

Traumatic Life Events and Problem Solving Skills in Psychiatric Outpatients: Their Relationships with Suicidal Behavior

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SUMMARY

Objective: To investigate the prevalence the relationship of traumatic life events, the level of problem-solving skills, and their relationship to suicidal behavior in a group of psychiatric outpatients.

Method: The study included 121 (57% women, 43% men) psychiatric outpatients. Participants completed a questionnaire that contained questions about socio-demographics, clinical features, suicidal behavior, and traumatic life-events, and a problem-solving inventory. Data were analyzed with t-tests, chi-square tests, one-way analysis of variance, and multiple logistic regression analyses.

Results: Among the patients, 43.2% (47.8% women) reported having thought about suicide, 28.7% (29.7% women) reported having attempted suicide, and 75.4% of the sample experienced at least one traumatic life-event. On average, each participant experienced approximately 2 (SD = 1.7) traumatic events. Two logistic regression analyses showed that poor problem-solving was an independent predictor of both suicidal ideation and attempts. The number of traumatic events appeared to be an independent predictor of suicidal attempts after problem-solving skills. In accordance with the diathesis-stress model, both suicidal thoughts and attempts were found to be most frequent among persons with poor problem-solving skills and who were also exposed to traumatic life-events.

Conclusion: Suicidal behavior and traumatic life-events are common among psychiatric patients. Our findings indicated that poor problem-solving might be an independent predictor of both suicidal ideation and attempts. Suicidal behavior, traumatic life-events, and problem-solving skills should be addressed during psychiatric assessment. The study findings imply that problem-solving therapy may be an important approach for the treatment of psychiatric patients exhibiting suicidal behavior.

Key Words: Stressful life-events, problem-solving, suicide, psychiatric patients

INTRODUCTION

Suicide stands out as an important public health problem. When compared to other countries, official suicide statistics in Turkey show a low level of suicide-related deaths (3 per 100,000) (DİE, 2000); however, this data can be misleading. Within the dominant cultural understanding, some suicide-related attitudes and values might cause under-reporting of some deaths due to suicide. Despite low suicide rates in Turkey, suicide attempt rates are high. For example, in a study conducted with the emergency services of 9 Turkish hospitals, Sayıl et al. (1993) reported a suicide rate of 107 per 100,000 patients.

Although death rates due to suicide are low, it is observed that suicidal ideation and attempts are frequent among the young population in Turkey (Eskin, 1995, 1996, 1999). For example, a study of university students showed that 42% of the young adults had experienced suicidal ideation and 7% had attempted suicide in the past (Eskin et al., 2005). In addition, suicide rate increases in Turkey. For instance, compared to Sweden where rate of self-killing was relatively high, suicide increase rates were found to be higher in Turkey (Eskin, 1993).

The processes behind the wish to end one's life are complicated and are affected by various biological, psychological, and societal factors. Psychiatric disorders are among the most important factors contributing to suicide. For example,

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Arato et al. (1988) showed that 80%-90% of the cases that completed suicide had at least one psychiatric disorder. Additionally, Powell et al. (2000) found that the percentage of suicidal deaths among the psychiatric population was as high as 13.7 in 10,000. Suicide is mostly prevalent among depressive (Brent, 1995; Kumar and Steer, 1995; Pokorny, 1992; Rihmer and Pestalitiy, 1999) and schizophrenic patients (Fenton et al., 1997; Heila et al., 1997).

Traumatic life-events are the most important cause of the development of psychiatric disorders. Traumatic life-events include: separation from one's parents, lover, spouse, or friends; losing a loved one; having any psychological or physical illness; experiencing such violent events as war, torture, sexual abuse, or sexual assault; economic losses; experiencing a disaster such as earthquake, flood, landslide, or fire; and professional, academic, or commercial failures. When compared to healthy individuals, the prevalence of having experienced such events is higher in the psychiatric population (Kessing et al., 2003; Leskela et al., 2004). By creating a psychological imbalance, traumatic life-events make the individual prone to psychiatric disorders.

