

Investigation of the relationship between perceived social support and psychological resilience in bipolar disorder: a cross-sectional study

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ABSTRACT

Objective: Psychological resilience (PR) is a risk factor that is associated with onset of disease, quality of life, and prognosis in bipolar disorder (BD). There are variables that can affect PR positively and negatively; one of them is perceived social support (PSS). The aim of this study was to examine this relationship. **Methods:** The Multidimensional Scale of PSS, Adult PR Scale, and Data Collection Form were requested from 90 patients with bipolar I disorder in the euthymic stage and 30 controls who were matched for age, gender, marital status, and level of education. **Results:** PSS and PR scores were significantly lower in the bipolar group than in the control group. In the control group, only the family subscale of PSS was significantly correlated with PR, while both the family and friend subscales were significantly associated with PR in the bipolar group. In a regression analysis which considered PR as an independent variable, the family and friend subscales of PSS and age at onset were significant. **Conclusion:** Family therapy and peer support groups in addition to medical therapy in BD may contribute positively to prognosis. In addition, training modules to develop PR for BD patients with risk factors such as childhood trauma and early onset would improve prognosis. (*Anatolian Journal of Psychiatry* 2020; 21(1):37-44)

Keywords: bipolar disorder, perceived social support, resilience

Bipolar bozuklukta psikolojik dayanıklılık, algılanan sosyal destekle ilişkili midir?

ÖZ

Amaç: Ruhsal dayanıklılık (RD), bipolar bozuklukta (BB) hastalık başlangıcı, yaşam kalitesi ve prognoz ile ilişkili bir risk etkenidir. RD'yi olumlu ve olumsuz yönde etkileyebilecek değişkenler vardır ve bunlardan biri algılanan sosyal destektir (ASD). Çalışmanın amacı BB hastalarında RD ile ASD arasındaki ilişkiyi incelemektir. **Yöntem:** Ötümik evredeki BB I hastası 90 kişi ile yaş, cinsiyet, medeni durum ve eğitim açısından eşleştirilmiş 30 kişiden oluşan kontrol grubuna çok boyutlu ASD Ölçeği, Yetişkin RD Ölçeği ile Veri Toplama Formu verilmiştir. **Bulgular:** ASD ve RD puanları BB grubunda kontrol grubuna göre anlamlı olarak düşüktü. Kontrol grubunda ASD ölçeğinin aile alt boyutu RD ile anlamlı korelasyon gösterirken, BB grubunda hem aile, hem de arkadaş alt ölçekleri anlamlı

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korelasyon gösterdi. RD'nin bağımsız değişken alındığı regresyon analizinde ASD'nin aile ve arkadaş alt ölçekleri, hastalık başlangıç yaşı ile geçmişte intihar girişimi öyküsü varlığı anlamlı bulundu. Sonuç: BB'de ilaç tedavisine ek olarak aile terapisi ve akran destek grupları prognoza olumlu katkıda bulunabilir. Ek olarak, çocukluk çağı travması, intihar girişimi öyküsü ve erken başlangıç gibi risk etkenleri olan BB hastaları için RD'yi geliştirmeye yönelik ruhsal eğitim modüllerinin prognoza olumlu katkıları olabilir. (Anadolu Psikiyatri Derg 2020; 21(1):37-44)

Anahtar sözcükler: Bipolar bozukluk, algılanan sosyal destek, ruhsal dayanıklılık

INTRODUCTION

Bipolar I disorder (BD) is a chronic disease that causes significant morbidity and mortality in a person's life.¹ Biological, psychological, and cultural factors can affect bipolar disorder. This has led researchers to try to understand protective factors.² Psychological resilience and perceived social support (PSS) are some of these factors.

The American Psychological Association defines resilience as the ability to adapt well to adversity, trauma, tragedy, threat, or even significant sources of stress.³ Resilience is affected by interactions between protective factors, such as positive emotions, realistic optimism, and empathy, and risk factors such as poverty, child abuse, and chronic diseases.^{4,5} Choi et al. found that psychological resilience (PR) was lower in bipolar disorder patients than in controls. They also suggested that low PR is associated with a high number of depressive episodes, and PR could be an important prognostic factor for BD.

