Personality and Social Problem-Solving: The Mediating Role of Self-Esteem[*]

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Abstract

The purpose of the present study was to examine direct and indirect relationships among personality, self-esteem and social problem-solving, as well as the mediating role of self-esteem in the link between personality and social problem-solving among Turkish youth. The study utilized a cross-sectional design comprising several self-reports. Data for the present study were collected from 687 undergraduate students. The participants included 428 (66%) females and 220 (34%) males, and their ages ranged from 18 to 35 years, with a mean of 22.46 years (SD = 2.45). Findings illustrated that extraversion, openness, conscientiousness, agreeableness and self-esteem were significantly and positively correlated with social problem-solving, whereas neuroticism showed a negative correlation. Self-esteem is significantly and positively associated with extraversion, openness, conscientiousness, agreeableness and social problem-solving, and it appears to act as a mediator in the relationship between personality and social problem-solving. The findings indicated that personality and self-esteem directly affected social problem-solving, and personality also indirectly affected social problem-solving through self-esteem. In conclusion, personality and self-esteem were found to be significantly related to social problem-solving among Turkish youth.

Keywords: Social problem-solving • Personality • Self-Esteem

The capacity to solve problems successfully in the real world is a crucial life skill. Social problem-solving is the self-directed cognitive-behavioural process by which a person determines ways of dealing with problematic situations in everyday life (Chang & D'Zurilla, 1996; D'Zurilla & Goldfried, 1971), and it is formed as a conscious, rational and purposeful activity (D'Zurilla & Maydeu-Olivares, 1995). According to the social problem-solving model (D'Zurilla & Goldfried, 1971; D'Zurilla & Nezu, 1982), social problem-solving ability comprises two general, partially independent components: (*a*) problem orientation and (*b*) problem-solving style. Problem orientation is a metacognitive process that involves cognitive-emotional schemas (general beliefs, appraisals and feelings about problems and problem-solving ability). This process was accepted as a motivational function in social problem-solving (D'Zurilla & Goldfried, 1971; Morera et al., 2006).

Problem orientation has two different structures: positive and negative problem orientation. Positive problem orientation contains the general disposition to accept a problem as a 'challenge', and to believe that it can be resolved successfully. Negative problem orientation involves general tendencies to see the problem as a threat to the well-being, not believing that the problem can be solved and becoming easily frustrated when faced with a problem (D'Zurilla, Maydeu-Olivares & Gallardo-Pujol, 2011). The second component, problem-solving styles, includes rational problem-solving, impulsivity/carelessness style and avoidance style. Each style includes cognitive and behavioural activities by which a person understands and copes with problems (D'Zurilla, Nezu & Maydeu-Olivares, 2002). Studies indicate that effective problem-solving improves positive coping (D'Zurilla & Nezu, 1999); however, deficiencies in social problem-solving are associated with emotional or mental health problems (Fremouw, Callahan & Kashden, 1993; Specken & Hawton, 2005; Tolan & Loeber, 1993).

The literature shows that social problem-solving is significantly correlated with positive and negative outcomes such as well-being (Siu & Shek, 2010), decision-making (Morera et al., 2006), aggression (Crick & Dodge, 1994; Dodge & Crick, 1990; D'Zurilla & Nezu, 1999; Özdemir, Kuzucu & Koruklu, 2013), depression (Fremouw et al., 1993; Specken & Hawton, 2005), worry (Belzer, D'Zurilla & Maydeu-Olivares, 2002), psychological stress (D'Zurilla & Sheedy, 1991) and age and gender (Thomas, D'Zurilla, Maydeu-Olivares & Kant,

1998). In addition, the role of social problem-solving in the relationship between personality and substance abuse (Jaffee & D'Zurilla, 2009) has also been studied. Although a number of previous studies have explored the relationship between social problem-solving and significant outcomes, there are few findings to predict social problem-solving. Some studies were conducted to investigate the relationship between personality and social problem-solving (D'Zurilla et al., 2011; McMurran, Egan, Blair & Richardson, 2001) self-esteem and social problem-solving (D'Zurilla, Chang, & Sanna, 2003; Temel, 2008). However, no study has examined the direct and indirect relationships among personality, self-esteem and social problem-solving. The present study examines direct and indirect relationships among personality, self-esteem and social problem-solving.