It was suggested that, compared to non-suicidal ones, individuals who kill themselves experience more traumatic events throughout their lifetime (Blaauw et al., 2002; Goldney et al., 2000; Roy, 2001; Statham et al., 1998). Traumatic life-events demolish the internal balance (homeostasis) of the individual, decrease the resiliency of the individual and make the individual prone to destructive behaviors such as suicide.

For example, Botsis et al. (1995) found that psychiatric patients at-risk for suicide experienced more parental loss than patients without suicide risk. Ullman and Brecklin (2002) found that rape is one of the most important causes of suicide in women. Krug et al. (1998) found that suicide was more prevalent among individuals who experienced natural disasters, such as flood or earthquake, than individuals who did not have such experiences.

However, it is a known fact that as not all people who experience dreadful events develop a psychiatric disorder, the majority of individuals who have had dreadful experiences do not end their lives; therefore, it has been suggested that it is not

traumatic experiences that cause individuals to end their lives *per se*, but it is the efficiency of their coping abilities in response to such events (Joseph and Plutchik, 1994; Yufit and Bongar, 1992). In terms of suicide, the most important coping ability is problem-solving. Research shows that some individuals view suicide as a behavior that can resolve their problems (Eskin, 1997; Linehan et al., 1987). The majority of researchers agree that the problem-solving ability of individuals who have attempted suicide is poor (Dixon et al., 1994; Pollock and Williams, 1998; Weishaar, 1996).

The relationship between deficiencies in problem-solving, experienced traumatic events, and suicide is not one to one. The diathesis-stress model, which considers the role of problem-solving ability and traumatic events in the etiology of suicidal behavior, suggests that poor problem-solving, or negative life-events do not independently affect suicide risk (Clum et al., 1979; Schotte and Clum, 1982; 1987; Cheng, 2001). In order for an individual to become oriented toward suicidal behavior, in addition to a low level of problem-solving ability, the individual should be experiencing some life events which are difficult to cope with. For example, it has been shown that suicidal behavior is most prevalent among individuals with a low/poor level of problem-solving ability who experience a high level of stress (Dixon et al., 1994; Priester and Clum, 1993; Yang and Clum, 1994).

It is well-known that traumatic experiences are prevalent among psychiatric patients, and that most of the time, such an experience is either the trigger of the psychiatric disorder or the direct cause. For this reason, it is important to determine the prevalence of suicidal behavior and traumatic events in psychiatric patient populations in Turkey, as well as the factors related to them. The number of studies that examine the relationship between problem solving abilities, traumatic events, and suicidal behavior in psychiatric patients at the same time is inadequate. The present study had 3 aims: (1) To investigate the prevalence of traumatic life-events and the level of problem-solving skills in a group of psychiatric patients; (2) To determine if the number of traumatic life events and level of problem-solving ability are predictive of suicidal behavior and intentions when sociodemographic and clinical factors are controlled for; (3) To test the diathesis-stress model of suicide.

Table 1. Clinical and Demographic Characteristics of the Participants

	Number	Percentage
Gender		
Women	69	57
Men	52	43
Marital Status		
Married	74	61.2
Single	34	28.1
Divorced or widowed	13	10.7
Origin		
City	67	57.8
Town	28	24.1
Village	21	18.1
Have children		
Yes	79	68.7
No	36	31.3
Education		
Literate	1	0.9
Primary school	26	22.2
High school	13	11.1
College	45	38.5
University or higher education	32	27.4
Work status		
Working	36	29.8
Not working	14	11.6
Housewife	40	33.1
On Medical Leave	1	0.8
Under education	10	8.3
Retired	20	16.5
Diagnosis		
Mood disorders	68	58.1
Anxiety disorders	34	29.1
Psychotic disorders	9	7.7
Other	6	5.1
Duration of psychiatric treatment		
1. First application	42	35.3
2. Less than a month	2	1.7
3. Between 1-3 Months	19	16.0
4. Between 3-6 Month	13	10.9
5. Between 6-12 Month	12	10.1
6. More than a year	31	26.1
Number of presentations to the psychiatry clinic		
1. First time	46	39.3
2. 1-2 times	14	12.0
3. 3-5 times	22	18.8
4. 6-10 times	13	11.1
5. 11-20 times	7	6.0
6. 21-30 times	7	6.0
7. More than 30 times	8	6.8
Perceived health in the last 3 months		
1. Very bad	11	9.3
2. Bad	13	11.0
3. Moderate	69	58.5
4. Good	20	16.9
5. Very good	5	4.2
Total	121	100

