

## Social Problem Solving Ability Predicts Mental Health Among Undergraduate Students

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### ABSTRACT

**Background:** The main objective of this study was predicting student's mental health using social problem solving- ability.

**Methods:** In this correlational- descriptive study, 369 (208 female and 161 male) from, Mazandaran University of Medical Science were selected through stratified random sampling method. In order to collect the data, the social problem solving inventory-revised and general health questionnaire were used. Data were analyzed through SPSS-19, Pearson's correlation, *t* test, and stepwise regression analysis.

**Results:** Data analysis showed significant relationship between social problem solving ability and mental health ( $P < 0.01$ ). Social problem solving ability was significantly associated with the somatic symptoms, anxiety and insomnia, social dysfunction and severe depression ( $P < 0.01$ ).

**Conclusions:** The results of our study demonstrated that there is a significant correlation between social problem solving ability and mental health.

**Keywords:** General health, mental health, social problem solving, student

### INTRODUCTION

The definition and measurement of health is conceptually problematic and evolving.<sup>[1]</sup> The meaning of health has dramatically changed during the last 150 years.<sup>[2]</sup> According to World Health Organization (WHO), health is defined as the state of physical, mental, and social well-being and does not refer solely to the absence of a disease.<sup>[3]</sup>

With increasing understanding of health concept, the importance of mental health becomes more apparent<sup>[4]</sup> because health provides effective functionality of individuals, families, and society.<sup>[5]</sup> In order to enhance health, many different approaches such as biologic, behavior-therapy, psychodynamics, and many models such as medical, empowerment, behavioral change, educational, and social change have been introduced.<sup>[6]</sup> One recent concept considered effective in reduction of the psychological disorders is the social problem- solving ability.

Social problem solving refers to the process of problem solving within real world.<sup>[7]</sup> In this definition the word "social"

is indicative of factors affecting coping behaviors of a person in the social environment.<sup>[8]</sup> Most of the researches about social problem-solving are influenced by the social problem solving model. The problem solving therapy (PST) approach, based on this model,<sup>[9]</sup> has been utilized as an intervention modality in depression, suicide,<sup>[10]</sup> reduction of problems related to mental and physical health,<sup>[11]</sup> and anxiety.<sup>[12]</sup> The social inefficiency is common among people with personality disorders, and the primary goal of the PST approach is to enhance social sufficiency.<sup>[13]</sup>

The impact of social problem solving on depression, anxiety and personality disorders has been reported in numerous studies by Marx *et al.*, Haago *et al.*, Kant *et al.*, Becker-Weidman *et al.*, and Bray *et al.*<sup>[14-18]</sup> According to diagnostic and statistical manual of mental disorders (DSM-IV), evaluation of personality disorders requires theoretical models for guiding diagnosis and treatment. Based on this definition, McMurrin *et al.*, evaluated the relation between personality disorders and social problem solving and acknowledged the social problem solving as the theoretical basis of their research.<sup>[19]</sup>

Several studies have implicated the prevalence of mental disorders and high-risk behavior among university students.<sup>[20-23]</sup> This is partly because of rapid development of physical, psychological, and social functions in the adolescence in comparison to childhood, which prone them to emotional disturbances.<sup>[24]</sup> In addition to outcomes related to growth, these individuals are afflicted by educational concerns, living apart from family, college expenditures, and the change of living environment; all of these are important parameters in the makeup of behavioral dysfunctions.<sup>[25]</sup>

Planning efficient models in prevention and treatment of psychological disorders in adolescents and young adults is of utmost value. Based on this essentiality, we conducted a research in order to evaluate the role of social problem-solving ability in the prediction of undergraduate mental health.

## METHODS

### Participants

This is a descriptive-correlational study. We randomly selected 369 undergraduate students

(161 male, 208 female) from the Mazandaran University Medical Science, based on stratified randomized sampling. The mean age of the examinees was 22 years, of which 107 were married and 262 were single. They were selected from students of human studies, agriculture, engineering, and arts and had freely agreed to participate.

### Instruments

The instruments for data collection are the following:

#### **Social problem-solving inventory-revised**

This is a 52-item, self-report questionnaire devised according to D'Zurilla *et al.*<sup>[26]</sup> The subscales of SPSI-R include: Positive problem orientation (PPO), negative problem orientation (NPO), rational problem solving (RPS), impulsivity/carelessness style (ICS), and avoidance style (AS).<sup>[27]</sup> Siu and Shek reported Cronbach coefficient alphas of SPSI-R ranged from 0.64 (PPO) to 0.98 (AS).<sup>[28]</sup>

#### **General health questionnaire**

The original general health questionnaire was designed by Goldberg in 1972.<sup>[29]</sup> We used GHQ-28 comprising of 4 subscale covering the physical symptoms, anxiety and insomnia, social functioning, and depression. Test-retest reliability coefficient of Farsi version of GHQ was 0.85.<sup>[30]</sup>

We used SPSS 19 to analyze data using Pierson's correlation coefficient, independent *t*-test, and stepwise regression analysis.

