the presence of social support, feeling connected with someone or something, presence of companionship and not feeling lonely were consistently the significant predictors of positive sequelae and well-being after a sexual assault.<sup>47,48</sup> Furthermore, Brewin, Andrews, and Valentine<sup>49</sup> revealed, in their meta-analysis derived from 85 different studies, that (a) lack of perceived social support, (b) subsequent life stress, (c) trauma severity, (d) adverse childhood, and (e) low intelligence had the strongest effect sizes subsequently. In short, it seems that the survivors with greater social support were more likely to display better adjustment.

In the light of all previous findings, in this study, we aim to find out the relationships among loneliness, perceived social support and resilience, and analyze the possible indirect role of social support on resilience through loneliness in a sample of women with PTSD resulting from a sexual assault. We assume that all the variables would be associated with each other and lack of loneliness is one potential mediator in the relationship between social support and resilience, which means that the presence of social support leads to less loneliness and that would increase resilience scores of the survivors. In other words, we believe that social support works better when it decreases the level of loneliness and that would increase resilience among sexual assault survivors with PTSD.

## METHODS

### Participants and Procedure

The recruitment for the present study occurred from January to May of 2019. Participants were only female survivors who were sent by the local courts to The Council of Forensic Medicine in Istanbul for

a psychiatric assessment. The data were collected randomly by one of the psychiatrists from the council during a regular forensic evaluation. The mean length of time since the traumatic event was 10.25 months ( $SD = 2.44$ ) ranging from 6 to 18 months. All the participants were meeting a moderate level of PTSD for the last month without any obvious clinical comorbidity based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) diagnostic criteria.<sup>15</sup> The exclusion criteria were being under 18 years of age and being illiterate, the use of psychotropic medication, presence of psychotic and organic mental disorders as well as intellectual disability. Approval from the ethics committee of the institute and written informed consent of the participants were obtained. In total, 81 female participants with a mean age of 21.01 years ( $SD = 4.18$ ) ranging from 17 to 38 completed the entire scales, thus, these individuals comprise the sample on which the statistical analysis was based. As seen in Table 1, 63% of the participants indicated that they are high school graduates, 22.2% graduated from secondary school, 12.3% are university graduates. In terms of employment, 55.6% are unemployed, 23.5% are blue-collar workers and 18.5% are students. 74.1% of participants are single, and 16% are married and the rest 9.9% are either divorced or widowed. Regarding the number of siblings, 62.9% have at least three siblings, 24.7% of them have two siblings. Their father's academic involvement is mostly at the elementary school level (66.7%), and secondly, secondary school (22.2%). The family's total income is on minimum wage (82.7%) and 16% has a moderate level of income between 2000-5000 TL. 58% of the offenses were committed by penetration, most often the perpetrators are either blood relatives of the survivors (45.7%) or acquaintances (32.1%) rather than strangers (22.2%). Lastly, in 72.8% of the cases, there are more than one penetration incidents.

#### Measures

**Resilience Scale (RS):** The scale is a 25-item self-report scale assessing psychological resilience levels developed by Wagnild and Young.<sup>50</sup> Items are rated from 1 (very strongly disagree) to 7 (very strongly agree) and its scores are ranging from 25 to 175. The authors recommended that scores 147 and higher indicate high resilience, scores between 120 and 146 are moderate and the scores lower than 120 indicates low resilience.<sup>51</sup> Test-retest correlations were calculated and it ranges from 0.67 to 0.84 and Cronbach's alpha coefficient is 0.91.<sup>50,51</sup> The assessment of psychometric properties in Turkish population was performed by Terzi<sup>52</sup> and one item was omitted from the scale and its psychometric properties were found to be satisfactory. In our study, Cronbach's alpha coefficient was calculated to be 0.92.

**The Multidimensional Scale of Perceived Social Support (MSPSS):** This scale is a 12-item self-report scale assessing perceived social support from three sources: family, friends, and significant others.<sup>53</sup> Items are rated from 1 (very strongly disagree) to 7 (very strongly agree). Total score ranges from 12 to 84 and greater scores indicate greater perceived support. Research has reported satisfactory psychometric properties of the MSPSS.<sup>53,54</sup> Turkish adaptation was conducted by Eker and Arkar<sup>55</sup> and in that study, psychometric properties were found to be satisfactory. The reliability of the scale was ranging from 0.80 to 0.95.<sup>55,56</sup> In our study, Cronbach's alpha coefficient was found to be 0.87.