Table II. Prevalence of Suicidal Behavior among Psychiatric Patients

Suicidal behavior	Number	Percentage
Suicidal ideation		
Lifetime suicidal ideation	50	44.6
Suicidal ideation in the last 12 months	32	28.6
Current suicidal ideation	9	7.8
Suicidal ideation; lifetime, in the last 12 months, and current	51	43.2
Suicide attempt		
Lifetime suicide attempt	32	28.1
Suicide attempt in the last 12 months	18	16.1
Suicide attempt; lifetime or in the last 12 months	33	28.7

METHOD

Participants

The study included 121 patients (69 women [57%] and 53 men [43%]) who presented to Adnan Menderes University Medical Faculty Research and Teaching Hospital, Psychiatric Out-patient Clinic for treatment and who agreed to participate. The exclusion criteria were age < 15 years and > 65 years, illiteracy, mental retardation, presently experiencing a manic or schizophrenic episode, and rejecting the informed consent form after reading it.

Demographic and clinical characteristics of the participants are presented in Table I. The percentage of men and women in the sample were comparable, $\chi^2 = 2.4$, $SD = 1$, $P > 0.05$. The mean age of the patients was 36.3 years ($SD: 11.9$; range: 17-63 years) and there were no differences between men and women in terms of age. The majority of the participants were high school or university graduates (66%).

Most of the participants were married (61.2%), had children (68.7%), had urban background (57.8%), and worked (62.9% including the housewives). While mood disorders (58.1%) and anxiety disorders (29.1%) patients were predominant, the prevalence of psychotic disorders was 7.7%. When the frequency of receiving and the duration of psychiatric treatment was considered, it was found that this was the first treatment for the majority of the patients (frequency: 39.3%; first visit: 35.3%). In response to the question, "how was your general health in the last 3 months", the majority responded, "neither good nor bad" (58.5%).

There were no differences between males and females in terms of demographics (age, $t [108] = 1.6$, $P > 0.05$; marital status, $\chi^2 = 1.4$, $SD = 2$, $P > 0.05$; place of birth, $\chi^2 = 0.1$, $SD = 2$, $P > 0.05$; having children, $\chi^2 = 0.9$, $SD = 1$, $P > 0.05$; education, $\chi^2 = 4.6$, $SD = 3$, $P > 0.05$; job status, $\chi^2 = 1.9$, $SD = 5$, $P > 0.05$), clinical characteristics (diagnosis, $\chi^2 = 2.2$, $SD = 2$, $P > 0.05$; duration of psychiatric treatment, $t [117] = 0.3$, $P > 0.05$; frequency of presenting for psychiatric treatment, $t [115] = 0.6$, $P > 0.05$; perceived health, $t [116] = 1.8$, $P > 0.5$), suicidal behavior (total lifetime suicidal ideation, suicidal ideation in the last 12 months, or current suicidal ideation combined, $\chi^2 = 1.3$, $SD = 1$, $P > 0.05$; total of lifetime suicidal attempts and suicidal attempts in the last 12 months combined, $\chi^2 = 0.1$, $SD = 1$, $P > 0.05$), problem-solving scores ($t [119] = 0.9$, $P > 0.05$), and number of traumatic events ($t [116] = 1.2$, $P > 0.05$). Therefore, both genders were approached in unison in analyzing the data.

MATERIALS:

A questionnaire consisting of 5 sections was used to collect the data.

Demographic Characteristics;

Participants were asked about their age, gender, marital status, place of birth, job status, and if they had children.

Clinical Characteristics;

Participants were asked about the frequency and duration of their presentations for psychiatric treatment, and about their general health status (perceived health).