It has been stated that natural support systems play an important role in the management of mental problems. For this reason, more and more mental health experts have sought to benefit from the natural support provided by family, friends, and others in the patient's close environment.⁶ Johnson et al. suggested that perception of low social support in BD may increase the risk of relapse.⁷ However, Wang et al. recently reported⁸ that perception of low social support was associated with increased impairment of functionality⁹ in BD, increased symptom severity in depressive and manic attacks, and longer recovery time.¹⁰

Numerous studies have examined the relationship between PSS and PR. Terzi found a significant relationship between PR and PSS in university students and healthy people.¹¹⁻¹³ Similarly, PSS has been reported to affect PR positively in nurses,¹⁴ caregivers,¹⁵ and cancer patients.¹⁶ Apart from studies in the healthy population, PSS was positively correlated with psychological resilience in patients who were awaiting liver transplantation¹⁷ and in gender dysphoria.¹⁸ Akbaş et al. showed that post-traumatic stress disorder (PTSD) and depression symptoms de-

crease with increased PSS.³⁵ In another study, it was suggested that PSS and PR mediate the relationship between PTSD and posttraumatic growth.¹⁹ Furthermore, it has been emphasized that PSS and PR may play a protective role against depressive symptoms in pregnant women with negative experiences.²⁰

Although the relationship between PSS and PR has been studied in a number of studies, to our knowledge, there is still no study to investigate this relationship in BD patients. The aim of this study was to investigate the relationship between PSS and PR in BD patients in the euthymic period and to compare them with healthy subjects. We hypothesized that PSS and resilience scores would be higher in a control group than in a BD group, and that PSS resources related to resilience would be different between BD and control groups (i.e., in healthy controls, resilience is more related to PSS from family or friends, but in BD patients, resilience is more related to friends or special persons).

METHODS

Participants and procedure

Ethical committee approval of the study was obtained from the local ethics committee of Bakırköy Mental Health and Neurological Diseases Training and Research Hospital (BRSHH). The participants consisted of volunteers who registered in the outpatient clinic for the first 3 months of 2018. The inclusion criteria were to have diagnosis of bipolar I disorder for at least one year and to be in the euthymic stage, literate, between 18-65 years of age, and to give consent to participate in the study. Volunteers who were known to have any comorbid psychiatric disorders (first or second-axis diagnoses such as mental retardation, personality disorder, or obsessive compulsive disorder) from the outpatient file record were excluded. The control group consisted of volunteers matched with the bipolar group in terms of age, gender, and marital status. Those volunteers were chosen from a healthy population who had never sought psychological or psychiatric help in the past. Volunteers with known mental illness or those

using psychiatric drugs were not included in the control group.

After consent was obtained, the participants were taken into a clinical interview in order to evaluate their mania or depression symptoms. This was performed in accordance with the mood disorder module of SCID I. Patients who did not meet the criteria for mania, depression, or hypomania were included in the study, as they were in the remission and euthymic period. For study fidelity, all interviews were done by the same psychiatrist, who is very experienced with SCID and who has taken diagnostic interview training in different research projects. Then, a test battery consisting of a clinical data form, a psychological resilience scale for adults, and a perceived social support scale was given to the participants. The participants were individually asked to complete the tests in a room alone so that we would not see who gave the specific answers.

Measures

Data Collection Form: This form consisted of questions regarding the sociodemographic characteristics of the participants, such as age, gender, marital status, educational level, and working status, and the clinical features of the disease such as number of hospitalizations, age of onset, and alcohol use or smoking. The forms were completed by the interviewer with information obtained from the participants' file records.

Multidimensional Scale of Perceived Social Support: The Multidimensional Scale of Perceived Social Support was developed by Zimmet et al. The factor structure, validity, and reliability of the revised Turkish form were developed by Eker et al.⁶ The scale consists of 12 items that include a subjective assessment of the adequacy of social support perceived from three different sources: family, friends, and a special person. Cronbach's alpha values were between 0.80 and 0.85. The scale and the subscales showed acceptable internal consistency.⁶

Psychological Resilience Scale for Adults: The Psychological Resilience Scale for Adults was developed by Friberg et al.²¹ In a study conducted by Basım and Çetin, the Turkish version was found to be valid and reliable. The scale consists of 33 items, and each item is evaluated on a 5-point Likert-type scale. The scale has constructive and discriminant validity characteristics and it is internally consistent. The Cronbach's alpha values of the subscales vary between 0.67 and 0.90.²²

Statistical analysis

BD and control groups were compared with chi-square tests for categorical variables and Student's t-tests for parametric variables. The relationship between parametric variables was analyzed by Pearson's correlation test, and the relationship between PR scores and categorical variables was analyzed by Spearman's test.

Additionally, a multiple regression analysis was performed using the total scores of the PR Scale for Adults as the dependent variables, with the Multidimensional Scale of PSS scores and subscale scores of age, gender, and age at onset as the independent variables. The results were evaluated at the 95% confidence interval, with $p < 0.05$ as the significance level and $p < 0.01$ and $p < 0.001$ as advanced significance levels. In order to assess the relationship of both psychosocial support total scores and psychosocial support subscales scores with resilience, two models were created (Model 1 and Model 2).