**UCLA Loneliness Scale (LS):** This is a 20-item self-report scale with a 4-point Likert scale, which measures the perception of feeling lonely and dissatisfaction from relationships.<sup>40</sup> Total scores range from 20 to 80 and higher scores reflect greater dissatisfaction from relationships and a greater sense of loneliness. The internal consistency was reported to be 0.94. The Turkish version of the scale indicated good psychometric properties such as Cronbach alpha being 0.96.<sup>57</sup> In the present study, Cronbach alpha was found to be 0.86.

#### Data Analysis

The Pearson product-moment analysis was performed to examine the associations between variables. In order to determine the indirect role of social support, a mediation model was used. According to Baron and Kenny,<sup>58</sup> four conditions must be obtained to test for mediation. First, the independent variable (social support) must significantly affect the dependent variable (resilience). Second, there must be a significant relationship between the independent variable (social support) and the mediating variable (loneliness). Third, the mediator (loneliness) must be significantly correlated with the dependent variable (resilience). And fourth, when the mediator (loneliness) is added, the significant relationship between the independent variable (social support) and the dependent variable (resilience) must decrease significantly. In our analysis, to examine the significance of the indirect effect of the independent variable (social support) on the dependent variable (resilience) via the mediator (loneliness), Sobel's significance test<sup>59</sup> was used.

#### RESULTS

First of all, prior to statistical analyses, scores on all scales were examined for data cleaning such as outliers and assumptions for multiple regression including normality, outliers, multicollinearity and all found to be satisfactory. The Pearson product-moment correlations were computed for RS (resilience), MSPSS (social support) and LS (loneliness). As expected both MSPSS ( $r = 0.38, p < 0.01$ ), and LS

**Table 1.** Socio-demographic characteristics of the sample

	Female survivors (n = 81)	
	n	%
Educational status		
Elementary school	2	2.5
Secondary school	18	22.2
High school	51	63.0
Undergraduate	10	12.3
Job status		
Unemployed	45	55.6
Student	15	18.5
Blue collar employee	19	23.5
White collar employee	2	2.5
Marital status		
Single	60	74.1
Married	13	16.0
Divorced/widowed	8	9.9
Annual Income		
≤ 2000 TL	67	82.7
2000-5000 TL	13	16.0
≥ 5001 TL	1	1.2
Number of Siblings		
1	10	12.4
2	20	24.7
≥ 3	51	62.9
Father's education		
Elementary school	54	66.7
Secondary school	18	22.2
High school	4	4.9
Undergraduate	5	6.2
Offences		
Presence of penetration	47	58
Absence of penetration	34	42
Number of penetration		
Once	22	27.2
More than once	59	72.8
Familiarity with offenders		
Bloodrelatives	37	45.7
Acquaintances	26	32.1
Strangers	18	22.2

( $r = -0.50$ ,  $p < 0.01$ ) scores are moderately correlated with the RS scores.

**Table 2.** Correlation Matrix and Descriptive data of the variables

Measures	1	2	3
1. Resilience (RS)	-	0.38**	-0.50**
2. Social Support (MSPSS)		-	-0.64**
3. Loneliness (UCLA LS)			-
m	109.55	48.39	47.87
SD	29.01	17.58	11.15
n	81	81	81

\*\*  $p < 0.01$

### Test of Mediation

The mediation model via multiple regression was performed to investigate whether LS (loneliness) could mediate the relationship between MSPSS (social support) and RS (resilience). As for the first and second requirements, MSPSS was associated with LS, which was also positively related to RS (see Table 2). Regarding the third requirement, LS was associated with RS by controlling MSPSS in the regression ( $\beta = -0.42$ ,  $p > 0.001$ ). Lastly, when LS was included in the model, the correlation between MSPSS and RS decreased ( $\beta = 0.11$ ,  $p < 0.38$ ). Sobel's test<sup>59</sup> was significant ( $z = 3.03$ ,  $p = 0.002$ ).

### DISCUSSION

In the current study, we examined the associations among loneliness, perceived social support and resilience in female sexual assault survivors diagnosed with DSM-5 PTSD, and a possible mediator role of loneliness in the relationship between social support and resilience. As expected, all the study variables -loneliness, social support, and resilience- were moderately correlated with each other which has been parallel to previous research findings.<sup>24,44,46,60-62</sup> The results of regression analysis and Sobel's test showed that social support indirectly affected female survivors' resilience scores, mainly by influencing feelings of loneliness. Social support did not have a direct effect on resilience. It has the most effect on resilience when it decreases the feeling of loneliness. In other words, people with social support are less likely to feel lonely, which in turn are more resilient.