Table III. Prevalence of Traumatic Life Experiences Among Psychiatric Patients

	Number	Percentage
A life-threatening situation	38	32.8
Maltreatment	37	31.4
Earthquake	35	30.2
Loosing a loved one in an accident or to violence	30	25.6
A serious accident	29	24.8
Suicidal attempt of a close friend or a relative	16	15.1
Sexual abuse	16	13.8
A completed suicide of a close friend or a relative	13	11.3
Loosing a loved one in an earthquake	9	7.7
Partaking in an armed robbery	4	3.4
Torture	3	2.6
Getting arrested	1	0.8
Imprisoned	1	0.8

Suicidal Behavior;

Participants were asked 3 questions about suicidal ideation (have you ever thought of ending your life, have you thought of ending your life in the last 12 months, and, are you presently thinking about committing suicide?) and 2 questions about suicide attempts (have you ever attempted suicide and, have you tried to commit suicide in the last 12 months?). Participants were asked to answer these questions with yes (1) or no (0).

Traumatic life experiences;

Participants were given a list that included 13 traumatic events and asked to specify the ones they had experienced. Participants were asked to specify the experienced event as yes (1) or no (0). These events are given in Table III.

Problem solving ability;

To assess problem-solving ability, the 32-item Problem Solving Inventory (PSI), developed by Heppner and Petersen (1982) and adapted into Turkish by Şahin et al. (1993), was used. Participants assessed each item on a 6-item Likert type scale ("I always behave this way (1)" and "I never behave this way (6)"). Therefore, the possible total scale score ranges between 32 and 192. In this study, PSI scores of the subjects were divided in to the number of items ($n = 32$) and the scores ranged between 1 and 6. High scores from the scale show that the subject does not trust his/her problem-solving ability. In the reliability and validity study con-

ducted with university students, Şahin et al. (1993) found the internal consistency of the scale to be 0.88, and criterion-related validity coefficients for the PSI was found to be 0.33 and 0.45, by using the Beck Depression Inventory and the State-Trait Anxiety Inventory, respectively. The internal consistency of PSI in this study was found to be 0.91.

PROCEDURE

Patients who consecutively presented to Adnan Menderes University Medical Faculty Research and Teaching Hospital, Psychiatric Outpatient Clinic for treatment and who met the inclusion criteria were asked to participate in the study. Patients who agreed to participate were asked to fill out and sign an informed consent form. Patients who signed the form were included in the study and asked to complete the questionnaire. These procedures were implemented by 2 research assistants who were doctors in the clinic. In order to prevent the patients from feeling pressured into joining the study, they were asked to participate only after their medical examinations were completed. Research data were collected between January 1, 2002 and June 30, 2002.

Statistical Analyses

The Statistical Package for the Social Sciences-9 (SPSS-9) program was used in the analyses of the study. The level of statistical significance was accepted as $P = 0.05$. The internal consistency coefficient of PSI with the findings of this study was

Table IV. Predictors of Suicidal Ideation and Suicide Attempts Among Psychiatric Patients

		Thinking about suicide or attempt (1)				
		Not thinking about suicide or attempt (0)				
Predicting variable	Coefficient	SH ^a	Wald	SD ^b	P=	RO ^c
Suicidal ideation	1.01	0.36	7.73	1	0.0054	2.76
Total PSI score	-4.04	1.19	11.47	1	0.0007	
Constant						
Suicide attempt						
Total PSI score	1.46	0.47	9.82	1	0.0017	4.31
No. of traumatic events	0.34	0.18	3.68	1	0.0551	1.40
Constant	-7.14	1.71	17.41	1	0.0000	

^a Standard Deviation, ^b Degrees of Freedom, ^c Risk Ratio

determined with the Cronbach's Alpha method.

The prevalence of suicidal behavior and traumatic life-events among the participants was determined. When both dependent and independent variables were categorical, chi-square test was used, and when the dependent variable was interval, t-test was used. The relationship between psychiatric diagnosis, problem-solving ability score, and number of traumatic events were analyzed with one-way analysis of variance (ANOVA). After finding a significant difference, Turkey test was used to determine which diagnostic groups differed significantly from one another.

