Cukurova Medical Journal
ÇUKUROVA ÜNİVERSİTESİ TIP FAKÜLTESİ DERGİSİ

Cukurova Med J 2016;41(4):721-731
DOI: 10.17826/cutf.254231

ARAŞTIRMA/RESEARCH

Social problem solving and coping skills of medical students

Tıp öğrencilerinin sosyal sorun çözme ve başetme becerileri

Emel Yiğit[1], Sevgi Özcan[1], Gülşah Seydaoğlu[2]

[1]Çukurova University Faculty of Medicine, Department of Family Medicine, [2]Department of Medical Education and Biostatistics, Adana, Turkey.

Cukurova Medical Journal 2016;41(4):721-731.

Abstract

Purpose: The aim of this study was to evaluate medical students' social problem solving and coping skills.

Material and Methods: In this correlational descriptive study, data were gathered from 457 medical students. Social Problem Solving Inventory and Social Problem Coping Behaviours Inventory were used.

Results: The most preferred activities when the students face a problem were talking with friends (87.1%), talking with special persons (85.4%), sleeping (82.6%), talking with family members (81.6%), and eating (79.8%). The ratio of the behaviors that can be deemed risky were exhibiting aggressive and violent behaviors (18.9%), drinking alcohol (18.7%), smoking (17.6%), playing games of chance (16.9%), and using substance (3.8%). There was a positive relationship between total scores of Social Problem Solving Inventory and Social Problem Coping Behaviours Inventory. It is found that immature social problem solving ability has increased the risk of unfavourable behaviours by 3.1 fold.

Conclusion: Social problem solving ability is significantly correlated with coping behaviours and may predict it. Medical students who are the doctors and the role models of the future need to develop their social problem solving skills in addition to clinical problem solving skills.

Key words: Medical students, social problem solving, coping behaviours

Öz

Amaç: Bu çalışmanın amacı, tıp öğrencilerinin sosyal problem çözme ve başa çıkma becerilerini değerlendirmekti.

Gereç ve Yöntem: İlişkisel tanımlayıcı çalışmada, veriler 457 tıp öğrencisinden toplanmıştır. Sosyal Problem Çözme Envanteri ve Sosyal Problem Başa Çıkma Davranışları Envanteri kullanılmıştır.

Bulgular: Öğrenciler bir sorunla karşı karşıya kaldıklarında en çok, arkadaşlarıyla (% 87.1), özel kişilerle (% 85.4) ve aile üyeleriyle konuşmayı (% 81.6), uyumayı (%82.6) ve (79.8%) yemek yemeyi tercih ediyorlardı. Riskli kabul edilebilen davranış sergileyenlerin oranı; şans oyunları oynama (% 16.9), saldırgan ve şiddet içeren davranışlarda bulunma (% 18.9), alkol içki tüketme (% 18.7), sigara içme (% 17.6) ve madde kullanımı (% 3.8) idi. Sosyal Problem Çözme Envanteri ve Sosyal Problem Başa Çıkma Davranışları Envanteri toplam puanları arasında pozitif yönde bir ilişki vardı. Gelişmemiş sosyal sorun çözme becerisinin olumsuz davranışların riskini 3.1 kat arttırdığı saptandı.

Sonuç: Sosyal sorun çözme becerisi başa çıkma davranışları ile ilişkilidir ve bu davranışları öngörebilir. Geleceğin hekimleri ve rol modelleri olan tıp öğrencilerinin klinik problem çözme becerileri yanısıra sosyal sorun çözme becerilerini de geliştirmelerine gereksinim vardır.

Anahtar kelimeler: Tıp öğrencileri, sosyal sorun çözme, başetme davranışlar

INTRODUCTION

Social problem solving has been hypothesized to be an important general coping strategy that can reduce or prevent the negative effects of major and minor stressful life events on overall psychological well-being[1,2]. According to the social problem solving model social problem solving ability consisted of two general, partially independent components: problem orientation (positive or negative) and problem solving style (rational, impulsivity-carelessness or avoidance style). Constructive or effective problem solving is depicted as a process in which positive problem orientation facilitates

Yazışma Adresi/Address for Correspondence: Dr. Sevgi Ozcan, Çukurova University Faculty of Medicine, Department of Family Medicine, Adana, Turkey, e-mail: sozcan@cu.edu.tr
Geliş tarihi/Received: 16.05.2016 Kabul tarihi/Accepted: 04.06.2016

rational problem solving, which in turn is likely to produce positive outcomes. Dysfunctional or ineffective problem solving is shown as a process in which negative problem orientation contributes to impulsivity-carelessness style or avoidance styles, which are both likely to be produced negative outcomes[1]. Studies have found a link between problem solving deficits and serious psychological and behavioral problems, including depression, suicidal ideation, aggression, delinquency, substance use (tobacco, alcohol, marijuana) and high risk automobile driving. It is also found that social problem solving skills is related to measures of positive adjustment, such as positive affectivity, life satisfaction, self-esteem, autonomy, and a sense of environmental mastery[2,3]. Ranjbar et al. demonstrated that there is a significant correlation between social problem solving ability and mental health among undergraduate university students[4].