In the literature, there were some studies exploring the relationship between personality and social problem-solving (D'Zurilla et al., 2011; McMurran et al., 2001). Results showed that the neuroticism dimension of personality was strongly correlated with negative problem orientation (D'Zurilla et al., 2011; McMurran et al., 2001), and conscientiousness and openness were associated with higher problem-solving ability (D'Zurilla et al., 2011). As we examined the findings, there was a direct relationship between personality and social problem-solving, but the question remained whether a mechanism mediates between personality and social problem-solving. The correlational studies showed that there was a moderate relationship between the sub-dimensions of personality and self-esteem (Erdle, Gosling, & Potter, 2009; Keller, 1999; Pullman & Allik, 1999; Robins, Hendin, & Trzesniewski, 2001). Robins, Tracy, Trzesniewski, Potter and Gosling (2001) indicated that the Big Five accounted for 34% of the variance in self-esteem.

Self-esteem and social problem-solving ability were related to each other (D'Zurilla et al., 2002). Self-esteem has been defined as a global affective orientation towards the self (Robins, Tracy et al., 2001) and can be defined as a person's evaluative view of himself or herself (Robins, Hendin et al., 2001). Self-esteem is the main variable affecting an individual's psychological well-being and social functioning (Salmivalli, Kaukiainen, Kaistaniemi, & Laperspetz, 1999). D'Zurilla et al. (2003) examined the relationships among self-esteem, social problem-solving ability and aggression in university students. They found that the social problem-solving (especially

with negative problem orientation) appears to act as a mediator in the relationship between self-esteem and aggression. In the literature the relationship between the Big Five personality dimensions and self-esteem was studied (Erdle, Irwing, Rushton & Park, 2010; Robins, Tracy et al., 2001; Shackelford & Michalski, 2011). Results showed that agreeableness, conscientiousness, emotional stability and openness correlate positively with self-esteem (Graziano & Ward, 1992; Watson, Suls & Haig, 2002).

Based on the above findings, it was postulated that self-esteem might be a mediator between personality and social problem-solving. There is little research on the relationship between personality and self-esteem (Amirazodi & Amirazodi, 2011; Kendler, Gardner, & Prescott, 1998; Robins, Tracy et al., 2001; Shackelford & Michalski, 2011). Research results have shown correlations between Big Five factors and self-esteem (Robins et al., 2001), with a negative correlation to neuroticism and positive correlations to extraversion, agreeableness, conscientiousness and openness (Watson, Suls & Haig, 2002). Self-esteem also has been found to be related to social problem-solving (D'Zurilla et al., 2002; D'Zurilla et al., 2003). Research results also have shown that self-esteem is positively correlated with the positive problem orientation, whereas it is negatively correlated with negative problem orientation (D'Zurilla et al., 2003). In the present study we explored the direct and indirect relationships among personality, self-esteem and social problem-solving. The study investigated a direct relationship between personality and social problem-solving, as well as whether personality affects social problem-solving through self-esteem (an indirect relationship).

Method

Participants

The participants in the present study were 687 undergraduate university students in the western part of Turkey. The participant group was composed of 428 (62%) females and 220 (32%) males, 18 to 35 years old, with a mean of 22.46 years (SD = 2.45). The participants were randomly selected from among students attending a university.

Procedures

The study utilized a cross-sectional design comprising several self-reports. Participants were asked to complete questionnaires that included measures of personality, self-esteem and social problem-solving. The questionnaires were administered in group sessions lasting approximately 45 minutes.