In order to test which variable (s) predicted suicidal ideation and suicide attempts independently, 2 logistic regression analyses were performed. In the first one, suicidal ideation was taken as the predicted variable and in the second one, the predicted variable was suicide attempts. The suicidal ideation variable was formed by combining the individuals who had experienced at least one suicidal thought during their life with those who had current suicidal ideation. For the suicide attempt variable, only the individuals who had an attempt in the last 12 months were considered, for methodological reasons.

FINDINGS

Of the 112 patients that responded to the question about suicidal ideation, 50 (44.6%) said that they had thought of committing suicide at least once during their lifetimes, 32 (27.8%) patients out of 115 said that they had suicidal thoughts in the

past 12 months, and 9 (7.8%) out of 116 patients had suicidal thoughts during the course of the study. When individuals who had thought of suicide at some point during their lives, experienced suicidal ideation in the last 12 months, and who had current suicidal thoughts were combined, it was found that 51 (43.2%) out of 118 patients had suicidal ideation (Table II).

Thirty-two (28.1%) out of the 114 patients that responded to the question about suicidal attempts said that they attempted suicide at least once, and 18 out of 112 (16.1%) participants attempted suicidal in the last 12 months. When individuals who had a lifetime suicidal attempt or suicidal attempt in the last 12 months were combined, it was found that 33 (28.7%) out of 115 patients had attempted suicide. There was no relationship between suicidal ideation and attempt, and clinical diagnosis (suicidal ideation [total], $\chi^2 = 2.2$, SD = 2, $P > 0.05$; suicidal attempt [total], $\chi^2 = 3.7$, SD = 2, $P > 0.05$).

The prevalence of traumatic life experiences is presented in Table III. Eighty-nine out of 118 participants (75.4%) reported experiencing at least one traumatic event, whereas 29 (24.6%) participants reported that they had not experienced any traumatic event. On average, a person experienced approximately 2 (SD= 1.7) traumatic events. As presented in Table III, at least 25% of the individuals experienced a life threatening danger, maltreatment, loss of a loved-one in an accident, or a serious accident.

It was found that patients who had suicidal

Table V. Prevalence of Suicidal Ideation and Attempts According to Different Problem-Solving and Traumatic Life Experience Levels

Level of problem-solving and trauma	Number	Percentage
Suicidal ideation in the last 12 months		
High-level problem-solving, few traumas	4	12.5
High-level problem-solving, many traumas	8	25.0
Low-level problem-solving, few traumas	6	18.7
Low-level problem-solving, many traumas	14	43.8
Current suicidal ideation		
High-level problem-solving, few traumas	0	0.0
High-level problem-solving, many traumas	1	11.1
Low-level problem-solving, few traumas	1	11.1
Low-level problem-solving, many traumas	7	77.8
Suicide attempts in the last 12 months		
High-level problem-solving, few-traumas	2	11.1
High-level problem-solving, many traumas	6	33.3
Low-level problem-solving, few traumas	2	11.1
Low-level problem-solving, many traumas	8	44.5

thoughts experienced sexual abuse ($\chi^2 = 11.1$, $SD = 1$, $P < 0.005$), had a relative or a close friend who committed suicide ($\chi^2 = 4.8$, $SD = 1$, $P < 0.05$), and had themselves attempted suicide ($\chi^2 = 7.1$, $SD = 1$, $P < 0.05$) more than patients without suicidal thoughts did.

It was found that patients who had attempted suicide experienced sexual abuse ($\chi^2 = 12.4$, $SD = 1$, $P < 0.005$), participated in an armed conflict ($\chi^2 = 10.8$, $SD = 1$, $P < 0.05$), had a relative or a close friend who committed ($\chi^2 = 6.8$, $SD = 1$, $P < 0.05$), or attempted suicide ($\chi^2 = 10.5$, $SD = 1$, $P < 0.005$) more than patients who didn't attempt suicide.

There was a significant difference in terms of total PSI scores among the diagnostic groups (mood, anxiety and psychotic disorders) ($F [2, 108] = 4.3$, $P < 0.02$). The comparison of the diagnostic groups with Tukey test procedure showed that total PSI scores in the mood disorder group (mean = 3.2, $SD = 0.67$) were significantly higher than in the anxiety disorders group (mean = 2.8, $SD = 0.73$). Diagnostic groups were similar in terms of the number of experienced traumatic events ($F [2, 105] = 0.7$, $P > 0.05$).