Although there are many studies in the social problem solving field, there is no search that has examined specially the medical student's social problem skills. However, medical education is a stressful period and medical students are faced with different kind of problems such as academic pressure, workload, financial concerns, and sleep deprivation, exposure to patients' suffering and deaths, student abuse, "hidden curriculum" of cynicism. And also it has been postulated that burnout, a measure of distress common among residents and physicians in practice has its origin in medical school. It is suggested that psychological distress among students may adversely influence their academic performance, contribute to academic dishonesty, and play a role in alcohol and substance abuse. Students' distress has also been reported to associate with cynicism, an unwillingness to care for the chronically ill and decreased empathy[5].

A paper addressing the necessity of integrating social and behavioral sciences with medical education makes mention of the fact that social and behavioral sciences would teach important coping skills, establish a framework for integration and implementation of information, and affirm humanistic principles[6]. It is reported that in the view of developmental factors that often form the basis of stress among medical students, development of coping skills or problem solving training should begin during the undergraduate years as part of career planning[7].

Identifying social problem solving and coping skills may provide useful information and might be initial step in planning appropriate strategies for medical students. The purpose of this study is to put forward the social problem solving skills of medical students and the activities that they tend towards when they confront any problem.

Research questions of the study were what kind of social problem solving approach/style medical students have and what activities do they tend towards when they confront any problem? Is there any correlation between these two parameters? What are the socio-demographic factors that affect medical students' problem solving approach/style and the activities that they tend towards when they confront any problem?

MATERIAL AND METHODS

Study design

This is a descriptive-correlational cross sectional study. All the students from grade 1 (n=285), grade 4 (n=235), and grade 6 (n=130) studying in the medical faculty during the 2013-2014 academic year were asked to participate in the study (n=650). After omitting ineligible questionnaire forms and those who denied responding to the study, 457 forms were deemed eligible and thus taken into consideration (response rate: 70%).

Instruments

The instruments for data collection are the following:

Sociodemographic Information Form: Having been developed by the researchers, this form interrogates the following details about students: age, sex, number of years lost in education, parent's educational background, staying with parents, monthly income of the family, and whether or not he/she has a disease that requires regular drug use.

Revised Social Problem Solving Inventory (SPSI-R:S): Revised Social Problem Solving Inventory-Short Form which was developed by D'Zurilla et al. and adapted into Turkish by Eskin and Aycan has been employed in this study. Eskin and Aycan (2009) found internal consistency coefficients for the Turkish version of SPSI-R ranged from 0.62 to 0.92 and test-retest reliability coefficients ranged from 0.60 to 0.84[8].

This inventory is composed of two dimensions; i.e.,

"problem orientation" and "problem solving style". There are two sub-scales within problem orientation dimension: positive problem orientation and negative problem orientation. On the other hand, problem solving dimension is formed by three sub-scales: rational problem solving, impulsivity/carelessness style and avoidance style. Measuring instrument consists of 5 sub-scales, and there are 25 items in the scale. Items are graded by a five-point likert scale ranging from 0 (unfavorable) to 4 (completely favorable). It is possible to generate both total score for each sub-scale and global score from the scale. Among these sub-scales, Positive Problem Orientation (PPO) and Rational Problem Solving (RPS) represent constructive approach to social problem solving, whereas Negative Problem Orientation (NPO), Impulsivity/Carelessness Style (ICS) and Avoidance Style (AS) represent dysfunctional approach. Minimum and maximum scores to be obtained from the scale are 0 and 100 respectively. High scores indicate that social problem solving ability is at "a good level", while low scores are indicative of "a poor level" of social problem solving ability.

Social Problem Coping Behaviors: An original inventory was developed by our study group named "Social Problem Coping Behaviors" (SPCB). A self-report questionnaire form including 25 items was designed. Each item is graded by a five-point likert scale ranging from 0 (never) to 1 (rarely), 2 (sometimes), 3 (often) and 4 (always). A factor analysis was applied to this scale, and the results of the analyses revealed that the scale items gathered fewer than 6 factors. These 6 factors were classified under two sub-headings: 1.Negative coping behaviors (consisting of four negative behaviors) and 2.Positive coping behaviors (consisting of two positive behaviors).