## RESULTS

Mean and standard deviation for social problem solving and general health scores are presented in Table 1. The correlation of the social problem solving abilities and its sub-scale with the general health questionnaire are presented in Table 2. There is significant correlation between general health and the social problem solving abilities ( $P < 0.01$ ). The social problem solving abilities were significantly correlated with the physical symptoms, anxiety and insomnia, social dysfunction, and depression ( $P < 0.01$ ).

Stepwise multiple regression analysis for the entire sample was used to determine the combination of variables that best predicts general mental health [Table 3]. The variance of negative

problem orientation accounted for 21.5% of the variance of general health score. Adding the impulsivity/carelessness style to this analysis, raised the value to 24.5%. These two variables were thus negatively correlated with the general health.

## DISCUSSION

Studies performed about the status of mental health in college students imply mental disorders being prevalent.<sup>[31]</sup> These disorders lead to

**Table 1:** Mean and standard deviations of scales by sex

Scale	Men (n=108)		Women (n=261)		t
	M	SD	M	SD	
Social problem solving inventory	12.58	2.63	12.63	2.37	0.49
Positive problem orientation	11.90	4.26	11.91	4.29	0.00
Negative problem orientation	13.28	6.99	15	6.90	1.72
Rational problem solving	43.98	13.45	43.89	14.41	0.08
Impulsivity/carelessness style	14.28	5.64	13.86	5.58	0.42
Avoidance style	8.65	4.26	7.37	4.18	1.27
General health questionnaire	48.85	11.41	53.11	12.91	4.25*
Somatic symptoms	12.26	3.06	13.95	3.99	1.68**
Anxiety and insomnia	12.73	4.24	13.83	4.35	1.09
Social dysfunction	13.85	2.45	14.14	2.76	0.29
Severe depression	10.36	3.81	11.28	4.78	0.91

\* $P < 0.03$ , \*\* $P < 0.005$ , M=Mean, SD=Standard deviation

devastating individual and social outcomes and require preventive and treatment approaches. This study was done with the aim of evaluating the value of parameters related to social problem solving capabilities in the prediction of students' mental health.

The results of our study demonstrate that there is a significant correlation between social problem-solving ability and mental health. Social problem-solving ability are significantly related to physical symptoms, anxiety and insomnia, social dysfunction, and depression. This is in concert with the results of the Nezu and Nezu and Ronan findings.<sup>[32,33]</sup> Marx *et al.*,<sup>[14]</sup> Haaga *et al.*,<sup>[15]</sup> D'Zurill *et al.*,<sup>[34]</sup> Baker and Williams<sup>[35]</sup> and Becker-Weidman *et al.*,<sup>[17]</sup> have also reported similar results.

Our study showed that almost 21.5% of the variance in general health variable may be related to predictive variable of negative problem orientation and that it is increased to 24.5% if the impulsivity/carelessness style is added. This finding is in agreement with the results of Nezu<sup>[12]</sup> and D'Zurilla *et al.*<sup>[34]</sup>

## CONCLUSION

The results of our study demonstrate that social problem solving ability are significantly correlated with the mental health and may predict it. We recommend that colleges prepare plans in order to enhance the social problem solving skills among their population.

Our study is limited by its conduct over a single group of students. We recommend a larger

**Table 2:** Significant Pearson correlation matrixes for total scores

Scale	r										
	1	2	3	4	5	6	7	8	9	10	11
Positive problem orientation	-										
Negative problem orientation	-0.24**	-									
Rational problem solving	0.77**	-0.15*	-								
Impulsivity/carelessness style	-0.25**	0.67**	-0.16*	-							
Avoidance style	-0.30**	0.55**	-0.32**	0.48**	-						
Social problem-solving inventory	0.77**	-0.70**	0.71**	-0.67**	-0.71**	-					
Somatic symptoms	t	0.31**	-0.04	0.29**	0.08	-0.23**	-				
Anxiety and insomnia	-0.18*	0.45**	-0.08	0.38**	0.22**	-0.34**	0.69**	-			
Social dysfunction	-0.13	0.26**	0.04	0.31**	0.13	-0.16*	0.40**	0.38**	-		
Severe depression	-0.23**	0.45**	-0.19	0.44**	0.35**	-0.44**	0.58**	0.67**	0.42**	-	
General health questionnaire	-0.20**	0.46**	-0.11	0.44**	0.25**	-0.38**	0.83**	0.83**	0.63**	0.85**	-

\* $P < 0.05$ , \*\* $P < 0.001$

**Table 3:** Summary of stepwise regression analysis for predicting students' mental health

Predictors	B	SEB	R	R <sub>2</sub>	β	t
Step 1						
Negative problem orientation	0.860	0.127	0.463	0.215	0.463	6.789
Step 2						
Negative problem orientation	0.543	0.177			0.293	2.062
Impulsivity/carelessness style	0.558	0.222	0.493	0.244	0.241	2.516

\**P*<0.05 \*\**P*<0.001

multicenter study with various age groups and questionnaires.

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