Analysis of Social Problem Solving and Social Self-efficacy in Prospective Teachers

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Abstract

The purpose of this study is to investigate the relationship between social problem solving and social self-efficacy and the predictive role of social problem solving skills with social self-efficacy. The sample consists of 706 prospective teachers (362 female and 344 male) who are majoring in different fields at Mugla Sıtkı Kocman University's Faculty of Education. Data was collected by using the Interpersonal Problem Solving Inventory method and the Scale of Perceived Social Self-Efficacy. Pearson product-moment correlation analysis was also employed to search for relationships between social self-efficacy and social problem solving. Structural equation modeling was used for explaining social self-efficacy. A negative relationship was found among social self-efficacy and approaching problems in a negative way, lack of self-confidence, and unwillingness to take responsibility. A positive relationship was found among social self-efficacy, constructive problem solving, and insistent-persistent approach. As a result, with regard to psychological counseling and guidance studies, it would be appropriate to include applications about effective social problem solving skills to increase the level of social self-efficacy. Further research investigating the relationships between social problem solving and social self-efficacy, and other psychological constructs are needed to reinforce the findings of this study.

Key Words

Prospective Teachers, Social Problem Solving, Social Self-efficacy, Structural Equation Modeling.

There is a need to have a problem solving ability to lead a better life as problems are inevitable and a source of stress. The amount of stress is directly related to the severity of the problem and personality factors such as disposition, biology, life experience and coping behavior. There is not much to be done in relation to personality and biology but much can be done in terms of developing coping strategies and problem solving strategies. This is important because coping and problem solving strategies can be significant determining how to manage problems stressful daily events and adjustment processes (Heppner, Pretorius, Wei, Lee, & Wang, 2002). Problems represent a discrepancy between an actual situation and its desired state (D'Zurilla,

1986). Solutions, on the other hand, represent the responses given to change the nature of a problem (Nezu, 2004). Problem solving skills enable us to generate alternatives and evaluate the pros and cons of these alternatives (MacNair & Elliot, 1992). The concept of social problem solving is widely used to define the process one follows to come up with effective means of handling a problematic situation (D'Zurilla & Nezu, 1982; Nezu, 2004).

The term "social" in this concept is used to emphasize that the focus is on problem solving conducted in a natural social environment (D'Zurilla & Nezu, 1999). Social problem solving oriented research looks at all kinds of problems

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experienced in life ranging from impersonal, personal and interpersonal to the broader problems of community and society. Hence, his term emphasizes the personal and social context where the solving of real-life problems takes place (D'Zurilla, Nezu, & Maydeu-Olivares, 2002).

This is social problem solving model and the major assumption regarding this model is based on the success of problem solving resulting from two general and partially independent processes. These processes involve problem orientation and problem solving style. What makes problem orientation successful is its motivational function in solving social problem. On the other hand, problem solving style presents cognitive and behavioral activities for enabling a person understand problems and find solutions. Based on these, a five-dimensional social problem solving model was developed. This model holds two positive and negative aspects of problem orientation, and it has three different styles such as rational problem solving, the impulsive-careless style and the avoidance style. These people who have positive problem orientation have an inclination to view a problem as a challenge that problems are presents and they should be solved. These people solve the problem with success. However, people having negative problem orientation see the problem as a threat to one's own existence, they are of the opinion that problems are very difficult to solve, they do not have confidence in themselves, and they easily become distressed when confronted with a problem. But the general structure of rational problem solving necessitates rationality, deliberateness and a systematic application of problem solving skills. These people with impulsive-careless style are actively attempting the implementation of effective problem solving skills, and they are not well-planned in their attempts, while main characteristics of the avoidance style try to ignore reactions, passivity and dependency (Chang, D'Zurilla, & Sanna, 2004; D'Zurilla & Chang, 1995; D'Zurilla et al., 2002; Erözkan, 2013).

Within the context of the social problem solving model, constructive dimensions are represented by positive problem orientation and rational problem solving and dysfunctional dimensions are represented by negative problem orientation, the impulsive-careless style, and the avoidance style. Hence, it is expected that positive problem orientation and rational problem solving lead to a reduction of psychological distress and that negative problem orientation, the impulsive-careless style, and the avoidance style lead to an increase in distress. Therefore, training directed toward the development of problem solving skills in individuals should aim to promote the improvement of the constructive dimensions and to lessen the impacts of dysfunctional dimensions (Nezu, Wilkins, & Nezu, 2004).