Negative Coping Behaviors (NCB):

1. Factor 1 named as "Aggressive/Violent Behaviors (AVB)" includes 5 items; 1. Playing games in virtual environments, 2.Wandering around on the internet 3. Exhibiting aggressive and violent behaviors 4.Tending towards sexually explicit thoughts and acts, 5.Displaying such behaviors as biting nail and tearing hair).
2. Factor 2 named as "Careless/Impulsive Behaviors (CIB)" includes 4 items; 1.Shopping, 2.Sleeping, 3.Eating, 4.Overworking).
3. Factor 3 named as "Isolation Behaviors (IB)" includes 3 items; 1.Stopping eating, 2.Locking himself/herself in the room/house, 3.Chewing on personal mistakes and failures)
4. Factor 4 named as "Addictive Behaviors (AB)" includes 4 items; 1.Playing games of chance, 2.Smoking, 3.Drinking alcohol, 4.Using substance)

Positive Coping Behaviors (PCB):

1. Factor 5 named as "Relaxing Behaviors (RB)" includes 4 items; 1.Doing exercise, 2.Doing relaxation exercises, 3.Dealing with hobbies, 4.Participating in social and cultural activities.
2. Factor 6 named as "Communicative Behaviors (CB)" includes 5 items; 1.Meeting -talking with friends, 2.With special persons, 3.With family members, 4.With a professional, 5.Joining in belief-related activities.

The total scale was calculated by summing positive items and reversed negative items. (SPCB total score=Positive coping behaviors + (64-Negative coping behaviors)). Higher scores are indicative of positive coping behaviors in the presence of problems. Cronbach coefficient alpha of SPCB was found to be 0.72 for total scale. For retest a total of 78 students from the total sample refilled the SPCB one month later. Test-retest reliability coefficient was 0.84. The statistical analyses showed that SPCB inventory is a reliable and valid instrument.

Statistical analysis

Confirmatory factor analysis, Cronbach's alpha, Pearson product moment correlation coefficient and Qhi Square, student t-test, Anova, Mann Whitney U test or Kruskal Wallis test and procedures were used to analyze the data.

RESULTS

As shown in table 1 54.9% of the students were male. Because of the ever-increasing number of quotas every passing year in our country, the majority of the study group (46.8%) was formed by 1st year students. It was observed that 24.1% of the participants had year(s) lost in education, 43.5% lived together with their family, and 7.7% had a disease requiring regular drug use. More than half of the students (54.7%) were detected to have middle income families.

Table 1. Distribution of participants by demographics

		n	%
Sex	Male	251	54.9
	Female	206	45.1
Grade	1	214	46.8
	4	142	31.1
	6	101	22.1
Number of years lost	N/A	347	75.9
	1 year	80	17.5
	2 +	30	6.6
Education years of mother	≤8 years	228	49.9
	9-11 years	116	25.4
	≥12 years	113	24.7
Education years of father	≤8 years	136	29.8
	9-11 years	114	24.9
	≥12 years	207	45.3
Living with family	Yes	199	43.5
	No	258	56.5
Socioeconomic status	Low	66	18.8
	Middle	192	54.7
	High	93	26,5
Disease	Yes	35	7.7
	No	422	92.3

The total point average of SPSI scale was 62.8±11.5 (min: 31 max: 93). The confirmatory factor analyses indicated that the items for the short versions of the SPSI fitted well to the 5-dimensional model as in the original version. The highest mean values of the items were found to be in Positive Problem Orientation (PPO) and Rational Problem Solving (RPS) subscales. The lowest mean of the items were found to be in Avoidance Style (AS) subscales. Almost four out of five students replied 2 or higher points for the positive problem solving ability items.

The total point average of SPCB scale was 62.1±8.2 (min: 31 max: 85). The confirmatory factor analyses indicated that the items for the SPCB fitted well to the 6-dimensional model. The most preferred activities when confronting a problem are meeting-talking with friends (87.1%), meeting-talking with special persons (85.4%), sleeping (82.6%), meeting-talking with family members (81.6%), eating (79.8%), dealing with hobbies (76.1%), wandering around on the internet (67.5%), shopping (63.3%), participating in social and cultural activities (63.2%), chewing on personal mistakes and failures (62.0%), joining in belief-related activities (57.0%), doing exercise (56.2%), playing games in virtual environments (54.4%), doing relaxation exercise (43.8%), locking himself/herself in the room/house (42.6%), overworking (38.4%), meeting-talking with a professional (29.9%), stopping eating (23.9%), displaying such behaviors as biting nail and tearing hair (19.8%), exhibiting aggressive and violent behaviors (18.9%), drinking alcohol (18.7%), tending towards sexually explicit thoughts and acts (18.5%), playing games of chance (16.9%), smoking (17.6%) and using substance (3.8%), respectively (Table 2).

A significant positive relationship was determined between SPSI and SPCB total points ($r=0.40$, $p<0.05$). The study group was classified into two groups according to SPSI and SPCB mean values. The students who has a total point under the mean value was accepted as "Immature" and the students who has a total point over the mean value was accepted as "Mature" for SPSI. That classification was named as "Unfavorable Behaviors" and "Favorable Behaviors", respectively for SPCB. Among those whose SPSI point is below the average, the rate of favorable behaviors is 35.6%, whereas among those whose SPSI point is above the average, the same is 63.8% ($p=0.001$). Among the students whose SPSI skill is immature, the risk of developing unfavorable behaviors becomes 3.1 times higher (OR: 3.1, 95%CI: 2.2-4.7, $p=0.0001$) (Table 3). Distribution of total and subscale points of SPSI by demographics is indicated in Table 4. Average points of subscales of SPSI such as PPO,

ICS and AS were significantly higher among male students while average point of NPO was higher among female students. Total mean of ICS and AS subscales were significantly higher in the first year students and NPO points of the students living with their family. SPSI total points of the students whose family income was higher were significantly lower than other groups. The relationship between total and subscale points of SPCB and socio-demographic characteristics is given in Table 5.

