

The Mediating Role of Perceived Social Support in the Relationship Between Psychological Resilience and Depression Level in a Sample of Prisoners

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ABSTRACT

Background: According to statistical data, the number of people committing a crime is increasing day by day. This situation makes it necessary to examine and improve the psychological conditions of prisoners. Previous researches in the literature show that depression is a prominent psychiatric illness for prisoners. It is seen that depressive symptoms have been frequently studied in terms of their relationship with perceived social support and psychological resilience. In this study, the hypothesis that perceived social support will play a mediating role in the relationship between psychological resilience and depressive symptoms has been tested.

Methods: A total of 494 prisoners from the prisons in Turkey were accepted as participants. Information was collected from the participants with Beck Depression Inventory, Multidimensional Scale of Perceived Social Support, and The Resilience Scale for Adults and Demographic Form.

Results: Based on the analysis, the hypothesis of the study was supported, and it was found that perceived social support played a mediating role in the relationship between psychological resilience and depressive symptom.

Conclusions: The evaluation of psychological resilience and perceived social support, which are established to be important factors for prisoners, can also be put forth to be the factors that could be protective. Clinical implications, limitations, and suggestions for future studies were discussed.

KEYWORDS: Depression, forensic psychiatry, prisoners, psychological resilience, perceived social support

INTRODUCTION

According to both international and national data, it is seen that the number of criminals and prisoners has been gradually increasing. Turkish Statistical Institute's data show that the number of incarcerated individuals reached 264 842 in 2018 in Turkey. In addition, statistics show that the increase in the last 5 years is 46.70%.¹ This increase may also affect the occupancy rates in prisons and the living conditions of prisoners. When the psychological condition of being a convict and bad living conditions are combined, the mental health of incarcerated individuals can get worse.²⁻⁴ Thus, it is thought that the examination of prison lives and psychological conditions of incarcerated individuals has become an important issue. When earlier studies are examined, it is understood that there might be a relationship between being a prisoner and mental health in many ways. Gender, the type of crime committed, the status of being sent to prison for the first time or repeatedly, culture, and the characteristics of the prison (such as security level) are seen to be the most striking factors affecting mental health.^{5,6}

Defining the mental health of incarcerated individuals, which is related to many factors, has been the subject of many studies. In a review study, depression, psychotic disorder, and antisocial personality disorder were found to be the most common mental health disorders.⁷ According to Wortzel, Binswagner, Anderson, and Adler,⁸ it was found that 24% of prisoners had depression, 17.70% anxiety disorder, 14.86% drug/alcohol addiction, and 6.20% schizophrenia. The literature shows that depression is one of the most common disorders in this population.⁹ When depression in prison is examined, social role change, loss of freedom, and loss of perceived social support are seen as situations that cause and/or increase depressive symptoms.¹⁰ It has been determined that depressive symptoms are associated with factors such as loneliness, suicidal thoughts, frequency of visits, crime type, and perceived social support.¹¹⁻¹³ Some of these factors are found to be increasing the depressive symptoms and some were found to be protective. For example, loneliness, loss of freedom, suicidal thoughts, hopelessness, low

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education level, and length of punishment increase the risk of depression and depressive symptoms^{11,12,14} and education level, perceived social support, and endurance level were found to be considered as protective factors.^{11,15-17} Perceived social support, which is seen as a protective mechanism for level of depressive symptom, has been defined by Cohen and McKay¹⁸ as a structure that provides a buffer zone against individuals' stressful life events. It is known that this buffer zone directly and indirectly affects people's mental health.¹⁹ In a study evaluating perceived social support as a protective factor, it was emphasized that perceived social support had an important role in reducing the negative effects of anxiety and depressive symptoms.²⁰ The role of perceived social support in the prisoner sample is frequently tested and it is seen that its protective role is confirmed in this sample. For example; in a study conducted in a national sample, it was found that perceived social support was in a negative relationship with symptoms such as anger, aggression, depressive symptoms, and distancing from a sense of reality.¹⁶ In another study examining the effects of perceived social support, it was observed that perceived social support revealed a negative relationship with both traumatic cognitions and trauma symptoms.²¹ Thus, it is understood that perceived social support can have a direct and indirect protective effect on the psychological status of prisoners. It is understood that another concept seen as protective is psychological resilience. Psychological resilience is also a concept that has been studied recently in Turkish literature. "The power of self-recovery after difficult life events."²² could be the best definition of psychological resilience. Truffino²³ defined psychologically resilient individuals, who have the ability to control the traumatic recall process, can integrate their memory and emotions well, manage emotions related to the trauma they have experienced, have good self-esteem, can adapt internally, and establish secure interpersonal bonds. Also, psychologically resilient individuals are able to realize the impact and develop a positive meaning as a result of the events they have experienced. As it can be shown from the definitions, it is understood that this concept can also provide important findings in the prisoner's profile. In the study

