

The Evaluation of the Relationship between the Problem Solving Skills and Psychological Symptoms of University Students

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Abstract

The purpose of this study is to examine relationship between the problem solving skills and psychological symptoms of university students. In addition, in the study has been analyzed whether the changes of age and gender can make a significant difference. The study has been consisted of 200 university students. %55 of these students are female and %45 male. In the study has been used "The Problem Solving Inventory" (Heppner and Petersen, 1982) "The Brief Symptom Inventory" (Derogatis and Lazarus, 1994), and Personal Information Form to collect data. As a result of the findings of the study has been found negative relationship between the problem solving skills approach-avoidance conflict, and obsessive compulsive disorder and phobic anxiety. On the other hand, according to findings of the study it is seen that no significant differences between female and male students in terms of psychological symptoms. Also, it has been found that differ in terms of the gender the problem solving skills approach-avoidance conflict ($t_{0,05}: 198 = -2.589; p < .05$) and the average score for male students are higher than female students.

Key words: Problem Solving, Psychological Symptoms, Correlation, Gender Assoc.

Nowadays, as the world is changing day by day individuals are facing various situations. These various situations can effect individual's emotions and gestures for positive or negative (Cüceloğlu, 2000). Continuity of social life depends on accommodate to environment of the individual. Balance and accommodate in the inner world of the individual is necessary for social harmony. The problem, faced by the individual or society, is challenges must be solved to succeed (Harmandar, 2004). The problem solving can be named as an emotional and behavioral process that individuals will experience throughout their problems which creates obstacles and stress (Heppner & Krauskopf, 1987).

The problem solving is used in dealing with complex situations. It requires concepts of information and motor skills (Doğanay, 2008). The problem solving skills of an individual to have from-birth develops with the influence of training and experience and changes into skill (Taylan, 1997). The problem solving process consists of overall approach, identification of the problem, forming options, decision making and evaluation (D'zueilla & Goldfried, 1971). Some of factors and situations effects individual's psychological state. For instance rapid cultural changes, the struggle of saving the cultural values against them, civilization, industrialization, the cultural conflict based on migrations, divided families, education institutions, the lack of medical institutions effect of the mental health of individuals (Öztürk, 1997). This effect can be arised in various disorders. Somatization, obsessive and compulsive disorder, depression, anxiety, phobic anxiety, paranoid thoughts, psycotizm, anger, enmity, are some of psychological symptoms. When searching for the literature, it is seen that the studies which are discussed the relationship between the problem solving and intelligent level (Sönmez, 2002), self-esteem (Deniz, 2004), internet usage (Mertoğlu & Tuna, 2004), the level of social support (Budak, 1999), focus of control (Aydın, 1999). When searching for related to psychological signs, it is seen that the studies which are discussed the relationship between psychological signs and attitude of parents (Düzgün, 1995), perfectionism (Sumi and Kanda, 2002), the process of stress and self-efficacy expectations (Karademas & Kalantzi, 2004), gender variable (Deniz, Avşaroğlu & Hamarta, 2004), perfectionist personality with compatible and incompatible (Sapmaz, 2006), social support (Kraus, 2006), negative risk-taking behaviour (Gülcez, 2007). There is no research with the relationship between problem-solving skills in dealing with psychological symptoms.

Purpose

The main aim of the research is to analyze the relationship between problem-solving skills and psychological symptoms of university students. It has also been examined in this case according to the different demographic characteristics of students. This study was carried out with relational survey method.

Method

The research is related to characteristics of audience by collecting data from a specific audience. Therefore, research method was determined as a survey research. (Büyüköztürk et al., 2012).

Participants

The participants are students of Sakarya University who were enrolled in the term of 2010-2011. They are being educated at are chosen randomly including 110 (%55) female, 90 (%45) male.