Measures

Social Problem-Solving Inventory–Revised (SPSI-R): The Social Problem-Solving Inventory–Revised Short-Form (D'Zurilla et al., 2002) was used to measure social problem-solving. It is 25-item, self-administered questionnaire. The aim of the inventory is to measure an individual's cognitive, affective and behavioural responses to real life problem-solving situations. The scale is comprised of five subscales, including positive problem orientation, negative problem orientation, rational problem-solving style, impulsive/carelessness style and avoidance style. Internal consistencies in the original study were .76 to .92. Test-retest reliabilities (3 weeks) were found to range from .72 (positive problem orientation) to .88 (negative problem orientation). The scale was adapted into Turkish by Eskin and Aycan (2009). The internal consistency coefficients ranged from a low of .62 to a high of .92. The test-retest reliability coefficients range from .60 to.84.

Big Five Personality Dimensions: The Big Five personality dimensions (openness, conscientiousness, extraversion, agreeableness, neuroticism) were assessed using the 44-item Big Five Inventory (BFI) (Benet-Martinez & John, 1998). The BFI items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale was adopted by Sümer, Lajunen and Özkan (2005) who reported Cronbach's Alpha as .74, .80, .82, .64 and .79, respectively for the above mentioned Big Five factors.

The Rosenberg Self-Esteem Scale: This scale developed by Rosenberg (1965) measures adolescents' global feeling of self-worth or self-acceptance. It has four response options ranging from (1) strongly agree to (4) strongly disagree and consists of 10 statements, with 5 positively scored and 5 negatively scored. The scale includes such statements as the following: 'I do not have much to be proud of' and 'I take a positive attitude towards myself'. Reverse items are 3, 5, 8, 9, 10. The total possible score obtained from the scale ranges from 0 to 40. Higher scores indicate higher self-esteem (Schmitt & Allik, 2005). The scale has a reproducibility index of 0.93 and a test–retest reliability of 0.85. The Rosenberg Self-Esteem Scale was adapted to Turkish adolescents by Çuhadaroğlu (1986). The correlation coefficient between psychiatric interview scores and scores of RSES was .71 (Çuhadaroğlu, 1986).

Data Analysis

In a first step, partial correlations were computed among gender, personality, self-esteem and social problem-solving variables. Second, for the purpose of analyzing direct and indirect relationships among personality, self-esteem and social problem-solving, a path analysis was conducted using AMOS 21 (Arbucke & Woethke, 2009).

Results

Model tests were conducted as path analyses with observed variables in AMOS 21 (Arbuckle & Woethke, 2009). First, the effects of gender were tested on the studied relationships by adding it as a predictor of social problem-solving. Standardized coefficients from the links between openness, conscientiousness, extraversion, agreeableness, neuroticism and self-esteem were .33, -.04, -.26, .24 and .12, respectively, without gender and .33, -.04, -.26, .24 and .12, respectively, with gender. Standardized regression coefficients for the relationships between openness, conscientiousness, extraversion, agreeableness, neuroticism and social problem-solving were .28 without gender and .29 with gender. Based on this small effect, we decided to present the model without gender as a control.

Results of zero-order correlations showed that social problem-solving was significantly and positively correlated with self-esteem, extraversion, openness, conscientiousness and agreeableness and negatively correlated with neuroticism.

To analyze direct and indirect relationships among personality, self-esteem and social problem-solving, a path analysis was conducted using AMOS 21. Standardized path coefficients of direct and indirect relationships among personality, self-esteem and social problem-solving are presented in Table 2.

Results indicated that direct effects of neuroticism, conscientiousness, agreeableness, openness and self-esteem on social problem-solving were significant, as well as indirect effects of neuroticism, conscientiousness, agreeableness and extraversion on social problem-solving through self-esteem.