conducted by Haase,²⁵ it is stated that psychological resilience may be related to psychological characteristics of prisoners, support systems outside prison, and family adaptation factors. From this point of view, it is thought that psychological resilience and perceived social support will be related to each other and will act as a protective factor in terms of psychological symptoms. According to a study investigating the relationship between psychological resilience and perceived social support of the prisoners, the perceived social support from family and psychological resilience are related. Also, the perceived social support from the family can provide social and emotional positive features.¹⁷ In the light of the relevant literature, it was aimed to define the relationship between the psychological resilience, depressive symptom level, and perceived social support level of prisoners and also to test the mediating role of perceived social support in the relationship between psychological resilience and depressive symptom.

Given the current research on the psychological condition of incarcerated individuals and in the light of the literature, the hypotheses of the current study were determined as follows:

Hypothesis 1: Levels of perceived social support and psychological resilience of prisoners are expected to predict the level of depressive symptoms.

Hypothesis 2: The level of perceived social support (total) will play a mediating role in the relationship between prisoners' level of psychological resilience and depressive symptoms.

Hypothesis 2.1: All levels of perceived social support (from family, from friends and from significant other) of prisoners' will play a mediating role in the relationship between levels of psychological resilience and depressive symptoms.

METHODS

Participants

In total, 405 of the participants are men (82%) and 89 are women (18%). The sample was created using convenience sampling in the study. Participants were selected, with the permission obtained from the Ministry of Justice General Directorate of Criminal and Detention Houses from 3 prisons in X = İzmir (A = İzmir Open Type Prison, B = İzmir Women's Closed Type Prison, and C = İzmir Fourth Closed Type Prison named) and 494 prisoners participated in the study. Participants' ages are between 18 and 84 (34.25 ± 10.48). To be a participant; inclusion criteria were defined as being 18 and above, being convicted, and being on no ongoing psychiatric treatment. The exclusion criteria were to be younger than 18 years of age, illiteracy, older than 75 years, and insufficient cognitive skills such as reading and comprehension, and continuing psychiatric

MAIN POINTS

- Correlation analysis showed that the levels of depressive symptoms, perceived social support, and psychological resilience of prisoners are correlated.
- Psychological resilience and perceived social support are independent predictors of the level of depressive symptoms.
- Perceived social support has a mediator role between psychological resilience and level of depressive symptoms.
- It was suggested that psychological resilience and perceived social support can be a protective factor for depressive symptoms.

treatment. At the end of the examination, it was decided that 6 participants were not included in the study because they left the questionnaire set unfinished. Also, elderly participants who were not in good physical and psychological health were not included in the study. Thus, the study was completed with data from 494 participants (see Table 1 for more information about demographics of participants).