Data Collection Tools

SCL-90-R (The Symptom Checklist Inventory-90-Revised, SCL-90R): The Problem Checklist Inventory, the scale is a surveying psychological symptoms in the kind of self-evaluation invented by Derogotis in 1977. This scale, improved in order to determine the level of stress or difficult conditions that individuals experience, and symptoms of psychological and physical of the validity and reliability studies in our country was carried out by Dağ (1991). The scale has 90 items and 10 subscale including non (0), a bit (1), middle (2), much (3), extreme (4) based on a Likert type. In this research, carried out 72 male and 50 female university students, was found the reliability of Test-Retest Method calculated with the technique of Pearson Product-Moment Correlation Coefficient for somatization 82, for obsessive-compulsive 84, for interpersonal sensitivity 79, for depression 78, anxiety 73, for anger-hostility 79, for phobic anxiety 78, for paranoid ideation 63, for psychoticism 73 and for additional scale 77.

The Validity of Criterion-Referenced: It has been applied both The Minnesota Multiphasic Personality Inventory (MMPI) and SCL-90 for totaly to 95 different university students including 55 male and 40 female with the and has been found that the relationship

between the subscales of two similar measures is 40 to 59 (Öner, 1997). The Turkish translation of scale has been used on illustrations of some researches , and has been seen that the examine groups make a significant difference. The reliability of the scale was done by Dağ in 1989 and found as alpfa .97 by Cronbach Alpha. There has been found 10-77 correlation average between general symptom and MMPI. According to research with regard to, the scale can measure the psychopathology but it can distinguish its subscale of different psychiatric groups. However, as a whole there is a structure of reality that will show very good (Dağ, 2000).

The Problem Solving Inventory (PSI): The Problem Solving Inventory, which was developed by Heppner and Peterson and translated to Turkish by Sahin and Heppner in 1993, has been used to determine how the college students understand the problem solving skills. PSI has 35 items. It's a Likert type scale, items are point between 1-6. While pointing, 9,22 and 27 items are not included . The lowest grade is 32 and the highest grade is 192. The high grades taken from the measures show the incompetence of individuals about problem solving skills. (Savaşır & Şahin, 1997). The reliability of the scale has been done with 224 university students. The Cronbach Alpha Reliability Coefficient has been found to be 88. With the reliability technique of half dividing measure the reliability co-efficient is 81. (Savaşır & Şahin, 1997). The validity study of the scale was carried out to related to relative reliability and was calculated correlation between the total score of the scale and The Beck Depression Scale .33 and the total score of the STAI-T .45. In addition, 69 PSI The Beck Depression Inventory and STAI-T groups formed according to the obtained scores are also reported to be able to differentiate significantly. As a result of discriminant analysis is made of the dysphoric and non-dysphonic scale groups of 94% and 55% and the anxious and non-anxious groups have been demonstrated correctly classified in 90% and %80 (Savaşır & Şahin, 1997).

Process

The scales were applied to participants in the classroom in groups. Before the applying was informed about the purpose of the study. When the scales filling, was explained about the issues must be considered to participants.

Data Analysis

The data was collected from students of 2010-2011 that are being educated at Sakarya University. During the applying the tests was delivered by explaining and was answered

question of students. The process of data collecting lasts about two months. Afterwards, tests were reviewed and were removed tests which was filled incorrectly or missing.

Findings

Table 1

Correlation Index related to the relationship between the problem solving and psychological signs