Personality explained almost 25% of the variance in social problem-solving and personality and self-esteem together explained almost 32% of the total variance in social problem-solving. We also analysed the mediational role of self-esteem in the relationship between personality and social problem-solving (in AMOS 21). To test the mediation hypothesis, we used the bootstrapping method (Shrout & Bolger,

2002). The standardized indirect effect was equal to the following values for the link through self-esteem: .092 for extraversion; -.012 for openness; -.074 for neuroticism; .067 for conscientiousness and .033 for agreeableness and social problem-solving. For observing the significance of indirect effect, we checked the p-value, and the p-value for the indirect effect was .001 and 95% [.061-.130] for extraversion; .308 and 95% [-.041-.011] for openness; .001 and 95% [-.112-.-.045] for neuroticism; .001 and 95% [.040-.103] for conscientiousness and .017 and 95% [.006-.061] for agreeableness. These values showed that apart from the openness dimension, other personality dimensions significantly mediated the link between personality and social problem-solving.

Discussion

The purpose of the current study was to investigate the direct and indirect relationships between personality, self-esteem and social problem-solving. In addition to this aim, we tested whether self-esteem mediates the relationship between personality and social problem-solving. The results support the direct and indirect relationships and self-esteem appears to act as a mediator in the relationship between personality and social problem-solving. Therefore, there is a relationship between personality and social problem-solving through self-esteem.

Results of zero-order correlations showed that extraversion, openness, conscientiousness and agreeableness were significantly and positively correlated with social problem-solving and neuroticism was negatively correlated with social problem-solving. This finding is consistent with previous findings (D'Zurilla et al., 2011; McMurran et al., 2001). The neuroticism dimension of personality was strongly related to negative problem orientation (McMurran et al., 2001). Although there was a strong relationship between neuroticism and social problem-solving (McMurran et al., 2001), the most consistent predictor of social problem-solving ability was conscientiousness (D'Zurilla et al., 2011). A high score on conscientiousness and openness related to being open to new experiences, being organized and being reliable, which are crucial aspects of rational problem-solving (D'Zurilla et al., 2011). Social problem-solving skill is considered to be a multidimensional construct that covers perceptual skills, cognitive components and performance-based processing steps (Thoma, Friedmann & Suchan, 2013). These are the basic variables needed for counselling (Elliott, Herrick,

Table 1
Descriptive Statistics and Intercorrelations of Variables

	1	2	3	4	5	6	7	8
1.Extraversion	1							
2.Openness	.40***	1						
3.Neuroticism	-.27***	-.27***	1					
4.Conscientiousness	.28***	.44***	.-.23***	1				
5Agreeableness	.10**	-.05	-.35***	.04	1			
6.Self-esteem	.44***	.24***	-.41***	.35***	.24***	1		
7.Social Problem Solving	.30***	.34***	-.42***	.47***	.30***	.50***	1	
8.Gender	.08*	-.05	.16***	.10**	.02	.13**	.00	1
Mean	20.26	17.14	16.84	15.65	12.12	40.91	66.07	.66
SD	4.48	3.69	4.11	2.73	1.94	6.55	11.28	.46

*** $p < .001$ **$p < .01$ *$p < .05$; "0" male, "1" female

Elliott, & Shrout, 1995) and for adjustment (D'Zurilla et al., 2011). These research results showed that neuroticism is associated negatively with social problem-solving. That means a person with neurotic characteristics has ineffective problem-solving ability and maladjustment (D'Zurilla et al., 2011). Poor social problem-solving skills can cause a person to deal ineffectively with problematic situations, which affects the mental health of the individual (D'Zurilla & Maydeu-Olivares, 1995). On the other hand, extraversion, openness, conscientiousness and agreeableness have a positive relationship with effective social problem-solving and can be related to better adjustment.

