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Sadržaj / Table of Contents

Basic assistance for mental health in Northeast Brazil..... 3244

Modesto Leite Rolim Neto, Alberto Olavo Advincula Reis, José Cezario de Almeida, Nadia Nara Rolim Lima, Saulo Araújo Texeira, Marina Lucena de Aguiar Ferreira

The study on physiological indexes of exam anxiety in medical students 3248

Abbas Mosoudzadeh, Nasrin Bali-Lashak, Sara Asadpour, Reza Alizadeh-Navaei

Arterial elasticity measurement in patients with Behcet's disease 3255

Hakan Ucar, Kemal Karaagac, Osman Akin Serdar, Zeynel Abidin Yetgin, Yusuf Akturk, Esra Ugurlu Karaagac, Hayriye Saricaoglu

The effect of memory reinforcement on creating dependency in male mature mice using conditioned place preference (CPP) method 3261

Ebrahim Hosseini, Mahmoud Vessal, Sanaz Bahaadini, Maryam Rafieirad

A prospective trial of epidural versus intravenous meperidine analgesia during labor: Effects on perinatal and maternal outcome 3268

Feyza Yayci, Eyup Yayci, Sibel Devrim, Meltem Ince Gul, Melek Gura

An ex vivo comparison of three electronic apex locators..... 3275

Joanna Baginska, Ewa Linczuk, Bartłomiej Botulinski, Anna Kierklo

The effect of caffeic acid phenethyl ester on QT interval in cirrhotic rats 3281

Mahin Dianat, Samira Saadat Fard, Mohammad Badavi, Akram Ahangarpour

Examining the relation between sociotropic and autonomic and problem solving abilities of nursing students 3286

Birsen Altay, Huriye Demet Cabar, Bilge Bal Ozkaptan, Kubra Gumus

Children's mental health in northeast Brazil: Vulnerability and public policies 3298

Modesto Leite Rolim Neto, Alberto Olavo Advincula Reis, Jose Cezario de Almeida, Marina Lucena de Aguiar Ferreira, Nadia Nara Rolim Lima