INSTRUMENTS

Beck Depression Inventory

It was created by Beck, Rush, Shaw, and Emery²⁶ to determine the level of depressive symptoms. The responses of the participants were obtained by using the

Table 1. Descriptive Statistics of Demographics

Variables	n	%	Mean \pm SD
Age			34.25 \pm 10.48
Gender			
Women	89	22.07	
Men	385	77.93	
Marital status			
Married	204	41.30	
Single	181	36.60	
Divorced	77	15.60	
Engaged	14	2.80	
Widow	17	3.40	
Education status			
Literate	58	11.70	
Primary school	261	52.80	
High school	143	28.90	
Undergraduate and Graduate	30	6.10	
Prison type			
A	251	50.80	
B	154	31.20	
C	89	22.07	
Previous prison life			
Found before	276	66	
First time	217	44	
Period of penalty (month)			118.68 \pm 101.02
Crime type			
Selling drugs	66	13.40	
Murder	60	12.10	
Wounding	43	8.70	
Looting	42	8.50	
Fraud	27	5.50	
Embezzlement	17	3.40	
Others	41	8.30	
Multiple crime	34	6.90	
Unwilling to inform	48)	9.70	
Visitor status			
Having visitors	398	78.50	
Having no visitors	105	22.50	
Request for help from psychosocial services			
Yes	155	31.40	
No	399	68.60	

SD, standard deviation; A,B,&C, names of prisons.

4-point Likert Scale. The high scores from this inventory consisting of 21 items indicate a high depressive level. The adaptation of the scale to Turkish and its reliability studies was carried out by Hisli.²⁷ The Cronbach's alpha value calculated for the current study is 0.89.

Multidimensional Perceived Social Support Scale

The scores obtained from this scale provide information about the source and level of perceived social support.²⁸ The scale consisted of 12 questions where the responses were self-recorded in a 7-point Likert Scale. High scores indicate that perceived social support is also high. The scale was adapted to Turkish by Eker, Akar, and Yaldız.²⁹ Cronbach's alpha values calculated for current research are between 0.80 and 0.88 and are understood to be suitable for use.

Resilience Scale for Adults

This scale, which was created by Friberg, Barlaug, Martinussen, Rosenvinge, and Hjemdal,³⁰ provides information about the level and the source of psychological resilience. This scale consists of 33 expressions and has a 5-point Likert-type evaluation. It provides information about both total score and 6 subscales. The scale was translated into Turkish by Basım and Çetin³¹ and its psychometric properties were determined. Cronbach's alpha values calculated for the current study ranged between 0.63 and 0.89.

Procedure

All necessary permissions were obtained from the Human Subjects Ethical Review Board at Gediz University (dated July 15, 2014, and number B.M.2014/1707) and the Turkish Republic Ministry of Justice General Directorate of Criminal and Detention Houses (dated July 23, 2014, and number 57292265-204.06.03-1330/126785). After the permits were obtained, the participants from A, B, and C Institution were accepted to the study. After taking the consent of the participants, the questionnaire set was distributed to the participants. While the scales are filled in the show halls of prisons, the researcher and 3 guards accompanied this process as observers. An information form was given to the participants after the questionnaire was set and there was no time limit to complete the questionnaire set. The survey took about 45 minutes to complete. While filling the sets, balancing was made in the order of the scales in order to prevent the practice effect.

Statistical Analysis

The obtained data was entered into the Statistical Package for the Social Sciences (SPSS) version 20.0 (IBM SPSS Corp.; Armonk, NY, USA) and Expectation-Maximization (EM) Analysis analysis was performed for missing data. The value of $P < .05$ was considered statistically significant. Before conducting the analysis, in order to test the normality assumption of the data, kurtosis and skewness values were also examined and

Table 2. Mean and Standart Deviation Scores of Scales Used (n=474)

Scales	Mean ± Standard Deviation	Min.-Max.
1.BDI	0.92 ± 0.56	0.00-2.62
2. MSPSS_Total	2.27 ± 0.31	1.00-3.00
3. MSPSS_Fa	2.50 ± 0.61	1.00-3.00
4. MSPSS_Fr	2.95 ± 0.72	2.25-3.75
5. MSPSS_SO	2.21 ± 0.72	1.00-3.00
6. RSA	2.23 ± 0.48	1.39-2.97

BDE, Beck Depression Inventory; MSPSS, Multidimensional Scale of Perceived Social Support (Fa, family sub-scale; Fr, friend sub-scale; SO, significant others); RSA, = Resilience Scale for Adults.