In the logistic regression analysis, where suicidal thoughts and attempts were taken as the dependent variable, age, marital status (married = 1;

single or divorced = 0), the place of birth (urban = 1; rural = 0), having children or not having children (yes = 1; no = 0), level of education (school years), frequency and duration of receiving psychiatric treatment (coded as shown in Table I), perceived health status in the last 3 months (as shown in Table I), work status (working = 0; nonworking = 1), number of traumatic events, and total PSI scores were used as the predictive variables.

The model used in the analysis with suicidal ideation $\chi^2 (1) = 8.94$, $P < 0.005$ showed that the variables entered into the equation were significantly related to suicidal ideation. The only independent predictive variable for suicidal ideation was total PSI score (Table IV).

The model used in the second logistic regression analysis with suicidal attempt ($\chi^2 (2) = 16.41$, $P < 0.0005$) showed that the variables entered into the equation were significantly related to suicidal attempt. As presented in Table IV, total PSI score and number of traumatic events were the only 2 independent predictive variables of suicidal attempt.

In order to explore the effects of the interaction between different problem-solving levels and the number of traumatic events on suicidal ideation and attempts, chi-square method was used.

We categorized the PSI scores as high (below the mean) and low (above the mean), and the number of traumatic events as low (below the mean) and high (above the mean).

The number and percentage of possible suicidal behaviors in these 4 categories are presented in Table 5. The relationship between level of problem-solving ability and number of traumatic events combination, and suicidal ideation in the last 12 months was statistically significant ($\chi^2 = 9.2$, $SD = 3$, $P < 0.02$ [one-tailed]). Similarly, the relationship between level of problem-solving ability and number of traumatic events combination, and current suicidal ideation was statistically significant ($\chi^2 = 14.0$, $SD = 3$, $P < 0.002$ [one-tailed]). The relationship between level of problem-solving ability and number of traumatic events combination, and suicide attempts in the last 12 months was not statistically significant ($\chi^2 = 5.6$, $SD = 3$, $P > 0.05$ [one-tailed]). As it was seen Table 5, the percentage of suicidal ideation was higher among the individuals whose problem-solving ability was insufficient and who had many traumatic life experiences in comparison to other groups (suicidal ideation in the last 12 months, [approximately 44%] and current suicidal ideation [approximately 78%]). Although not statistically significant, the percentage of attempted suicide in this group was also higher than in the other groups (approximately 45%).

DISCUSSION

The present study had 3 aims. The first aim of the study was to examine the prevalence of suicidal behavior and traumatic life-events among psychiatric out-patients. The second aim was to test the level of effectiveness of the number of traumatic events and problems-solving ability in predicting suicidal behavior and intentions. For this aim, logistic regression analysis procedure was used to investigate whether traumatic life events or insufficient problem-solving ability predicted suicidal behavior. The third aim of the study was to test the diathesis-stress model of suicide. For this, the interaction between different levels of problem-solving ability and the number of traumatic events were evaluated together in order to see the effect on suicide ideation and attempts.

Psychiatric disorders are the most common determinants of suicide; therefore, a high prevalence of suicide among psychiatric patients is a common finding in studies related to this subject. The

present study showed that 44.6% of the patients had had suicidal thoughts sometime during their lives, 27.8% had suicidal thoughts during the last 12 months, and 7.8% had suicidal ideation at the time of the study. Of the participants, 28.1% had attempted suicide at least once and 16.1% had attempted suicide in the last 12 months. These findings show that different forms of suicidal behaviors are common among psychiatric patients. Findings of this study are consistent with the related literature (Arato et al., 1988; Powell et al., 2000).