Table 2. Factor and item analyses regarding SPCB scale

Item number	Factor loadings						Response %			%			Mean
25 Playing games in virtual environments	0.80						10.1	35.6	35.8	17.6	1.0	54.4	1.65
1 Wandering around on the internet	0.65						9.1	23.4	41.2	20.4	5.9	67.5	1.91
5 Exhibiting aggressive and violent behaviors	0.67						54.5	26.5	14.3	3.2	1.4	18.9	0.70
6 Tending towards sexually explicit thoughts and acts	0.64						59.2	22.2	12.3	3.2	3.0	18.5	0.69
4 Displaying such behaviors as biting nail and tearing hair	0.55						64.2	16.0	10.5	7.5	1.8	19.8	0.63
2 Shopping		0.53					10.7	26.1	45.1	17.6	0.6	63.3	1.71
7 Eating		0.75					6.3	13.9	29.1	34.3	16.4	79.8	2.42
8 Sleeping		0.73					7.9	9.5	30.7	39.2	12.7	82.6	2.40
23 Overworking		0.59					28.7	32.9	25.9	9.7	2.8	38.4	1.29
24 Stopping eating			0.79				38.8	37.4	15.6	7.5	0.8	23.9	0.94
12 Locking himself/herself in the room/house			0.67				24.4	32.9	28.5	12.3	1.8	42.6	1.31
22 Chewing on personal mistakes and failures			0.69				9.1	28.9	36.8	20.4	4.8	62.0	1.81
3 Playing games of chance				0.57			65.3	17.8	11.1	4.6	1.2	16.9	0.57
9 Smoking				0.71			76.8	5.7	7.3	6.3	4.0	17.6	0.53
10 Drinking alcohol				0.78			66.7	14.5	12.7	4.0	2.0	18.7	0.59
11 Using substance				0.57			93.3	2.8	2.8	0.4	0.6	3.8	0.11
13 Doing exercise					0.84		16.0	27.9	36.6	16.6	3.0	56.2	1.67
20 Doing relaxation exercises					0.67		24.2	31.9	31.7	9.3	2.8	43.8	1.37
14 Dealing with hobbies					0.68		7.1	16.8	39.2	32.3	4.6	76.1	2.16
19 Participating in social and cultural					0.62		10.7	26.1	38.4	22.2	2.6	63.2	1.84

activities													
15 Meeting -talking with friends						0.56	4.6	9.9	31.1	42.8	11.5	85.4	2.52
16 with special persons						0.60	3.0	9.9	29.7	45.9	11.5	87.1	2.56
17 with family members						0.78	7.1	11.3	28.9	37.8	14.9	81.6	2.49
18 with a professional						0.42	38.8	31.3	22.2	6.1	1.6	29.9	1.03
21 Joining in belief-related activities						0.64	19.6	23.4	29.7	21.0	6.3	57.0	1.75

AVB:Aggressive/Violent behaviors, CIB:Careless/Impulsive behaviors, IAB:Isolation/Avoidance behaviors, AB:Addictive behaviors, RB:Relaxation behaviors, CB:Communicative behaviors

Significant differences were detected between genders in terms of all scale points with the exception of RB. CB point of the first year students was significantly higher than that of any other grade. SPCB points were detected to be significantly low among the students not living with their family and with chronic disease.

It was determined that notably AB subscale points displayed significant differences depending on various demographic characteristics (number of years lost, education of mother, family income and existence of chronic disease).

Table 3. Relationship between SPSI level and SPCB level

		SPCB	
		Unfavorable behaviors (Under Mean Value) (n=222)	**Favorable behaviors** (Over Mean Value) (n=235)
SPSI	**Immature** (Under Mean Value) (n=228)	143 (64.4)	79 (35.6)
	Mature (Over Mean Value) (n=229)	85 (36.2)	150 (63.8)
		(OR: 3.1, 95%CI:2.2-4.7, p=0.0001)	

SPSI: Social Problem Solving Inventory, SPCB: Social Problem Coping Behaviors.