RESULTS

Ninety patients with BD, 63 of whom were women (70%), were included in the study group, and 30 people in the control group. The average ages were 37.32 ± 11.64 years for the BD group and 35.3 ± 10.15 years for the control group. A significant difference between the BD group and the control group was observed for occupational status ($p = 0.003$) and smoking ($p = 0.027$), whereas no significant differences were found for age, gender, education level, or marital status (Table 1). It was observed that the mean age at onset in the bipolar disorder group was 25.84 ± 10.67 years, and the mean number of hospitalizations was 2.49 ± 2.86 .

The mean PR score in the bipolar disorder group was 98.91 ± 17.89 , and the mean PSS score was 54.35 ± 16.09 . PR and PSS scores were significantly lower in the bipolar disorder group than in the control group (respectively ($t = -3.4$, $p = 0.001$) and ($t = -2.3$, $p = 0.018$)). While the family subscale of PSS subscale scores did not show a significant difference between the two groups ($t = -0.8$, $p = 0.43$), the partner ($t = -2.1$, $p = 0.035$) and friend ($t = -2.4$, $p = 0.015$) subscale scores were significantly higher in the control group (Table 2).

There was no significant relationship between age, gender, and smoking and psychological resilience in either of the groups (Table 3). Both BD ($r = 0.49$, $p < 0.001$) and control groups ($r = 0.53$, $p < 0.001$) had a positive and moderate

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Table 1. Sociodemographic and clinical features of the bipolar disorder (BD) and control groups

| | BD (n=90) | | Control (n=30) | | p |
|-------------------------------|-------------|------|----------------|------|-------|
| | n | % | n | % | |
| Gender | | | | | 0.37 |
| Female | 63 | 70.0 | 18 | 60.0 | |
| Male | 27 | 30.0 | 12 | 40.0 | |
| Marital status | | | | | 0.745 |
| Single | 34 | 37.8 | 10 | 33.3 | |
| Married | 44 | 48.9 | 17 | 56.7 | |
| Divorced | 12 | 13.3 | 3 | 10.0 | |
| Education | | | | | 0.327 |
| Primary school | 37 | 40.0 | 17 | 56.7 | |
| High school | 31 | 34.4 | 9 | 30.0 | |
| University | 22 | 25.6 | 4 | 13.3 | |
| Occupation | | | | | 0.036 |
| Working | 23 | 25.6 | 15 | 50.0 | |
| Not working | 62 | 68.9 | 13 | 43.3 | |
| Irregular | 5 | 5.6 | 2 | 6.7 | |
| Smoking | | | | | 0.027 |
| More than 10 years | 22 | 24.4 | 8 | 26.7 | |
| No smoking | 50 | 55.6 | 22 | 73.3 | |
| Less than 10 years | 18 | 20.0 | 0 | 0 | |
| General medical condition | | | | | 0.38 |
| Yes | 17 | 18.9 | 7 | 23.3 | |
| No | 73 | 81.1 | 23 | 76.7 | |
| Alcohol use | | | | | 0.33 |
| Yes | 5 | 5.6 | 0 | 0 | |
| No | 85 | 94.4 | 30 | 100 | |
| Suicide history | | | | | 0.003 |
| Yes | 20 | 22.2 | 0 | 0 | |
| No | 70 | 77.8 | 30 | 100 | |
| Age (year) (Mean±SD) | 37.32±11.64 | | 35.3±10.15 | | 0.39 |
| Age of onset (year) (Mean±SD) | 25.84±10.67 | | - | | - |
| Number of hospitalization | 2.49±2.86 | | - | | - |

statistically significant correlation between PR and PSS total scores. However, while PR was correlated with PSS family ($r=0.38$, $p<0.001$), special person ($r=0.27$, $p<0.001$), and friend ($r=0.45$, $p<0.001$) subscales in the bipolar disorder group, in the control group, only the family ($r=0.62$, $p<0.001$) and friend ($r=0.54$, $p<0.001$)

subscales were correlated (Table 3). In addition, a weak correlation was found between the PR and age at onset ($r=0.29$, $p<0.001$) in the bipolar disorder group (Table 3).