it was seen that the normality assumption was confirmed. The mean and standard deviation values of the variables are summarized in Table 2. Correlation analysis was used to examine the relationship between variables. Pearson correlation coefficient was calculated among the perceived social support, depressive symptom, and psychological resilience variables. In order to test the hypotheses of the research, correlation analysis and regression analysis were conducted using PROCESS V.2.16.1 in SPSS.³²

RESULTS

As a result of the calculation, it was concluded that there was a significant correlation between all the variables. That is, the levels of depressive symptoms, perceived social support, and psychological resilience of prisoners are related to each other. It was observed that the depressive symptom level was negatively correlated with perceived social support ($r = -0.36, P < .001$) and psychological resilience ($r = -0.54, P < .001$). In addition, the Pearson correlation coefficients and relationship directions of the sub-scale of perceived social support (family, friend, and significant others) are given in Table 3.

Regression analysis was applied to the relevant variables in order to examine the mediations. Statistical Package for the Social Sciences PROCESS³² was used for this regression analysis. Preacher and Hayes³³ state that 3 conditions must be met in order to perform mediation analysis. First, the dependent variable and mediator variable should be significantly related; second, the relationship between the mediator and independent variable is expected to be significant; third, the dependent variable is expected to have a significant effect on the independent variable. Under these conditions, the variables of the study were examined. After the analysis, it was understood that the assumptions for the mediation analysis were corrected. Also, no multicollinearity problems were observed, with the highest correlation coefficient was 0.54.

Mediation analysis was conducted to better understand the relationship between variables. When the effect of total perceived social support, which is the mediator

Table 3. Correlation Coefficients of Variables

Correlations		1	2	3	4	5	6
Measurements							
1. BDI	<i>r</i> <i>P</i>	1.000 <.001					
2. MSPSS_Total	<i>r</i> <i>P</i>	-0.360 <.001	1.000 <.001				
3. MSPSS_Fa	<i>r</i> <i>P</i>	-0.297 <.001	0.759 <.001	1.000 <.001			
4. MSPSS_Fr	<i>r</i> <i>P</i>	-0.248 <.001	0.693 <.001	0.335 <.001	1.000 <.001		
5. MSPSS_SO	<i>r</i> <i>P</i>	-0.295 <.001	0.814 <.001	0.403 <.001	0.387 <.001	1.000 <.001	
6. RSA	<i>r</i> <i>P</i>	-0.544 <.001	0.514 <.001	0.482 <.001	0.354 <.001	0.336 <.001	1.000 <.001

BDE, Beck Depression Inventory; MSPSS, Multidimensional Scale of Perceived Social Support (Fa, family sub-scale; Fr, friend sub-scale; SO, significant others); RSA, Resilience Scale for Adults.

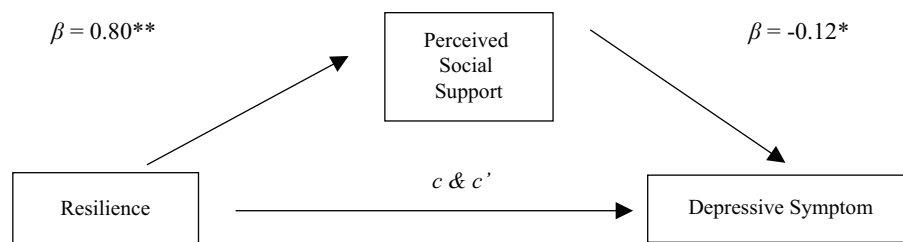
variable, is examined, it is seen that the direct ($\beta = -0.88$, $P < .001$) and indirect ($\beta = -0.10$, CI [-0.20, -0.001]) effects are significant. Baron and Kenny³⁴ called the situation in which the power of the predictive variable lost its significance when the mediator variable entered the model as “full mediation.” When this situation is controlled, it has been understood in the current study that perceived social support has a “partial mediator” (see Figure 1). Approximately 30% of the change in the level of depressive symptoms, which is the independent variable of the study, can be explained by perceived social support and psychological resilience ($R^2 = 0.30$, $P < .001$). The indirect effect was tested by generalizing 1000 samples using the bootstrap estimation method.³⁵ Accordingly, it is concluded that the indirect coefficient is significant ($\beta = -0.10$, CI [-0.20, -0.01]). The other hypothesis of the study was that the sub-scales of perceived social support (family, friends, and significant other) could mediate the relationship between psychological resilience and depressive symptom level. When these hypotheses were tested, social support perceived from family and friends did not have a mediating role; it has been found that perceived social support from a significant other mediates the relationship between