Social support includes providing various resources such as material, information, advice, assistance, or emotional comforting to cope with stress.<sup>62</sup> Although the lack of social support is one of the strongest predictors of the development of PTSD and depression,<sup>25,43,49,60-63</sup> the real influence of social support relies on the degree which one's actual needs are met. Time, type, appropriateness and source of social support, and more specifically, "who gives what to whom regarding which problems, when and at what level?" are the key questions, which are more important than the mere presence of social support.<sup>61</sup> Furthermore, in agreement with previous research findings, our findings propose that social support is effective only when it decreases the feeling of loneliness in survivors. Because people prefer not only the presence of others but they also wish to have actual meaningful relationships that would make them feel no longer lonely and socially isolated in order to cope with adverse events.

Even though loneliness and social support are overlapping constructs ranging from 0.37 to 0.58<sup>64,65</sup> and linked to many psychological and physical health consequences,<sup>41,45,65-68</sup> indeed, they are different. Loneliness is very similar to social isolation and has various reasons such as miscommunication and dissatisfaction from relationships other than the absence of social support.<sup>67-69</sup> For some people, even

they receive support from their network, they may not feel that they are not truly connected with or understood by others and thus may not have meaningful relationships with them. On the other hand, a study with a widowed sample has displayed that if one receives sufficient social support, loneliness feelings could be reduced.<sup>70</sup> Similarly, Jackson, Soderlind, and Weiss<sup>71</sup> found that low levels of social support among college students during the middle of the semester were associated with feelings of loneliness at the end of that semester. It seems that receiving adequate or sufficient social support at the beginning of a relationship seems a way to decrease the feelings of loneliness at the end. The presence of social support can be a good start for the construction of a meaningful relationship.

Survivors of sexual assault tend to blame themselves for the occurrence of the traumatic event and are less likely to search for support and emotional disclosure especially because of the fear of being criticized or misunderstood, and labeling or social stigma.<sup>72</sup> However, the more they withdraw and isolate themselves, the greater emotional states such as guilt, shame, grief, panic, anger or rage, psychological distress, and intrusive thoughts as well as flashbacks they would have, which would prevent them to assimilate or reappraise the event. For instance, a study with a diverse sample of community-residing women who experienced sexual assault suggested that negative social reactions and avoidance are the strongest correlates of PTSD symptoms.<sup>72</sup> Especially negative social reactions from others lead to more self-blame which increases the PTSD symptoms in survivors.<sup>72,73</sup> When the survivor has a meaningful relationship with a supportive person having nonjudgmental attitudes, that would facilitate the disclosure of feelings and thoughts about the event. This way the survivor would have a greater emotional adjustment by developing new meanings and schemas to comprehend what happened to her better, thus, become more resilient at the end of the process. Providing social support is doubtlessly critical after a trauma, however, as our study supports that the real help is to offer a meaningful relationship to survivors in which they can feel valuable and authentic.

Nevertheless, our study had a cross-sectional design with a limited number of participants that did not allow us to measure the entire post-trauma process in the long-term. Moreover, we did not use a clinical scale for PTSD. Our focus, for now, was to examine the correlates of resilience, such as social support and loneliness, and their contributions to the determination of resilience among the survivors of sexual assault. As we expected, not only social support itself but also not having a sense of loneliness increase resilience. Thus, effective interventions should include the promotion of social support by meaningful and sincere relations through friends, family, and various organizations or communities whose staff has empathic, sensitive, noncritical, and nonjudgmental attitudes when working with trauma survivors. Because insufficient or inadequate social support with limited social interactions or communication may lead the survivors to be more vulnerable and end up with a more severe level of psychological symptomatology.

### CONCLUSION

In this study, we attempted to make a re-emphasis on the importance of reactions, such as resilience, toward severe traumatic experiences such as sexual assault. Also, we were curious about to what extent loneliness plays a role in the relationship between social support and resilience among the female survivors of sexual assault. The findings indicated that social support is more useful when people do not feel lonely and isolated so that it could strengthen the resilience of people experienced severe traumas, which mostly leads to abrupt negative schema changes such as disbelief in a safe world and future,

especially, in patriarchal cultures like Turkish.

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