In general individuals may see themselves as having varying degrees of ability to carry out successful interactions with others in social situations. That is, people's perceptions of their self-efficacy are an indication of the extent to which they feel confident of their social interaction capacity (Bandura, 1977). The effectiveness of human functioning and well-being are regulated by perceptions of self-efficacy. In the case of challenging situations, people having high self-confidence are more likely to believe they can control their thoughts. Hence, they will go on putting forth effort and will more effectively deal with negative thoughts and feelings about themselves and their feelings of inadequacy (Özer & Bandura, 1990). When people think that they cannot achieve their goals by means of their actions, they very likely have a greater tendency to give up when confronted with challenges. Hence, in the case of challenging situations, the success of dealing with them will depend on their sense of self-efficacy to a great extent. This is especially true for adolescent development because it represents a transitional period. Transitional periods are full of risks and challenges, and coping with these risks and challenges depends to some extent on the strength of perceived self-efficacy (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001).

Self-efficacy is a kind of internal resource (Rowe, 1996). Self-efficacy can be viewed as a belief in one's capabilities to perform a particular action or task. According to self-efficacy theory, a desired behavior cannot be generated only through functional capacity (Bandura, 1977). Self-efficacy also involves the triggering of one's motivational and cognitive resources something which develops through experience (Aysan & Harmanlı, 2003). A person's thoughts, emotions, and actions related to a specific occurrence are under the influence of their perception of their abilities. This perception, determines how a person will make an effort to handle problems. People who think their self-efficacy is high will more likely persevere in difficult situations. Moreover, there is a positive, direct correlation between strong sense of self-efficacy and performance (Bandura, 1993, 1997). When people think that they cannot produce desired outcomes by means of their actions, they

may not be very willing to act (Bandura, 2000). Yet, people with a sense of high self-efficacy will more likely be successful in managing their environment and setting motivating goals. Such people expect to achieve positive outcomes as a result of their efforts and they adopt more positive approaches to problems and finding solutions. On the other hand, people with a low sense of self-efficacy tend to avoid difficult problems and tasks and as a result their commitment to their goals is weak. A high sense of self-efficacy results in not only an eagerness trying hard to achieve goals but also in making efforts to cope with difficulties (Bandura, 1977).

The basis of self-efficacy theory is that perceived self-efficacy in relation to a specific field or task has an impact on individuals' change-oriented behaviors. According to this model, there are four sources which determine the sense of efficacy. The first one is their experiences from the past in the related field. The second one is the learning which takes place through others as a result of exposure to various processes such as modeling. The others are emotional arousal, which is determined by the level of positive or negative emotions such as anxiety, and verbal persuasion determined by the support given. According to Bandura, in this theoretical model, self-efficacy information is provided by one or more of these sources by means of various treatment techniques, and through this information, change can be produced (Bandura, 1977).

Social self-efficacy can be defined as the extent of confidence in one's ability to conduct the social interactions needed to establish and sustain interpersonal relations. As a construct, there are many definitions provided for social self-efficacy in literature based on Bandura's (1997) theory which can be applied to specific situations. Another definition of social self-efficacy can be built on one's self-expectation in relation to performance in interpersonal relationships (Akkök, 1999). This expectation is an important determiner of success in social relationships (Bilgin, 1996). Social self-efficacy is not only important for the effectiveness of social behavior but also for psychological adjustment and mental health (Connolly, 1989; Hermann & Betz, 2004, 2006; Smith & Betz, 2002).

As indicated, social problem solving skills and social self-efficacy beliefs are crucial factors in an individual's life. When one considers a stressful situation caused by interpersonal problems, and there is doubt about one's personal ability to solve problems successfully as well as low self-

efficacy, the determination of the relationship between social problem solving skills and social self-efficacy can be important. Figuring out social problem solving skills and social self-efficacy can help prepare training programs in guidance psychological counseling and related areas. Therefore, the purpose of this study is to determine the relationship between social problem solving skills and social self-efficacy.

Method

Model

This study is a quantitative and relational study aimed at examining the relationship between social problem solving skills and social self-efficacy. The data was collected through the Interpersonal Problem Solving Inventory (Çam & Tümkaya, 2007) and the Scale of Perceived Social Self-Efficacy (Smith & Betz, 2000).