Sadržaj / Table of Contents

Study subclinical Hepatitis A infection in ambulatory patients, with nonspecific abdominal complaints in Mofid hospital of Tehran Iran.....	3302	Improvement of anxiety resources scale of school-age children with oncological disease under condition of illness and hospitalization.....	3378
<i>Fariba Shirvani, Naimeh Taslimi, Abodlah Karimi, Mohammad Rahbar</i>		<i>Selver Guler, Huriye Demet Cabar</i>	
Body image dissatisfaction and risk factors among female adolescents: A sample from Turkey.....	3307	Ethical performance in delivery of sexual and reproductive health services: A Delphi study focused on the right of confidentiality	3385
<i>Perim Turker, Murat Bas, Mendane Saka, Sinem Metin</i>		<i>Tahmineh Farajkhoda, Robab Latifnejad Roudsari, Mahmoud Abbasi</i>	
Mothers' knowledge, attitude, and practice: The performance of the nationwide integrated maternal health care project	3316	Assessment of kinesthetic awareness and fine motor dexterity in music students with performance-related hand disorders	3995
<i>Forouzan Akrami, Gohar Mohammadi, Mohammad Esmaeil Motlagh, Ali Ramezankhani, Shahrzad Valafar</i>		<i>Zeliha Baskurt, Ferdi Baskurt, Bilge Kara</i>	
Clopidogrel resistance in patients with type 2 Diabetes Mellitus: A comparison between oral antidiabetic agents and insulin.....	3323	Burnout syndrome among special education professionals	3403
<i>Zuhal Ariturk, Habib Cil, Ercan Gunduz, Celal Yavuz, Hasan Kaya, Faruk Ertas, Mustafa Oylumlu, Serdar Soydinc</i>		<i>Nikola Petkovic, Dragana Macesic Petrovic, Vasilije Balos, Miroslav Misic, Milos Djordjevic</i>	
Circulating levels of Homocysteine, Zinc, Iron and Copper in pregnant women with pre-eclampsia	3329	The level of awareness regarding conflict and violence in university students and the affective factors in Turkey	3413
<i>Zoleikha Atarod, Hamed Roohanizadeh, Marzieh Saberi, Seyyed Abbas Hashemi, Mehran Fazli</i>		<i>Seyda Dulgerler, Oguz Polat, Serap Yildirim, Serap Ozer</i>	
Risk of depression and anxiety in high school students and factors affecting it	3333	Subtypes of Interstitial cells of Cajal in normal and inflamed appendix in children.....	3418
<i>Zehra Tezvaran, Hulya Akan, Oguzhan Zahmacioglu</i>		<i>Dragoljub V Zivanovic, Mirjana Abramovic, Goran Radenkovic, Andjelka Slavkovic, Zoran Marjanovic, Verica Avramovic, Zlatko Djuric</i>	
Effects of intraoperative skin surface warming on postanesthetic recovery and shivering: A prospective, randomized, clinical trial.....	3340	The effect of intravenous pamidronate treatment for type i osteogenesis imperfecta patients have on their bone mineral density, fracture rate, and mobility	3425
<i>Salih Yildirim, Canan Baran Unal, Isa Dongel, Cevdet Duger, Ali Feyzullah Sahin, Idris Ersan</i>		<i>Zekeriya Oztemur, Hayati Ozturk, Esra Circi, Okay Bulut, Serdar Uner, Ahmet Altun, Gunduz Tezeren</i>	
Continuing education of intensive and emergency units nurses during clinical shifts	3346	Quality of family interactions and mental development of preschool children	3430
<i>Abbasali Ebrahimian, Nader Khalesi, Maedeh Tourdeh</i>		<i>Radmila Milovanovic, Gordana Budimir-Ninkovic</i>	
Attitudes of nursing students towards older people in Turkey	3351	The knowledge of teenagers about breast self-examination.....	3440
<i>Bilge Bal Ozkaptan, Birsan Altay, Huriye Demet Cabar</i>		<i>Huriye Demet Cabar, Dilay Argun Acil, Birsan Altay, Yelda Guler</i>	
Conceptual skill in physicians: An overlooked basic competency	3359	Analysis of implementation of the strategic management concept in the healthcare system of Serbia	3448
<i>Khajavi Abdoljavad, Vatankhah Soudabeh, Maleki Mohammad Reza, Barati Ahmad, Alami Ali, Heyrani Ali</i>		<i>Marko M. Mihic, Vladimir Lj. Obradovic, Marija Lj. Todorovic, Dejan C. Petrovic</i>	
The effects of self-perceived fatigue on functional mobility and balance in the community-dwelling elderly.....	3366	Effect of cigarette smoking on nasal mucociliary transport rate: Rhinoscintigraphic evaluation with using 99mTc-macroaggregated albumin.....	3458
<i>Zeliha Baskurt, Ferdi Baskurt, Celal Haydar Demir</i>		<i>Zeki Dostbil, Yusuf Dag, Abdurrahman Abakay, Salih Bakir, Cengizhan Sezgi, Ozlem Abakay, Hadice Sen</i>	
Nutritional status and possible causes of obesity in preschool children.....	3372	Frequency of ischemic stroke subtypes in relation to risk factors for ischemic stroke	3463
<i>Biljana Ilic, Zoran Igrutinovic, Mile Despotovic, Hristos Aleksopoulos, Svetlana Milovanovic, Slavica Markovic</i>		<i>Natasa Turanjanin, Mirjana Jovicevic, Ksenija Bozic, Marija Zarkov</i>	