Table 4. Distribution of total and subscale points of SPSI by demographic features

	Total and subscales of SPSI Mean+SD					
	PPO	**RPS**	**NPO**	**ICS**	**AS**	**Total**
Sex						
Male	12.0±3.1	12.2±3.0	8.0±3.3	7.4±3.2	6.8±3.8	62.3±11.3
Female	11.2±3.3	12.0±3.2	8.8±3.8	6.1±3.3	4.8±3.7	63.5±11.9
p	0.01	0.51	0.02	0.00	0.00	0.270
Grade						
1st	11.8±3.2	12.0±2.8	8.4±3.6	7.3±3.3	6.4±3.9	61.7±11.1
4th	11.3±3.5	12.0±3.5	8.4 ±3.5	6.3±3.3	5.5±3.7	63.2±12.0
6th	11.8±3.0	12.5±3.2	8.0±3.6	6.5±3.3	5.5±4.0	64.5± 11.7
p	0.54	0.11	0.58	0.02	0.04	0.10
Number of years lost						
N/A	11.6±3.2	12.1±3.1	8.5±3.5	6.8±3.2	5.9± 3.9	62.6±11.4
1 year	11.6 ±3.6	12.2±3.1	8.1±3.8	7.1±3.5	6.3±4.1	62.4±12.3
2 +	12.4±2.5	12.0±3.2	7.4±3.6	6.6±3.5	4.8± 3.3	65.7±10.5

p	0.41	0.94	0.23	0.69	0.23	0.33
Education years of mother						
≤8 years	11.±3.1	12.0±3.0	8.3± 3.5	6.6± 2.9	5.9±3.9	63.1±11.3
9-11 years	11.4±3.5	12.2±3.2	8.3± 3.7	6.9±3.5	6.0± 3.9	62.3±11.8
≥12 years	11.9±3.2	12.2± 3.3	8.5± 3.6	7.1± 3.7	5.9± 3.8	62.6±11.8
p	0.34	0.78	0.83	0.51	0.92	0.74
Education years of father						
≤8 years	11.0±3.7	11.8±2.7	8.9±5.0	6.0±2.4	6.2±3.7	61.7±11.6
9-11 years	11.7±3.2	12.2±3.2	8.6±3.4	6.6±3.0	5.9±3.9	63.0±11.3
≥12 years	11.6±3.5	11.9±3.1	7.8±3.3	6.9±3.2	5.6±4.0	63.3±12.3
p	0.83	0.43	0.30	0.67	0.44	0.86
Living with family						
Yes	12.0±3.4	12.3±3.3	7.9±3.5	6.9±3.3	5.6±3.7	64.1±11.8
No	11.4±3.1	11.9±2.9	8.7±3.6	6.7±3.3	6.1±4.1	61.8±11.2
p	0.08	0.40	0.02	0.59	0.28	0.08
Socioeconomic status						
Low	11.8±2.9	11.8±3.0	7.7±3.1	6.8±3.0	5.9±3.7	63.3 ±10.4
Middle	12.1±3.2	12.6±2.9	8.2±3.5	6.6±3.2	5.5±3.8	64.5±11.1
High	11.4±3.7	11.9±3.0	9.0±4.0	7.4±3.8	6.6±4.1	60.4±11.6
p	0.29	0.11	0.10	0.31	0.10	0.03
Disease						
Yes	11.3±3.6	11.7±3.3	8.4±3.6	7.3±3.8	6.0±4.4	61.2±13.2
No	11.7±3.2	12.1±3.1	8.3±3.6	6.8±3.3	5.9±3.8	62.9±11.2
p	0.58	0.11	0.94	0.56	0.86	0.65

PPO: Positive Problem Orientation, NPO: Negative Problem Orientation, RPS: Rational Problem Solving, ICS: Impulsivity/Carelessness Style, AS: Avoidance Style

Table 5. Distribution of total and subscale points of SPCB by demographic features

	Total and subscales of SPCB Mean+SD						
	RB	**CB**	**AVB**	**CIB**	**IB**	**AB**	**Total**
Sex							
Male	7.3±2.9	10.0±3.4	6.1±3.5	7.4±2.8	3.8±2.2	2.4±2.7	61.5±9.0
Female	6.7±2.9	10.8±3.0	4.9±3.0	8.3±2.6	4.4±2.2	1.0±1.8	63.0±7.0
p	0.96	0.02	0.00	0.00	0.00	0.00	0.050
Grade							
1	7.4±2.8	10.8±3.5	5.7±3.6	8.0±2.9	4.0±2.2	1.6±2.3	62.8±7.9
4	6.9±3.1	9.9±3.2	5.7±3.1	7.9±2.6	4.1±1.8	1.8±2.7	61.3±8.9
6	6.6±2.7	10.1±2.9	5.2±3.0	7.4±2.8	4.1±2.2	2.1±2.5	61.9±7.6
p	0.08	0.01	0.60	0.28	0.84	0.12	0.18
Number of years lost							
N/A	7.1±2.8	10.5±3.3	5.6±3.4	7.9±2.7	4.1±2.3	1.6±2.4	62.4±8.0
1 year	7.0±3.4	10.0±3.3	5.9±3.1	7.8±2.9	4.1±1.9	2.2±2.6	61.1±8.9
2 +	6.3±2.8	9.4±3.2	4.6±2.9	6.8±2.9	4.0±2.1	2.9±2.7	61.4±8.5
p	0.29	0.10	0.10	0.07	0.91	0.00	0.31
Education years of mother							
≤8 years	6.7±2.8	10.3±3.3	5.3±3.1	7.7±2.7	4.0±2.2	1.5±2.2	62.6±8.2
9-11 years	7.3±3.0	10.4±3.2	6.1±3.5	8.2±2.7	4.1±2.4	1.7±2.1	61.7±8.0
≥12 years	7.4±3.0	10.5±3.3	5.7±3.6	7.8±3.0	4.2±1.9	2.6±3.0	61.7±8.2
p	0.02	0.92	0.08	0.20	0.25	0.00	0.64