Participants

In this study, data was collected randomly from Mugla Sıtkı Kocman University's Faculty of Education from the following departments: Primary Education, Turkish Language Teaching, Social Studies Education, Science Education, Music Education, Fine Art Education, English Language Education, and Psychological Counseling and Guidance. The research was carried out with the data gathered from 362 female (51%) and 344 male (49%) prospective teachers. Their ages ranged from 19-25. The average age was 22.68 with a standard deviation of 1.65. 24.3% of the participants were freshmen, 24.1% were sophomores, 26.9% were juniors, and 24.7% of them were in their senior year.

Instruments

Interpersonal Problem Solving Inventory (IPSI): This inventory was developed by Çam and Tümkaya (2007) in order to measure problem solving approaches and skills among university students with the age range of 18-30 years. It is an inventory of five sub-scales and 50 items in total. Each item has rating with a range of 1 (strongly disagree) and 5 (strongly agree). For each sub-scale the highest point to be obtained shows that the characteristic about interpersonal problem solving is higher. When factor analysis is made for the inventory, a total of five factors that corresponded to a total of 38.38% of the variance

in relation with interpersonal problem solving were supplied. These factors were listed as approaching problems in a negative way, constructive problem solving, lack of self-confidence, unwillingness to take responsibility, and an insistent-persistent approach. The items in each sub-scale were 16, 16, 7, 5, and 6 respectively. The correlation coefficient obtained from the total scores of the sub-scales ranged between .22 and .74. In terms of internal consistency (Cronbach's alpha) coefficients of the sub-scales the following values were obtained: approaching problems in a negative way =.91, constructive problem solving =.88, lack of self-confidence =.67, unwillingness to take responsibility =.74, and insistent-persistent approach =.70. In an interval of four weeks, the test/re-test correlation values for 60 students are as follows: .89, .82, .69, .76, and .70 for the sub-scales, respectively. But in this study, Cronbach's alpha coefficients for the sub-scales were obtained .84, .79, .69, .75, and .68 respectively.

Scale of Perceived Social Self-efficacy (SPSS): The Scale of Perceived Social Self-efficacy (SPSS) was developed by Smith and Betz (2000) and contains 25 items on a 5-point Likert-type scale (1=strongly disagree to 5=strongly agree). A sum of all scores yields a total score that ranges from 25 to 125. Higher scores indicate a higher level of social self-efficacy. The Turkish adaptation of this scale has been done by Palancı (2004). The Cronbach alpha internal consistency coefficient of the adapted Turkish form was .89. For test/re-test reliability the scale was administered to 100 undergraduate students twice in four weeks. The Pearson correlation coefficient was .68. The parallel form validity of the scale was tested with the Perceived Control Scale (Özbay & Palancı, 1999) and the correlation coefficient was found to be .40. However, the scale negatively correlated the Social Anxiety Scale (Özbay & Palancı, 2001) and the correlation coefficient was found to be -.59. In this study, Cronbach's alpha coefficient for the scale was calculated to be .87.

Procedures

A permit for data collection was obtained from the Dean's Office of Faculty of Education in Mugla Sıtkı Kocman University, and the data was gathered in the randomly selected departments and classes by the researcher. The data collection procedure was carried out by providing prospective teachers with an appropriate environment and allowing sufficient time for answering the questions in groups in the classroom.

Data Analysis

Statistical analyses of the data were conducted using the SPSS 17.00 (Statistic Program for Social Sciences) and the LISREL 8.70 package programs. In this context, analysis of the relationship between social self-efficacy and social problem solving was performed using the Pearson product-moment correlation analysis and structural equation modeling. Structural equation modeling (SEM) is used as a statistical technique to test and estimate causal relations by employing a combination of statistical data and qualitative causal assumptions. This model is tested against the available measurement data to identify how well the model fits the data. The causal assumptions are the case in this model, and it yields falsifiable implications which can be tested against the data. SEM has several strengths and one of them is its ability to construct latent variables. They are not directly measured but estimated from several measured variables, each of them is predicted to get into the latent variables. This application leads the modeler to see the unreliability of measurements in the model, while enables the structural relations between latent variables to be estimated accurately. Factor analysis, path analysis, and regression analysis all display special cases of SEM (Grimm & Yarnold, 2000; Kline, 2005; Sümer, 2000). In this study, the model was created by testing the relationships among the sub-dimensions of social problem solving skills and social self-efficacy variables using SEM.