psychological resilience and depressive symptom level. This variable has direct ($\beta = -0.91$, $P < 0.001$, SE = 0.07, 95% CI [-1.05, -0.77]) and indirect ($\beta = -0.07$, CI [-0.12, -0.02]) effects that appear to be significant. In this finding, it is understood that perceived social support from significant others has a partial mediating effect (see Figure 2).

DISCUSSION

In the current study, the aim was to test the mediating role of perceived social support in the relationship between psychological resilience and depressive symptom where the findings are in support of the hypotheses. In the study, a negative relationship was found between depressive symptom level, psychological resilience, and perceived social support. That is, the increase in psychological resilience and perceived social support results in a decrease in the level of depressive symptoms.

Considering Cohen and Willis³⁶ Stress Buffer Hypothesis and definitions of psychological resilience,^{22,37,38} it is seen that perceived social support and psychological resilience are factors that contribute positively to individuals' psychological states. It is important that, besides medical



Direct effect (*c*); $\beta = -0.88$, $p < 0.001$, %95 CI [-1.04, -0.72]

Indirect effect (*c'*); $\beta = -0.10$, %95 CI [-0.20, -0.01]

Figure 1. Mediation Model of perceived social support (total score)^a. ^aThis model is taken from Hayes's (2012) book “PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.” * $P < 01$, ** $P < .05$.

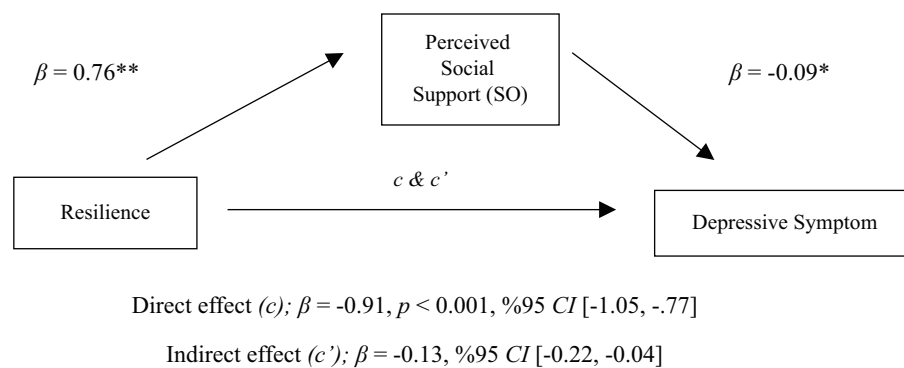


Figure 2. Mediation model of perceived social support from significant other (SO)^a. ^aThis model is taken from Hayes's (2012) book "PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling." * $P < .01$, ** $P < .05$.

methods, depressive symptoms may decrease with social and psychological factors. The fact that psychological resilience and perceived social support can be thought of as protective mechanisms,^{11,17} which is emphasized by the literature, was supported by current research. Although the processes that may negatively affect the individual physically, socially, and psychologically in the prison, there are some factors that individual can be empowered psychologically in the prison. According to the Turkish culture, being married, having children, or having significant other constitute the social support system. This indicates an increased power and resources of perceived social support in the prison.^{39,40} Perceived social support levels of prisoners, who have strong family ties, are married, and have children, are higher than prisoners who are not married, have no children, and have poor family ties.¹⁶ From this point of view, it was found in the study that although the perceived support from the family did not have a significant relationship, the significant other had mediated role between psychological resilience and the level of depressive symptoms.