| | | Problem-Solving Abilities Confidence Subdimension | Approach- Avoidance | Self- Control | Total Problem Solving Skills |
|--|---|---|------------------------|------------------|---------------------------------|
| Total Problem Solving Skills | r | | ** | ** | ** |
| Problem-Solving Abilities Confidence Subdimension, | r | ,468** | | | |
| | p | ,000 | | | |
| | N | 200 | | | |
| Approach-Avoidance | r | ,338** | ,470** | | ** |
| | p | ,000 | ,000 | | |
| | N | 200 | 200 | | |
| Self-Control | r | -,805** | ,866** | ,653** | |
| | p | ,000 | ,000 | ,000 | |
| | N | 200 | 200 | 200 | |
| Somatization | r | -,050 | -,127 | ,014 | -,089 |
| | p | ,479 | ,073 | ,840 | ,208 |
| | N | 200 | 200 | 200 | 200 |
| Obsessive Compulsive Disorder | r | ,013 | -,142* | ,010 | -,073 |
| | p | ,854 | ,045 | ,891 | ,305 |
| | N | 200 | 200 | 200 | 200 |
| Interpersonal Sensitivity | r | ,010 | -,014 | ,044 | ,016 |
| | p | ,890 | ,844 | ,539 | ,820 |
| | N | 200 | 200 | 200 | 200 |
| Depression | r | -,061 | -,043 | ,084 | -,026 |
| | p | ,392 | ,548 | ,234 | ,712 |
| | N | 200 | 200 | 200 | 200 |
| Anxiety | r | -,068 | -,090 | -,049 | -,077 |
| | p | ,338 | ,203 | ,487 | ,277 |
| | N | 200 | 200 | 200 | 200 |
| Anger-Hostility | r | -,088 | -,088 | -,124 | -,121 |
| | p | ,218 | ,213 | ,079 | ,089 |
| | N | 200 | 200 | 200 | 200 |
| Phobic Anxiety | r | -,089 | -,145* | ,023 | -,109 |
| | p | ,210 | ,040 | ,748 | ,125 |
| | N | 200 | 200 | 200 | 200 |
| Paranoid Ideation | r | -,012 | -,121 | -,034 | -,077 |
| | p | ,865 | ,087 | ,637 | ,281 |
| | N | 200 | 200 | 200 | 200 |
| Psychoticism | r | -,065 | -,128 | -,036 | -,105 |
| | p | ,363 | ,072 | ,617 | ,138 |
| | N | 200 | 200 | 200 | 200 |

* Correlation is significant level of $*p < .01$
 ** Correlation is significant level of $**p < .05$

According to Table 1, there is no relationship, between problem-solving skills, problem-solving abilities confidence subscale, total problem solving skills, personal control subdimension and somatization, obsessive and compulsive disorder, interpersonal sensitivity, depression, anxiety, anger, hostility, phobic anxiety, paranoid ideation, psychoticism. It was determined to be negative correlation between the approach-avoidance conflict of problem-solving skills and obsessive-compulsive disorder ($r = -.142, p < .05$) and phobic anxiety ($r = -.145, p < .05$). Consequently, as increase value of the approach-avoidance conflict of problem-solving skills, it is seen to be a decrease in obsessive compulsive and phobic anxiety subscale.

Table 2

According to the gender and psychological symptoms of the students for independent groups t-test results to determine whether it differs

| Variables | Gender | N | \bar{X} | Ss | t | Sd | p |
|-------------------------------|--------|-----|-----------|------|--------|-----|------|
| Somatization | Female | 110 | .78 | .59 | -1.07 | 198 | .285 |
| | Male | 90 | .87 | .62 | | | |
| Obsessive Compulsive Disorder | Female | 110 | 1.24 | .97 | -.232 | 198 | .817 |
| | Male | 90 | 1.27 | .92 | | | |
| Interpersonal Sensitivity | Female | 110 | 1.10 | .78 | -.989 | 198 | .324 |
| | Male | 90 | 1.21 | .83 | | | |
| Depression | Female | 110 | .87 | .74 | -1.14 | 198 | .256 |
| | Male | 90 | .99 | .76 | | | |
| Anxiety | Female | 110 | .87 | .70 | -.781 | 198 | .436 |
| | Male | 90 | .95 | .66 | | | |
| Anger-Hostility | Female | 110 | 1.26 | .78 | -.197 | 198 | .844 |
| | Male | 90 | 1.28 | .81 | | | |
| Phobic Anxiety | Female | 110 | .67 | .65 | -.561 | 198 | .575 |
| | Male | 90 | .72 | .73 | | | |
| Paranoid Ideation | Female | 110 | 1.39 | 1.29 | .888 | 198 | .375 |
| | Male | 90 | 1.24 | 1.06 | | | |
| Psychoticism | Female | 110 | .77 | .60 | -1.354 | 198 | .177 |
| | Male | 90 | .90 | .76 | | | |

As shown in the Table 2, the mean and standard deviation scores of the students' level of psychological symptoms in terms of the gender. According to table 2, it is seen that no significant differences between female and male students in terms of psychological symptoms, somatization ($t_{0.05: 198} = -1.07; p > .05$), obsessive compulsive disorder ($t_{0.05: 198} = -.232; p > .05$), interpersonal sensitivity ($t_{0.05: 198} = -.989; p > .05$), depression ($t_{0.05: 198} = -1.14; p > .05$), anxiety ($t_{0.05: 198} = -.781; p > .05$), anger and hostility ($t_{0.05: 198} = -.197; p > .05$),

phobic anxiety ($t_{0.05: 198} = -.561; p > .05$), paranoid ideation ($t_{0.05: 198} = .888; p > .05$), psychoticism ($t_{0.05: 198} = -1.354; p > .05$).