Results

According to the results of this research there is a significant relationship between social problem solving and social self-efficacy and the sub-dimensions of social problem solving as being important predictors of social self-efficacy for prospective teachers.

The Relationship between Social Problem Solving and Social Self-efficacy

The relationship between social problem solving and social self-efficacy was tested by using the Pearson correlation analysis and these results are presented in Table 1.

Table 1 shows that social self-efficacy is positively related to constructive problem solving and the insistent-persistent approach, and negatively related to the approaching problems in a negative way, lack of self-confidence, and unwillingness to take responsibility sub-dimensions of social problem solving.

Table 1.
The Correlations between Social Self-efficacy and the Sub-dimensions of Social Problem Solving

	Approaching problems in a negative way	Constructive problem solving	Lack of self-confidence	Unwillingness to take responsibility	Insistent- persistent approach
Social Self-efficacy	-.25*	.46**	-.40**	-.27**	.42**

*p< .05 **p< .01

The Prediction of Social Self-efficacy by Sub-dimensions of Social Problem Solving

Structural equation modeling was performed to predict social self-efficacy via the sub-dimensions of social problem solving, and the results are given in Figures 1 and 2. Figure 1 illustrates the hypothetical model used in this framework. Figure 2 illustrates the final model (standardized coefficients).
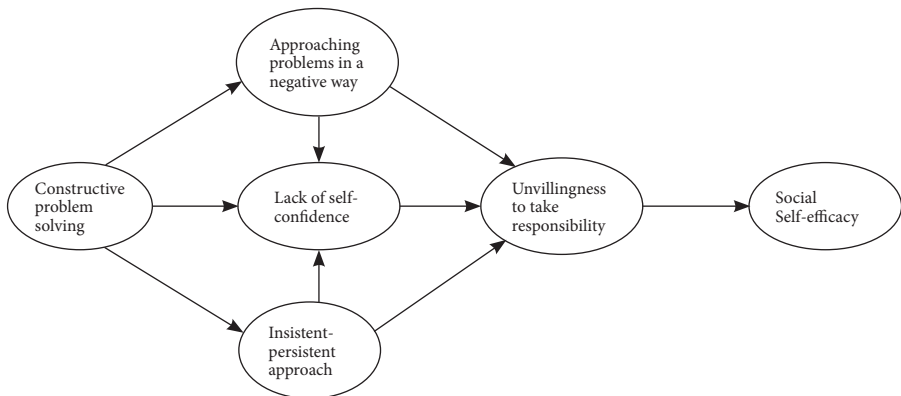
According to the data obtained, the total points for the sub-dimensions of social problem solving predict the social self-efficacy between .30 and .54. Figure 2 shows the analysis of whether the variables are consistent or not. As can be seen in Figure 2, the data obtained fit the model well. Path coefficients ranged from -.30 and .54. Path coefficients with absolute values less than .10 indicate a "small effect" values around .30 suggest a "typical effect" or "medium effect", and a "large effect" is indicated by coefficients with absolute values ≥.50 (Kline, 2005). In this study, all of these values were ≥.30.
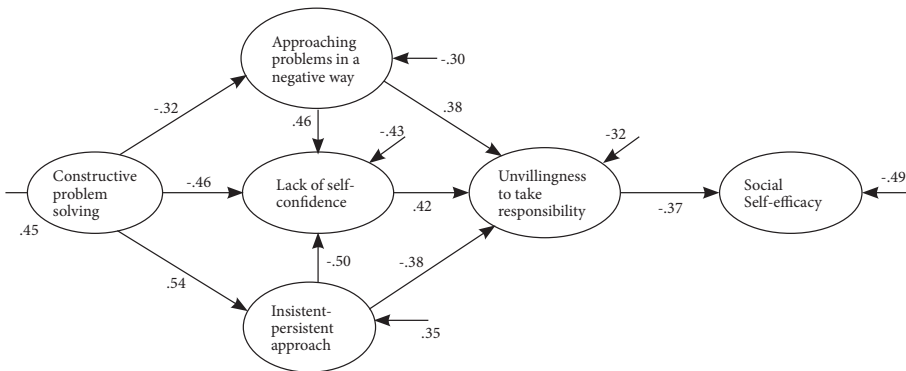
Discussion