Education years of father							
≤8 years	6.1±2.0	9.1±1.6	3.9±3.0	7.8±1.5	3.5±1.5	1.8±2.7	62.9±65
9-11 years	6.9±2.8	10.0±3.3	5.4±3.3	7.8±2.6	3.9±2.2	1.5±2.2	62.4±80
≥12 years	7.1±2.8	10.7±3.2	5.7±3.4	8.1±2.8	4.2±2.2	1.7±2.4	62.2±84
p	0.56	0.22	0.16	0.63	0.14	0.06	0.76
Living with family							
Yes	7.4±2.9	10.6±3.2	5.4±3.2	7.7±2.8	3.9±2.3	1.7±2.3	62.2±7.8
No	6.7±2.9	10.2±3.3	5.7±3.5	7.9±2.8	4.2±2.1	1.8±2.6	61.3±8.3
p	0.01	0.22	0.54	0.20	0.08	0.82	0.03
Socioeconomic status							
Low	7.0±2.5	9.9±3.1	5.4±3.4	7.9±2.9	3.8±2.1	1.4±2.3	62.4±79
Middle	7.1±2.8	10.7±3.3	5.4±3.1	7.8±2.8	3.9±2.1	1.5±2.0	63.2±75
High	6.9±3.1	10.0±3.3	6.0±3.6	7.8±3.0	4.3±2.1	2.5±2.9	60.2±88
p	0.97	0.24	0.35	0.90	0.29	0.0001	0.09
Disease							
Yes	7.2±3.4	10.6±3.4	6.8±3.8	8.0±2.9	4.7±2.0	2.7±3.3	59.5±96
No	7.0±2.9	10.3±3.3	5.5±3.3	7.8±2.8	4.0±2.2	1.7±2.3	62.4±80
p	0.58	0.61	0.03	0.71	0.02	0.050	0.04

RB:Relaxation Behaviors, CB:Communicative Behaviors, AVB:Aggressive/Violent Behaviors, CIB:Careless/Impulsive Behaviors,IAB:Isolation/Avoidanc e Behaviors, AB:Addictive Behaviors.

DISCUSSION

Discussion is organized in accordance with the research questions.

What kind of problem solving approach/style medical students have and what activities do they tend towards when they confront any problem? Is there any correlation between these two parameters?

When the average SPSI (62.8±11.5) and SPCB (62.1±8.2) points are assessed on the basis of the score interval 0-100, it is possible to state that problem solving skills of our study group is at medium level. Even though the same inventory has not been used in various studies conducted on the university students in our country, students' problem solving skills have been, in general, evaluated to be at medium level[9-16]. In the study conducted by Soyer et al., problem solving skill perceptions of medical students were compared to those of the students studying at other faculties, and the first one was determined to be significantly higher. In the same study, students in general were established to have perceived themselves at and below the medium level in terms of problem solving skills[17].

Four out of five students taking part in our study generally employed constructive style, while one out of three students used dysfunctional style. During problem solving process, students are sometimes self-sufficient; however, they sometimes need assistance from parents, friends, teachers or specialists. It is observed in the light of existing studies that the young rarely uses formal sources of assistance (psychological counsellors, psychologists, etc.), and they rather prefer informal sources such as family and friends[18]. In line with the literature, our study also reveals that the most preferred activities in the face of a problem are meeting-talking with friends (87.1%), with special persons (85.4%) and with family (81.6%), while 29.9% preferred meeting-talking with a professional. It is striking that sleeping (82.6%) and eating (79.8%) are preferred at least as frequently as meeting-talking with friends and family.

Understanding the coping behaviors is of critical importance to identify the students having difficulty and to gain a deeper insight about how to support them. Thus, the ratio of preference of dysfunctional behaviors and the behaviors that can be deemed risky (displaying such behaviors as biting nail and tearing hair (19.8%), exhibiting aggressive and violent behaviors (18.9%), drinking alcohol (18.7%), tending towards sexually explicit thoughts and acts (18.5%), smoking (17.6%), playing games of chance (16.9%), using substance (3.8%)) are as valuable as the most preferred ones. A moderately positive relationship was discovered between students' problem solving skills and the behaviors they tend towards when they confront a problem. Among those whose SPSI point is below the average, the rate of favorable behaviors is 5.6%, whereas among those whose SPSI point is above the average,

the same is 63.8%. Among the students whose SPSI skill is immature, the risk of developing unfavorable behaviors becomes 3.1 times higher.