Two models were used in multiple regression analyses in which PR was dependent, and PSS

Table 2. Comparing bipolar disorder (BD) and control group for perceived social support (PSS) and resilience

| | BD (n=90) Mean±SD | Control (n=30) Mean±SD | t | p |
|--------------------------|----------------------|---------------------------|------|-------|
| Psychological resilience | 98.91±17.89 | 111.2±4.43 | -3.4 | 0.001 |
| PSS | 54.35±16.09 | 62.6±17.17 | -2.3 | 0.018 |
| Family | 20.81±7.33 | 22.0±6.75 | -0.8 | 0.42 |
| Special person | 15.97±7.91 | 19.4±6.71 | -2.1 | 0.035 |
| Friends | 17.38±7.11 | 21.2±7.90 | -2.4 | 0.015 |

Table 3. Correlations between psychological resilience scores and clinical features in BD and control groups

| | BD | Control |
|---------------------------|--------|---------|
| PSS | 0.49** | 0.53** |
| Family | 0.38** | 0.62** |
| Special person | 0.27** | 0.16 |
| Friend | 0.45** | 0.54** |
| Age | 0.11 | 0.19 |
| Gender | 0.14 | 0.79 |
| Age of onset | 0.29** | - |
| Number of hospitalization | 0.01 | - |
| Alcohol use | 0.04 | a |
| Smoking | 0.10 | 0.28 |

PSS: Perceived Social Support, BD: Bipolar Disorder, a: there was nobody has alcohol use in control group, *: $p < 0.01$

and some clinical variables were taken as independent variables to examine correlation (Table 4). The only variable in the first model that showed a significant relationship with PR was PSS ($p=0.001$). In this model, PSS explains 29.7% of variance. The other model explained 34.2% of the variance. The variables that had a significant relationship with PR were gender ($p=0.01$), age at onset of the disease ($p=0.03$), family dimension ($p=0.03$), and friendship dimension ($p=0.001$) of the PSS scale (Table 4).

In the control group, the first model explained 21.2% of the variance. In this model, PSS was the only variable that showed a significant relationship with PR that was similar to the bipolar disorder group ($p=0.005$). The second model explained 37.7% of the variance. In this model, there was a significant relationship between

Table 4. Multiple linear regression analysis of the association between Resilience Scale scores and clinical variables in bipolar disorder and control groups

| | Bipolar disorder | | | f^2 | Control | | | f^2 |
|---------------------------|------------------|--------|-------|--------------------|---------|--------|-------|--------------------|
| | β | t | p | | β | t | p | |
| Model 1 | | | | 0.581 ^a | | | | 0.542 ^c |
| Age | 0.019 | 0.148 | 0.88 | | -0.104 | -0.624 | 0.53 | |
| Gender | -0.179 | -1.95 | 0.05 | | -0.035 | -0.209 | 0.83 | |
| Age at onset | 0.129 | 0.931 | 0.35 | | - | - | - | |
| Number of hospitalization | -0.119 | -1.175 | 0.24 | | - | - | - | |
| PSS scores | 0.497 | 5.318 | 0.001 | | 0,513 | 3.048 | 0.005 | |
| Model 2 | | | | 0.628 ^b | | | | 0.696 ^d |
| Age | -0.096 | -0.786 | 0.43 | | -0,162 | -1.058 | 0.30 | |
| Gender | -0.243 | -2.623 | 0.01 | | 0,019 | 0.128 | 0.9 | |
| Age at onset | 0.26 | 2.131 | 0.03 | | - | - | - | |
| PSS subscales | | | | | | | | |
| Family | 0.195 | 2.097 | 0.03 | | 0,561 | 3.261 | 0.003 | |
| Friend | 0.362 | 3.625 | 0.001 | | 0,313 | 1.603 | 0.12 | |
| Special person | 0.067 | 0.698 | 0.48 | | -0,226 | -1.273 | 0.21 | |

β : standardized regression coefficient; f^2 : Cohen's f^2 values (0.35: large, 0.15: medium, 0.02: small effect sizes); a: $R^2:0.337$, adjusted $R^2:0.297$, $F:8.34$, $df:5$, $p<0.001$; b: $R^2:0.394$, adjusted $R^2:0.342$, $F:7.52$, $df:7$, $p<0.001$; c: $R^2:0.292$, adjusted $R^2:0.212$, $F:3,59$, $df:3$, $p=0.027$; d: $R^2:0.485$, adjusted $R^2:0.377$, $F:4,51$, $df:5$, $p=0.005$

PR and the family subdimension of PSS in the control group, unlike the bipolar disorder group ($p=0.003$) (Table 4).

DISCUSSION

In our study, we aimed to investigate the relationship between PR and PSS. We found that, compared to the control group, individuals in the BD group had significantly lower scores in PR

and PSS. In both the BD and control groups, the PSS scale score correlated with resilience, whereas in the BD group, the age of onset of the disorder correlated with resilience. However, we found that the PR was significantly predicted by the friend and family subdimensions of the PSS in the BD group, while only the family subscale was significantly predictive of PR in the control group.