There are numerous studies showing that problem-solving ability is related to suicidal behavior. For example, both Pollock and Williams (2004), and Howat and Davidson (2002) showed that psychiatric patients with a history of attempting suicide had poorer problem solving abilities than those who did not attempt suicide. Traumatic life events have an important role in the appearance of suicidal behavior. There are numerous studies showing that psychiatric patients experience a higher number of traumatic life-events than individuals without a psychiatric disorder (Bourque et al., 2002; Friedman et al., 2002). Approximately 25% of our sample reported that they did not experience any traumatic events, whereas 75% of the sample reported experiencing traumatic life-events. Surviving a life threatening situation, maltreatment, earthquake, losing a loved one in an accident or due to violence, and a serious accident experience were the most frequently experienced events.

One of the main aims of this study was to determine the degree of the relationship between problem-solving ability and the number of experienced traumatic events to suicidal behavior. The results from the two logistic regression analyses carried out with this aim showed that the level of problem-solving ability was more effective in predicting both suicidal ideation and suicide attempts than the number of traumatic experiences. According to the findings, one unit of increase in the negative assessment of one's own problem-solving ability increased the risk of suicidal ideation approximately 3 times in the psychiatric patients. Similarly, a unit of increase in the negative assessment of one's own problem-solving ability increased the risk of suicidal ideation approximately 4.5 times (Table IV). Findings of the present study are very much in agreement with 2 previous studies conducted in Turkey (Asena et al., 2003; Özgüven et al., 2003) as well as with studies from other coun-

tries (Schotte and Clum, 1987; Weishaar, 1996). Traumatic life events only independently predicted suicide attempts.

Schotte and Clum (1982 and 1987) suggested a diathesis-stress model of suicide, which points out that insufficient problem-solving ability, or facing stressful events alone does not constitute a serious risk for suicide. According to this model, in order for the appearance of suicide risk, encountering a difficult-to-solve problem in addition to a low level of problem-solving ability is necessary. Findings of our study support the diathesis-stress model of suicide. Even when individuals experienced traumatic life-events, the probability of suicide was low when the level of problem-solving ability was high. Similarly, even when a patient had a low level of problem-solving ability, the probability of suicide was low when there were no traumatic experiences. It was found that approximately 44% of the patients who had had suicidal ideation in the last 12 months had low levels of problem-solving ability and had also experienced traumatic life events, and of those who had suicidal ideation currently 78% were in this group. Similarly, 45% of the patients who had attempted suicide in the last 12 months had low levels of problem-solving ability and also experienced large amount of traumatic life events (Table V).

In summary, findings of this research showed that both suicide and traumatic life experiences are prevalent among psychiatric outpatients. When the prevalence of suicidal behavior and traumatic life experiences is considered, it seems that it is very important to take both situations into consideration during psychiatric treatment. Our findings clearly showed that when a patient with low problem-solving ability experienced a high number of traumatic life-events, the risk of suicidal behavior was high. When the relationship between problem-solving ability level and suicidal behavior is examined,

problem-solving therapy could be considered as an option for patients with suicidal behavior. Findings in the international literature also support this idea (Salkovskis et al., 1990; Townsend et al., 2001).

When considering the findings of this study, certain limitations should be acknowledged. Although this study provides data that are both scientifically and clinically important, there are certain issues to take in to consideration before generalizing these findings to other patient groups. Firstly, the most important limitation of this study is the lack of a control group. Inclusion of a control group would have provided information about whether the findings were specific to the psychiatric patient group or not. The next important limitation of the study was that it was a correlational study, which made it difficult to interpret the relationship between problem-solving behavior and suicidal behavior in the context of a cause-and-effect relationship. It has been shown that as poor problem-solving may lead to depression, a depressed person considers himself a poor problem-solver (Bates and Lavery, 2003). As the majority of the participants were diagnosed with depression, interpretation of the observed relationship in this study becomes difficult. There is a need for further studies. When the prevalence of suicide among the depressive patients is considered, a non-significant relationship between diagnosis and suicide evokes the idea that the outpatient diagnoses had low reliability. Application of a standardized diagnostic methods would be a solution. Lastly, we converted the independent variable, marital status, by unifying non-married and divorced individuals under the heading of non-married, as a statistical necessity, and ran the logistic regression analysis in this way, which might be another limitation of the study. Finding that this variable was not significant in the logistic regression analyses resolves this limitation.

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