What are the socio-demographic factors that affect medical students' problem solving approach/style and the activities that they tend towards when they confront any problem?

Although there was no significant difference between male and female students in terms of SPSI total point, average points of subscales positive problem orientation, carelessness/impulsivity style and avoidance style are higher among male students, while average points of negative problem orientation subscale are higher among female students. With regard to the activities tended as compared to problems, communicative, careless/impulsive and isolation behavior points of female students were calculated to be significantly higher, whereas aggressive/violent and addictive behavior points of male students were estimated as significantly higher. Our results are in line with the literature. Studies across different age samples suggest that men tend to score higher on positive problem orientation and lower on negative problem orientation than women[2]. It is reported that women mostly tend towards emotion-oriented methods such as seeking social support and avoidance, while men rather make use problem solving oriented coping methods[18]. Monteiro et al. reported that female university students used wishful thinking and problem-focused disengagement more than male students[19]. It was also reported that girls perceived themselves more stressful due to anger, internal pressure and external pressure, and therefore perceived stress varying by gender gave rise to the differences in coping methods[20]. A study investigating stress among medical students revealed that male students more frequently exhibit risky behaviors (unsafe sexual intercourse, smoking and drinking alcohol)[21]. Eskin and Aycan found that both avoidance and impulsivity/carelessness styles points of men were higher than those of women, whereas women got higher points than men when it comes to NPO scale[8].

Carelessness/impulsivity and avoidance style points of the first year students are significantly higher than the students from other grades; similarly, when it comes to the activities tended towards in the presence of a problem, the first year students significantly orient themselves to more communicative behaviors. This situation may arise from the fact that types of problems faced are different among grades. According to a study carried out with medical students, it was concluded that the stress in upper grades resulted mostly from increased academic information and exams, on the other hand such emotional factors as flirt, fight, and jealousy caused the stress for the first year students more intensely[21].

In our study, no significant relationship was found between educational level of parents and SPSI total and subscale points. As the educational level of the mother increases, relaxation and addictive points significantly rises. It was thought that problem solving ability and tendency of the parents were influential thanks to their role model characteristics rather than formal education received.

Points regarding negative problem orientation of students living with their parents were assessed to be lower with higher relaxation behavior points. According to the study conducted by Keskin and Orgun, students living with their family or relatives mostly tend to receive social support [22]. In her study, Özcebe pointed out that students not living with their parents smoke consume alcoholic drinks and have unsafe sexual intercourse more than students living with their family do[23].

Especially, it is remarkable that addictive behavior subscale points are significantly different according to many demographic features (number of years lost, educational level of mother, family income and existence of chronic disease). Male students and students with higher education years of mother, with higher family income, with chronic disease and with lost years in education mostly tend towards addictive behaviors such as playing games of chance, smoking, drinking alcohol and using substance.

The present study should be considered in the light of a few limitations. First, we note that all of our data were self-reported, and the extent of underreporting or over reporting cannot be determined. Being conducted on a volunteer basis, our study takes into account 70% of the sample. Within the scope of accessible literature, comparison our findings with the literature was quite difficult and limited because of the fact that no study showing medical students' social problem solving orientation and style was found, and that generally different surveys and parameters were used in such accessible studies.

Despite these limitations the present study makes a

number of contributions to the literature. We have demonstrated that social problem solving skills of medical students are at medium level; and that the most preferred activities of the students in the face of any problem are meeting-talking with friends, meeting-talking with special persons, sleeping, meeting-talking with family, eating, and dealing with hobbies. Male students and students with higher education years of mother, with higher family income, with chronic disease and with lost years in education mostly tend towards addictive behaviors. Students not living with their family generally have negative problem orientation, and as compared to those living with their family, their orientation towards doing exercise, dealing with hobbies and participating in social activities is less. Discovering a relationship between grade, sex and family income and SPSI total and subscale points, our study reveals that SPSI total point is lower among those with higher income, which is another attention-grabbing conclusion. Moreover, our study finds out a moderately positive relationship between students' problem solving skills and the behaviors they tend towards when they confront a problem. The present study also shows that the risk of developing unfavorable behaviors among the students whose SPSI skill is immature becomes 3.1 times higher.

To our knowledge this study provides the first evidence of social problem solving orientations/styles and relationship between social problem solving skills and coping activities among medical students. The results of our study demonstrate that social problem solving ability is significantly correlated with coping behaviours and may predict it. Medical students who are the doctors and the role models of the future need to develop their social problem solving skills in addition to clinical problem solving skills. We support the idea that coping skills or problem solving training should be given during undergraduate years. And also we hope that our study will raise awareness about improvement of problem solving skills of the doctors and the role models of the future, and will act as a guide for the steps to be taken in this particular.

This study was presented as a poster in "20th WONCA Europe Conference", 22-25 October 2015, Istanbul.