Sadržaj / Table of Contents

Contraception use and attitudes of women and health care providers.....	3469
<i>Aleksandra Kapamadzija, Tihomir Vejnovic, Slobodana Mihaldzic Tubic, Radojka Ratkovic, Sladjana Koledin, Gordana Radeka, Vesna Kopitovic</i>	
Human ischemia modified albumin can be a predictive biomarker for the detection of peripheral ischemia duration	3478
<i>Celal Yavuz, Ahmet Caliskan, Suleyman Yazici, Oguz Karahan, Orkut Guclu, Sinan Demirtas</i>	
Case study: school experience of children with attention deficit hyperactivity disorder.....	3482
<i>Olivera Knezevic-Florice, Sladjana Zukovic, Stefan Ninkovic</i>	
Thromboelastographic comparison of the effects of different fluid preloading regimens delivered before spinal anesthesia.....	3488
<i>Irsat Ozen, Turkan Tugal, Mustafa Said Aydogan, Mehmet Ali Erdogan, Hamza Nakir, Nurcin Gulhas, Huseyin Ilksen Toprak, Mehmet Ozcan Ersoy</i>	
The reasons for sharing needle using and syringe among injection drug users in the city of Ahvaz: A qualitative study	3494
<i>Morteza Mansourian, Mahnaz Solhi, Tahereh Dehdari, Mohamad Hosain Taghdisi, Fereshteh Zamani-Alavijeh, Hadi Rahimzadeh Barzoki, Hamid Asayesh</i>	
Surgical treatment of retroperitoneal Pelvic tumors.....	3501
<i>Ljiljana Ivanovic, Srdjan Djurdjevic, Mirjana Bogavac, Dragan Nikolic, Marijana Basta-Nikolic</i>	
Serum homocysteine, folate and B₁₂ concentration in patients with coronary artery disease: A case-control study	3506
<i>Seyyed Farzad Jalali, Amir Saeed Hosseini, Zeinab Shirvani Farsani, Ali Bijani</i>	
Radiographic interpretation of the abnormalities of the follicles of impacted teeth.....	3512
<i>Branko Mihailovic, Milan Miladinovic, Milos Duka, Zoran Vlahovic, Nebojsa Mitic, Dejan Dubovina</i>	
Psychic vulnerability and the increase of crack addiction in Brazil	3517
<i>Jose Cezario de Almeida, Alberto Olavo Advincula Reis, Luiz Carlos de Abreu, Modesto Leite Rolim Neto</i>	
Endoscopic management of non-variceal upper gastrointestinal bleeding.....	3519
<i>Praveen Kumar Yadav, Zhan-Ju Liu</i>	
Evaluation of computer workstation ergonomics and prevalence of the musculoskeletal symptoms - A cross sectional study of Macedonian office workers	3532
<i>Viktorija Prodanovska-Stojcevska, Jovica Jovanovic, Tanja Jovanovska, Rozalinda Isjanovska</i>	
Comparative analysis of three different short tandem repeat multiplex system approaches in fingerprint DNA analysis.....	3538
<i>Anida Causevic-Ramosevac, Lejla Kovacevic, Dzenisa Buljugic, Mirela Dzehverovic, Jasmina Cakar, Damir Marjanovic</i>	
Instructions for the authors.....	3544

Examining the relation between sociotropic and autonomic and problem solving abilities of nursing students

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Abstract

Objective: The objectives of this study is to examine the relation between sociotropic and autonomic personality with problem solving abilities of nursing students

Materials and Methods: This study which is a descriptive cross-sectional type was applied with 283 students studying in the first and fourth classes in nursing schools of Sinop, Samsun and Ordu. As data collection tool student description form guided with literature regarding the topic, sociotropy-otonomy scale developed by Beck et al. (1997) and Heppner and Peterson's problem solving inventory (1982) were implemented.

Result: The mean score was calculated as 68.14 ± 14.34 for sociotrophy and 72.72 ± 12.99 for autonomy of the students. The mean score value obtained from all participants is 95.33 ± 16.64 . It was demonstrated that the female students showed sociotropic (68.86 ± 14.56) and autonomic personality (73.52 ± 12.71) features more than the males and problem solving abilities were stated to be better than the males. The relation between sociotrophy and autonomy mean scores was found out insignificant regarding the classes of the students. Problem solving mean score of first year students was detected higher when compared to fourth classes and the relation between scores was stated statistically significant ($p < 0.05$).

Conclusion: At the end of the study, it was detected that the students showed sociotropic features at medium level and above with insufficient problem solving abilities, the females demonstrated more sociotropic and autonomic personality features and females and fourth classes had more problem solving abilities.

Key words: Nursing students, sociotrophy, autonomy, problem solving ability

Introduction

Personality is a compilation of features that separates a person from other individuals and is presented as coherent and unique to individual. Feature of a personality is a collection that the individuals have acquired since birth and that continues by socialization period afterwards. Personality has two dimensions as sociotrophy and autonomy. Sociotrophy (social belonging) is defined as the positive interaction with other people (1, 2, 3). Autonomy is described as decisions independent of conditions and ability to manage oneself. It is the feature to enhance the independence of an individual and to protect the personal rights. The individuals having these personal features become pleased with directing own activities, reaching goals, being successful and controlling things around. The individuals showing sociotrophic features have more inclination to group work while the autonomies tend to work independently and individually (3, 4, 5).

It is significant for the employees to have an autonomic feature to decide and apply decisions (6). Considering professional measures, employees need to have some features of applying the job willingly, not changing the profession in a period of life, having autonomy, self control, personal responsibility and critical thinking (3, 7). These features have a distinctive significance for nursing. Because the features such as critical thinking, autonomy and problem solving abilities increase service quality and cater an identification available to profession (8, 9).

Problem solving is a mental and behavioral period containing effective ways to handle problems encountered in daily life (10). Problem solving ability is one of the important features for the individual to cope with society. Problem solving is a mental period (11). It was detected that the people who per-

ceive themselves sufficient to solve problems have more sociable and positive self perception and present more proper study methods and conditions in terms of academics (12). In the literature, less anxiety and stress, decrease of depression and disparity level were indicated when the individuals had problem solving abilities (11, 13, 14, 15).