Psychological resilience is associated with personality traits, support systems, communication skills, physical health, and the stance of family members toward the person.^{22,41,42} Although psychological resilience appears to be a personality trait, it is understood that it was actually built on a more dynamic basis. It is thought that this dynamism may be related to environmental factors, the impact of the process on the individual, and the adaptation response of the individual to the situations experienced.^{43,44} The relationship between psychological resilience and depressive symptom as shown in the theoretical model is that perceived social support also plays a role. In other words, psychological resilience has been found to reduce the level of depressive symptoms through perceived social support. From this point of view, psychological resilience is considered a more important and protective factor in an environment such as prison. In addition, the mediation roles of the sources of perceived social support were also examined by including

the sub-scales of perceived social support in the mediation analysis. Accordingly, it was found that only perceived social support from a significant other mediated the relationship between psychological resilience and depressive symptom. The study showed that the perceived total social support and perceived social support from a significant other had an effect in the same direction but of different magnitude. It has been observed that perceived social support from family and friends has no such effect. In this sense, the effect created by significant other in individuals whose freedom is restricted may be different compared to others and can create positive psychological changes in people. It is understood that the finding obtained from the study also supports this.

The present study can shed light on the literature that the factors, which are psychological resilience and perceived social support, can be added to prison life. For example, it is emphasized in the literature that the concept of perceived social support can be fed from many sources in prison life (such as educational studies in prison, psycho-social activities, prison officers).⁴⁵⁻⁴⁷ In other words, prisoners perceive social support from family, friends and significant other. In addition, they may perceive social support from the personnel working in the prison, the training programs they attend, and/or the experts they receive psychological support from. As Maslow⁴⁸ states in his theory that determining the needs of individuals is very important in every context. Within the prison system, first of all, each prison should be structured with a system that can examine the visitor status of prisoners, individual development, social and physiological health, and psychological needs of the prisoners within its own sample. In this sense, it can be suggested that psychologists and social workers conduct regular and content-defined interviews with the prisoners in their institutions. Thus, it will be easier to determine their needs and risk factors (such as low visitor frequency of prisoners, less participation in education, and psychosocial activities in terms of perceived social support). Identifying and monitoring needs will also provide an opportunity to develop needs-oriented interventions. In this context, it is

thought that it will be important to develop practices that increase the positive interaction of staff working in prisons with individuals in prison and to diversify individual and group interventions applied to prisoners in this sense. In addition, it is predicted that the reducing effect of psychological resilience and perceived social support on depressive symptom obtained from the findings of the study can be strengthened by more resources with such interventions. Psycho-social intervention programs implemented in the Turkish Prison System are generally obtained from a British Rehabilitation System. Using the programs in Turkish system may cause difficulties in internalizing the program outcomes. It is predicted that the addition of culture-specific resilience factors (family, individual resources, collective (collective) living habits) and updates that will diversify the perception of social support in prison conditions (showing social support that can be perceived from institutional practices and personnel) to the intervention programs implemented will create positive changes.

The current study has some limitations but offers new areas for future research. First, although the research consists of data collected from 3 prisons, it is thought to be limited in terms of generalizability. Second, the participants' gender rates are not equal. This can have a negative effect in terms of generalizability. Moreover, the data were collected via self-report which might have been answered in a socially desirable way. In spite of the limitations of the study, the findings can be evaluated as complementary and in contribution to the related literature. For future studies, it is recommended to control the limitations more and to test the model by further customizing it according to gender, type of prison, and other related psychological variables.

CONCLUSION

The current study aimed to show the protective properties of psychological resilience at the level of depressive symptoms. Increased psychological resilience results in a decrease in the level of depressive symptoms and it is supported that the protective function may exist. One of the main purposes of the research is to define the relationship between perceived social support, psychological resilience, and depressive symptom. It is seen that the main hypothesis of the study is supported: Perceived social support had a mediator of the relationship between psychological resilience and depressive symptom. It is thought that the study will broaden perspective and guide new research and intervention programs in terms of increasing social support awareness and adding factors that will feed psychological resilience.

Ethics Committee Approval: Ethical committee approval was received from the Ethics Committee of Gediz University (approval no: B.M.2014/1707) and the Ethics Board of the

Turkish Republic Ministry of Justice General Directorate of Criminal and Detention Houses (approval no: 57292265-204.06.03-1330/126785).

Informed Consent: Written informed consent was obtained from all participants who participated in this study.

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