Table 3

According to problem solving skills of the students for independent groups t-test results to determine whether it differs

| Variables | Gender | N | \bar{X} | Ss | t | Sd | p |
|--|--------|-----|-----------|--------|--------|-----|------|
| Problem-Solving Abilities Confidence Subdimension, | Female | 110 | 2.796 | .794 | .927 | 198 | .355 |
| | Male | 90 | 2.697 | .693 | | | |
| Approach-Avoidance | Female | 110 | 2.865 | .590 | -2.589 | 198 | .010 |
| | Male | 90 | 3.092 | .645 | | | |
| Personal Control | Female | 110 | 3.336 | .854 | -.144 | 198 | .886 |
| | Male | 90 | 3.353 | .804 | | | |
| Total Problem Solving Skills | Female | 110 | 91.309 | 18.370 | -1.018 | 198 | .310 |
| | Male | 90 | 93.989 | 18.706 | | | |

As shown in the Table 3, the mean and standard deviation scores of the students' problem solving skills in terms of the gender. According to table 3, it is seen that no significant differences between female and male students in terms of problem solving skills and confidence to problem solving skills ($t_{0.05: 198} = .927; p > .05$), personal control, ($t_{0.05: 198} = .886; p > .05$) and total problem solving skills ($t_{0.05: 198} = .310; p > .05$). However, in the table 3 was shown that differ in terms of the gender problem solving skills, approach-avoidance subdimension ($t_{0.05: 198} = -2.589; p < .05$) and the average score for male students higher than female students. Consequently, problem solving skills, approach-avoidance subdimension of female students higher problem solving skills, approach-avoidance subdimension of male.

Results and Discussion

The purpose of this research is to examine the relationship between the problem solving skills and psychological symptoms. In the research the problem solving skills and psychological symptom have been analyzed in different concepts, and various variables. According to the research findings has been found negative relationship between problem solving skills, approach-avoidance conflict, obsessive compulsive disorder and phobic anxiety. In other words, as increase score of approach-avoidance conflict of the problem

solving skills; the psychological symptoms, obsessive-compulsive disorder and phobic anxiety subscales decrease.

In the present work, the levels of psychological symptoms have not been different in terms of gender. But the research, carried out by Düzgün, (1995) was determined that significant difference the level of psychological symptoms between female and male. It was found to be higher female than male in terms of hostility, somatization, depression, anxiety, the level of negative-self. While the research, carried out by Deniz, Avşaroğlu and Hamarta, (2004) was found to be higher female than male in terms of somatization, anxiety, obsession and depression, it was found to be higher male than female in terms of score of paranoid and anger. Also, the research, carried out by Kapıkıran, (2001) was found to be higher female than male in terms of depression, phobic anxiety, anxiety, interpersonal sensitivity, obsessive and compulsive disorder, somatization, paranoid ideation and psychoticism. But was seen to no significant difference between female and male in terms of anger and hostility.

When examined the relationship between gender and problem solving skills, It showed no significant difference between males and females confidence and problem solving skills to problem-solving abilities in terms of total self-control and problem solving skills. However, the dimensions of approach-avoidance of problem-solving skills differ according to gender and females approach-avoidance is seen that the average score for female students is higher than the average score. Researches, which was carried out by Deniz (2004) and Saygılı (2000) showed that there is a significant relationship between the gender in terms of problem-solving skills.

As a result of this research, between problem-solving skills and psychological symptoms with obsessive-compulsive disorder and phobic approach-avoidance were found to be negative relationship between the level of anxiety. While a significant relationship between gender and psychological symptoms of the students was not relationship, the relationship between problem solving skills and gender variable have been found to be a significant difference in approach-avoidance. Consequently, it was found to be a significant relationship between problem-solving skills and psychological symptoms. Because in future researches in this study are limited, It can be investigated in detail the relationship between these two concepts.

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