The relationship between personality and self-esteem in this study is consistent with previous studies (Erdle et al., 2010; Orth, Trzesniewski, & Robins, 2010; Robins, Tracy et al., 2001; Shackelford & Michalski, 2011). Results showed that agreeableness, conscientiousness, emotional stability and openness positively correlate with self-esteem and are negatively correlated with neuroticism (Graziano & Ward, 1992; Watson

et al., 2002). Emotionally stable, extraverted and conscientious individuals were somewhat agreeable and open to experience and have high self-esteem. Additional findings showed that neuroticism was strongly negatively correlated with self-esteem and extraversion strongly positively correlated with self-esteem (Watson et al., 2002). According to Robins et al. (2001), the Big Five accounted for 34 percent of the variance in self-esteem. In the current study there was no relationship between openness and self-esteem, but previous studies found a significant relationship between them (Graziano & Ward, 1992; Watson et al., 2002). The differences can be related to culture differences. For example, people in East Asian countries score lower on self-esteem than do those in Western countries (Schmitt & Allik, 2005).

In the literature the relationship between the Big Five personality dimensions and self-esteem was studied (Erdle et al., 2010; Robins, Tracy et al., 2001; Shackelford & Michalski, 2011). Results showed that agreeableness, conscientiousness, emotional stability and openness were positively correlated with self-esteem (Erdle et al., 2009; Graziano &

Table 2
Path Coefficients for Total Sample

Model path	B	SE	B	CR
Neuroticism →Self-esteem	-.394	.050	-.262	-7.913*
Conscientiousness →Self-esteem	.535	.075	.237	7.147*
Agreeableness →Self-esteem	.371	.106	.116	3.508*
Extraversion →Self-esteem	.454	.046	.329	9.935*
Openness →Self-esteem	-.072	.055	-.043	1.305NS
Self-esteem → Social Problem Solving	.473	.061	.281	7.760*
Neuroticism → Social Problem Solving	-.400	.083	-.158	-4.830*
Conscientiousness → Social Problem Solving	1.152	.124	.303	9.290*
Agreeableness → Social Problem Solving	1.037	.170	.193	6.090*
Extraversion →Social Problem Solving	-.012	.078	-.005	-.149NS
Openness →Social Problem Solving	.377	.089	.134	4.250*

*$p < .01$, *NS*: Not Significant

Ward, 1992; Keller, 1999; Pullman & Allik, 2005; Robins, Tracy et al., 2001; Watson et al., 2002).

There was also a positive relationship between self-esteem and social problem-solving. Findings of this study were consistent with previous studies with regard to the positive relationship between self-esteem and social problem-solving (D'Zurilla et al., 2002; D'Zurilla et al., 2003). Findings indicated that low self-esteem was related to social problem-solving (and especially negative problem orientation; D'Zurilla et al., 2003). High self-esteem can contribute to both major successes in life and failures (Baumeister, Campbell, Krueger, & Vohs, 2003). Research showed that high self-esteem was positively correlated with a positive problem orientation, whereas it was negatively correlated with a negative problem orientation (D'Zurilla et al., 2003).

Standardized path coefficients of direct and indirect relationships among, personality, self-esteem and social problem-solving were analysed. Results indicated that direct effects of openness, neuroticism, conscientiousness, agreeableness and self-esteem on social problem-solving were significant, as well as indirect effects of extraversion, neuroticism, conscientiousness, and agreeableness on social problem-solving through self-esteem. Therefore, personality and self-esteem predict social problem-solving.

The current study contributes to the literature on the direct relationships among personality, self-esteem and social problem-solving and the indirect relationship between personality and social problem-solving through self-esteem. These results can be useful for school counsellors and teachers who have the role of developing prevention programs. The findings indicate that school counsellors should consider self-esteem while preparing intervention programs that help develop social problem-solving skills. Personality cannot be changed with an education program, but if self-esteem is increased, then social problem-solving skills can be increased. In summary, counselling interventions should take into account personality and self-esteem while preparing programs, because both variables are predictors of social problem-solving.

Although this study makes some contributions by addressing how personality is associated with social problem-solving and self-esteem, it has some limitations, including the cross-sectional nature of the data (causation cannot be formed), characteristics of the sample (only university students) and the self-reported characteristic of the data (students' responses could be wrong). Moreover, social desirability may have affected the results.

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