The results of the study indicate that there are significant positive relationships among social self-efficacy, constructive problem solving, and the insistent-persistent approach while there are significant negative relationships among approaching problems in a negative way, lack of self-confidence, and unwillingness to take responsibility. These results indicate that as effective social problem solving skills, such as constructive problem solving and insistent-persistent approach increased, social self-efficacy increased as well. On the other hand, as approaching problems in a negative way, with a lack of self-confidence, or with an unwillingness to take responsibility increased, social self-efficacy decreased. In several studies it has been found that positive relationships among social self-efficacy, constructive problem solving, and the insistent-persistent approach (Bandura, 1993, 1997; Çam & Tümkaya, 2007) exist. Constructive problem solving resembles rational problem solving in social problem solving. Rational problem solving means the systematic use of rational, open and effective problem solving skills (D'Zurilla, Nezu, & Maydeu-Olivares, 2004). Constructive problem solving is related to emotions, thoughts, and behaviors in case of a problem in interpersonal relationships. On the other hand, an insistent-persistent approach indicates the insistent endeavor of an individual in interpersonal relationships (Çam & Tümkaya, 2007).

In the context of significant negative relationships among social self-efficacy, approaching problems in a negative way, lack of self-confidence, and unwillingness to take responsibility, it was stated that students who have no effective social problem solving behaviors show avoidance and have a low level of social self-efficacy (Innes & Thomas, 1989). According

Figure 1.

Path Diagram of Significant Predictors of Social Self-efficacy (Hypothetical Model)

Figure 2.

Path Diagram of Significant Predictors of Social Self-efficacy (Final Model)

χ^2=741.24, df=267, χ^2/df=2.78, *p*=.000, RMSEA=.06, GFI=.90, AGFI=.88, NFI=.94, NNFI=.95, CFI=.95, IFI=.96, RMR=.08; SRMR=.07.

to D'Zurilla and Chang (1995) having a negative tendency towards the problem is a non-functional and frustrating cognitive sequence which involves pessimism, a lack of confidence in problem solving skills, easily losing one's temper, and worrying when the person faces a problem as general tendencies. For this reason, the social self-efficacy levels of individuals who mainly approach problems in a negative way may be expected to decrease. D'Zurilla et al. (2004) described the problem orientation as an individual's general appraisal of problems and problem solvability as it relates to one's self-efficacy and belief in their personal ability to solve the problem. The beliefs, attitudes, and emotional reaction systems of individuals determine whether the problem orientation is positive or negative. Positive orientation (high self-efficacy) will result in a problem solving style in which people define the problem, generate options, choose a response, and implement the strategy. This track of problem solving is considered "constructive" and has positive outcomes. A "dysfunctional" track involves negative problem orientation (low self-efficacy) that results in careless, impulsive, or avoidance strategy usage resulting in negative outcomes. According to Deniz (2004) individuals who have self-confidence in problem solving also have a high degree of self-esteem and behave more cautiously in making a decision and behave in a less panicked and less evasive manner. Accordingly, the fact that individuals who show a lack of self-confidence and unwillingness to take responsibility in problem solving have low self-respect and low self-efficacy, and they behave in an incautious, more panicked and more evasive manner.

The findings of this study also reveal that the social problem solving sub-dimensions significantly explain social self-efficacy. An individual's belief about competency regarding that specific behavior acts as a triggering factor. Problem solving skills, therefore, can be regarded as an essential predictor for self-efficacy (Heppner & Krauskopf, 1987). Self-efficacy can be enhanced using social problem solving skills to plan realistic and achievable self-management goals, within the context of an empowering relationship, i.e. the support of someone who is encouraging and believes in the person's ability to achieve such goals. People with high social self-efficacy use more effective ways to solve problems because they have self-confidence about their ability to handle chaotic situations (Bandura, 1993, 1997). Bandura (1986) pointed out that people may build up fears when they do not feel confident in overcoming situations which are unpredictable and out of control. So they may have low self-efficacy. Moreover, people may create self-defeating thoughts that may prevent them from completing tasks, though they are capable and have required skills. It shows that people with high self-efficacy can perform better in new and sophisticated situations, while those of low self-efficacy may have more challenges.