Previously, it was found that there was a relationship between PSS and PR in studies with mostly healthy groups.^{18,23-26} In the current study, we found that PSS and PR were significantly lower in individuals with bipolar disorder than in the control group. PR is considered a risk factor that has been studied more recently and can affect the course of mental illnesses independently.²⁷ For example, PR has been studied in anxiety, PTSD, and depressive disorder. PR has been shown to be associated with the onset of the disorder, the severity of symptoms, and treatment response.⁵ The effect of PR on the onset and prognosis of the disease in bipolar disorder and the role of its relationship with PSS in pathogenesis is not completely clarified. Another finding from our study is that there is a significant relationship between a low age at onset of disorder and low resilience in bipolar patients. However, Fleming and Ledogar suggested that resilient individuals could better react and put their resources into use to cope with existing stress conditions.²⁷ Taken together, these findings indicate that patients with bipolar disorder may not be able to deploy their social support systems properly, even though social support systems are a resource patients can use when trying to cope with stress. This may be making the bipolar patients less resilient. However, our study was a cross-sectional study, and the study group consisted of patients who had been diagnosed with bipolar disorder for a long time, and whose condition was considered chronic. Therefore, it is very difficult to comment on the pre- and post-disease state of PR and PSS. In the future, the relationship between PSS and PR should be studied with prospective methodology in the pre-clinical phase or in predisposed individuals, such as first-degree relatives of people diagnosed with bipolar disorder.

One of the important findings we found in our study was that friend and special person subscales of PSS were significantly lower in the BD group than in the control group. In addition, the frequency of being employed in the BD group was significantly lower than in the control group. This may be the reason for the lower scores of friends and special person subscales in the BD group than in the control group. Moreover, the relationships of the friend and special person subscales with resilience in the BD group were weaker than in the control group. This may be because relationships with other people at work increase perceived social support.²⁹ It has been suggested that there may be a dual relationship between work ability and PSS.³⁰ The low level of

regular employment in patients with BD may result in a lack of qualified social support from these sources. Thus, these resources may not be available for psychological resilience.³¹ However; low perceived social support may also decrease the ability of bipolar patients to work. Further research is needed to clarify that relationship.

The results of this study showed that each subdimension of PSS was not related to PR in the same ways. In addition, we found that only the family subdimension in the control group and both the family and friend subdimensions in the BD group were significantly associated with PR. Similarly, Başar et al. found in their study with trans individuals that perceived social support from family and private persons did not predict PR. It was determined that PSS of friends was significantly predicted, and they emphasized the importance of peer support. The inability to provide such support from the family may be related to conflicts with the family because of the disorder.¹⁸ According to the findings of our study, it can be said that not every subtype of perceived social support contributes to PR at the same rate. While social support from special people does not make a significant contribution to PR, social support from family and friends contributes significantly to psychological resilience. This was seen in bipolar disorder patients but not in the control group. Social support for bipolar patients is more challenging to qualify. For this reason, it can be argued that peer group formation in bipolar disorder patients and close friendship relationships that do not create emotional burdens may improve PR and have positive effects on both quality of life and prognosis. Similarly, Community Mental Health Centers (CMHC), which are becoming widespread in our country, can be constructed as centers providing qualified social support to bipolar disorder patients.

To conclude, in addition to pharmacotherapy, family therapy and peer groups may contribute to treatment in BD patients. Moreover, there is need for further research to understand possible effects of PSS and PR as risk factors for BD development. Finally, for patients with risk factors such as childhood trauma and early onset age, training modules to improve PR can be applied.

The limitations of this study are as follows. Because this research was cross-sectional, it is difficult to determine the causal direction of relationships involving resilience, perceived social

support, and other variables. Although we assessed participants for their symptoms to ensure they did not meet BD attack criteria, the multi-dimensional scale of PSS is not an objective measure and can be influenced by the patient's medications and residual symptoms, which were not evaluated in the current study. Even though

volunteers who were known to have any psychiatric disorder for first and second-axis diagnoses from their outpatient file records were excluded, all participants were not assessed completely for second-axis diagnoses or comorbid psychiatric disorders. That is another important limitation of this study.

Author's contributions: E.U.: finding subject, statistics, writing manuscript; E.Ö.: data collection; R.B.C.: data collection; Ş.B.: finding subject, data collection; B.R.E and N.Ş.E.: reviewing the manuscript.

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