This study was supported by Cukurova University, Scientific Research Projects under the project number TF2013LTP37.

REFERENCES

1. D' Zurilla TJ, Nezu AM, Maydeu-Olivares A. Social problem solving: theory and assessment. In Social Problem Solving: Theory, Research and Training. (Eds Chang EC, D' Zurilla TJ, Sanna LJ): 11-27.Washington, American Psychological Association. 2004.
2. D' Zurilla TJ, Nezu AM, Maydeu-Olivares A. Social problem solving: current status and future directions. In Social Problem Solving: Theory, Research and Training. (Eds Chang EC, D' Zurilla TJ, Sanna LJ): 241-53. Washington, American Psychological Association. 2004.
3. Hasegawa A, Yoshida T, Hattori Y, Nishimura H, Morimoto H, Tanno Y. Depressive rumination and social problem solving in Japanese university students. J Cogn Psychother. 2015;29:134–152.
4. Ranjbar M, Bayani AA, Bayani A. Social problem solving ability predicts mental health among undergraduate students. Int J Prev Med. 2013;4:1337–41.
5. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med. 2006;81:354-73.
6. DC Satterfield J, Mitteness L, Tervalon M, Adler N. Integrating the social and behavioral sciences in an undergraduate medical curriculum: the UCSF essential core. Acad Med. 2004;79:6-15.
7. Henry P. Perceived problem-solving and vocational identity: implication for nontraditional premedical students. Psychological Reports. 1996;78:843-847.
8. Eskin M, Aycan Z. The adaptation of the revised social problem solving inventory into Turkish (Tr-SPSI-R): a reliability and validity analysis. Türk Psikoloji Yazıları. 2009;12:11-3.
9. Yılmaz E, Karaca F, Yılmaz E. Examining the solving skills and some related factors of the health college students. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi. 2009;12:38-48.
10. Öztürk Can H, Öner İÖ, Çelebi E. The assessment effect of problem solving skills of education at university students. Fırat Sağlık Hizmetleri Dergisi. 2009;4:35-58.
11. Durmaz Ş, Kaçar Z, Can S, Koca R, Yeşilova D, Tortumluoğlu G. Problem solving skills of the students at health high school and the factors affecting them. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi. 2007;10:63-71.
12. Tezel A, Arslan S, Topal M, Aydoğan Ö, Koç Ç, Şenlik M. The investigation of the problem solving skill and depression level of nursing students. Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi. 2009;12:1-10.
13. Saracaloğlu AS, Serin O, Bozkurt N.The relation between the problem solving skills and the achievement of students in Dokuz Eylül University

Institute of Educational Sciences. Marmara Üniversitesi Atatürk Eğitim Bilimleri Dergisi. 2001;14:121-34.
14. Sardogan ME, Karahan TF, Kaygusuz C. An investigation of university students' indecisiveness strategies in level of the problem solving skill, gender, level of class and kind of the faculty. Mersin Üniversitesi Eğitim Fakültesi Dergisi. 2006;2:78-97.
15. Eşer İ, Khorshid L, Öztürk N, Orgun F. Determine of ability problem solution and make a decision of nursing students. Ege Üniversitesi Hemşirelik Fakültesi Dergisi. 2009;25:9-25.
16. Yılmaz EK,Yılmaz S, Yurttaş A. The relationship between emotional intelligence levels of students and problem- solving skills. Psikiyatri Hemşireliği Dergisi. 2011;2:75-9.
17. Soyer MK, Bilgin A. Problem- solving skills perceptions of the university students according to different variants. International Conference on New Trends in Education and Their Implications. 11-13 November 2010;307-314. Antalya, Turkey.
18. Türküm S. Stresle başaçıkma biçimi, iyimserlik, bilişsel çarpıtma düzeyleri ve psikolojik yardım almaya ilişkin tutumlar arasındaki ilişkiler: üniversite öğrencileri üzerinde bir araştırma. Anadolu Üniversitesi Sosyal Bilimler Dergisi. 2001;1:1-16.
19. Monteiro NM, Balogun SK, Oratile KN. Managing stress: the influence of gender, age and emotion regulation on coping among university students in Botswana. International Journal of Adolescence and Youth. 2014;19:153-73.
20. Savcı M, Aysan F. The relationship between the perceived stress level and the stress coping strategies in university students. Uluslararası Türk Eğitim Bilimleri Dergisi. 2014;3:44-56.
21. Supe AN. A study of stress in medical students at Seth G.S. Medical College. J Postgrad Med. 1998;44:1-6.
22. Keskin G,Orgun F. Studying the strategies of students' coping with the levels of self-efficacy-sufficiency. Anadolu Psikiyatri Derg. 2006;7:92-9.
23. Özcebe H, Uner S, Tezcan S, Erbaydar NP, Teletar G. Risky behaviors of university students: A cross-sectional study. Türkiye Halk Sağlığı Dergisi. 2012;10:1-12.