Social self-efficacy plays a key role in setting up and keeping mutually beneficial friendships which provides with the transition through the difficulties of adolescence (Connolly, 1989; Leary & Atherton, 1986). Interpersonal competence can be viewed as an important element of personal success. In social situations, persons show varying perceptions of their ability to interact with others successfully. For social interactions, Bandura (1986) contended that the individual's behavior is not a factor that makes him or her effective. But, it is his/her self-beliefs about their ability to achieve the necessary

social interactions that suppress or allow the behavior. Namely, their self-efficacy beliefs play a crucial role in their level of social confidence. On the other hand, people who have low social self-efficacy may be of high tendency to avoid certain types of interactions as they are considered threats. Social self-efficacy is closely associated with self-esteem, problem solving, learned resourcefulness, social anxiety, loneliness, and depression; and hence, widely applied to psychological adjustment and mental health (Smith & Betz, 2000, 2002). Al-Damarki (2004) reported that there is a close interaction between self-efficacy and some desirable characteristics such as demonstration of social interaction skills, higher self-esteem, lower anxiety and greater perceived problem solving effectiveness. Moreover, one's perception of his/her self-efficacy may help an individual to select better goals, enhance coping and problem-solving skills, make better use of personal and cognitive resources, and reduce depression (Fernandez-Ballesteros, Diez-Nicolas, Caprara, Barbaranelli, & Bandura, 2002). There are many factors affecting perceived social self-efficacy such as constructing and enhancing social relationships, being socially assertive, being a member of social groups and finding solutions to social problems (Connolly, 1989). In adolescents, one's social problem solving ability has great impacts on one's sense of self-efficacy (Allen, Leadbeater, & Aber, 1990). Training on social problem solving techniques both improves social competency as well as the perception of self-efficacy in adolescents (Caplan et al., 1992). Moreover, social self-efficacy was found to be related to self-esteem (Connolly, 1989), emotional well-being (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), and pro-social behavior (Kwak & Bandura, 1998). In terms of academic achievement, social self-efficacy determines a student's expectancy of success in academic and/or daily situations (Connolly, 1989; Gresham, 1984).

Pajares and Kranzler (1995) reported that one of the important determining factors of problem solving ability, general mental ability, and academic achievement is self-efficacy. Moreover, self-efficacy perception is believed to have great influence on the selection of appropriate behavior among alternatives as well as the effort to be invested performing the selected behavioral pattern. As such, a strong sense of self-efficacy leads to a stronger academic performance and a weak sense of self-efficacy leads to a weaker academic performance. As stated by Pajares and Kranzler, students having high self-efficacy tend to display greater interest

and attention while working on a problem, and accordingly have greater chance at success. Beck, Rush, Shaw, and Emery (1979) argue that through cognitive therapy, undermining beliefs and negative thoughts can be changed for the better. In such cases, interventions should be directed towards promoting social support a sense of self-confidence, social interaction, and problem solving skills. Stokes (1985) emphasizes that having people around to get support decreases loneliness because they provide the highly needed sense of belonging. Hence, people should be trained on how to get support from others. In other words, counselors, educators, and health care professionals should collaborate to design programs for interpersonal problem solving and social skills training for helping adolescents learn how to obtain support from one another and family members.

Although the results of the study do provide meaningful information, it is important to interpret them with caution. There are multiple limitations stemming from the sample, data analysis, and self-report instruments. Acknowledgment of these limitations will help the reader to interpret the results critically, and provide direction for future research. This study was carried out with prospective teachers. Hence, it can be assumed that the ability to generalize the results of the study were viable for similar student populations, but not able to be directly generalized to other populations. In this study, the relationship between social problem solving and social self-efficacy was analyzed. This study is limited with the analysis of the interactions between these concepts. For this reason, the Pearson correlation coefficient technique and structural equation modeling were used. An additional limitation is that both instruments used in this study were self-reported, which can lead to either exaggeration or minimization of responses. One criticism of the self-report instruments is the possibility that participants may respond in a socially desirable way (Beretvas, Meyers, & Leite, 2002).

Although this study includes multiple limitations, it uniquely contributes to the literature on social problem solving and social self-efficacy. The results indicate that prospective teachers with negative problem orientation (low self-efficacy) may need supportive counseling interventions in order to help them adjust to their social lives. Prospective teachers with a high level of negative problem orientation can be helped in increasing their level of social self-efficacy in order to decrease problems in

their interpersonal relationships. In psychological counseling and guidance studies, it would be appropriate to include applications about effective social problem solving skills to increase the level of social self-efficacy. Further research investigating the relationships between social problem solving and social self-efficacy, and other psychological constructs are needed to reinforce the findings of this study.

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