When problem solving ability is a necessary skill for everyone living in the society it is pointed out to be more significant for the individuals in some fields of profession and for the health groups providing health service (10, 12). Nurses always encounter problems while working with the patients and the healthy individuals. Therefore problem solving abilities need to be well-performed. Because the ability to solve problems is the significant requirement for the nurse to provide safe, professional and individual centered nursing care (16). The more the nurses feel sufficient to solve the problems, the more their professional abilities, motivations, work satisfactions and performances will improve (5).

Nursing students as being health professionals of future need to have proficiency to handle with clinical problems and daily life stresses since health care quality will be affected directly (16). There are studies examining the relation between problem solving ability and different topics (17-22). However, no study has been encountered assessing the relation among independent decision, autonomy, sociotropy and problem solving to be the expected professional behaviours for nursing. Determination of sociotropic autonomic personality features and problem solving abilities will provide database for the inclusion of graduate and master's curriculum. Regulations associated with improving autonomic and sociotropic personality features, usage in positive ways and advance in problem solving abilities will contribute graduate nurses to gain professional identity. The aim of this study is to examine the relation between sociotropic and autonomic personality features and problem solving abilities of nurses in nursing schools of Samsun, Sinop and Ordu.

Materials and methods

The study population of this descriptive cross sectional type study was formed with nursing students at first and fourth classes in nursing schools of Samsun, Sinop and Ordu between 01.12.2010

- 01.02.2011. The study targeted to include all population and no sample was selected. In these three schools, the total amount of students were 162 individuals for first classes 121 individuals for fourth classes. Total participant amount consisted of 283 students containing 110 students registered to Samsun School of Nursing, 78 students registered to Sinop School of Nursing and 95 students registered to Ordu School of Nursing.

Data Sources

Descriptive form prepared with the guidance of literature associated with the topic, socio tropic -autonomy scale developed by Beck et al and then adapted to Turkish by Şahin et al. (23) in 1997 and problem solving inventory developed by Heppner and Peterson (1982) were implemented (24).

Sociotropy-Autonomy Scale: Sociotropy-Autonomy Scale briefly SAS was developed by Beck et al. The scale was adapted to Turkish by Şahin et al (23). The scale is to measure two different personality features consisting 60 items. 30 items belong to sociotropy subscale and 30 items to autonomy subscale. By commencing from "does not identify me" to " identifies me well" were presented as survey items "in response to "how much does it describe you?" within a five degree Likert type. The best rate to be achieved from a subscale is maximum 120 pts (30 items). While high scores that are gained from sociotropy subscale scores point out high sociotropy personality features, similarly high scores from the autonomy subscale show high level autonomic features. Owing to sociotropy autonomy scale factor analyses results, three factors were found out for each two dimensions.

Disapproval fear (total 10 questions), separation anxiety (total 13 questions) and pleasing others (total 7 questions) formed sociotropy subscale. In autonomy subscale, factors of personal success (total 12 questions) independence (total 12 questions) enjoyment of loneliness (total 6 questions) were carried out. In sociotropy-autonomy, Cronbach's Alpha values were detected as 0.81 in sociotropy and 0.80 in autonomy and in our study the values were presented as 0.80 in sociotropy and 0.76 in autonomy.

The study of Kaya et al. performed with nursing students detected alpha value as 0.84 in sociotropy dimension and 0.82 in autonomy dimension (3). Kokar and Gençöz (2004) in a study with stu-

dents preparing to attend the university found out Alpha value as 0.88 in sociotropy and 0.80 in autonomy (25). These findings show similar results with the ones obtained after the study. Therefore, SAS is a reliable scale tool for this study.

Problem Solving Inventory: Problem Solving Inventory was developed by Heppner and Peterson in 1982 (24). Turkish adaptation was formed by Nail Şahin, Nesrin Hisli Şahin and Paul Heppner in 1993 (23). Inventory, to be a self assessment tool is a self perception one that is applied to adolescents about problem solving abilities of the individual. It is a Likert type scale consisting of 35 items graded between 1-6. In scoring, negative items are reversed. Items of 1, 2, 3, 4, 11, 13, 14, 15, 17, 21, 25, 26, 30 and 34 are the ones to be scored reversely. Some items are kept out of scoring. (items 9,22,29) The lowest score of 32 items is 32 and the highest is 192. The mean score value of inventory is 80. The values above medium show that the individual is insufficient about problem solving and scores below show the contrary. That is, the higher the scores are, the individual percepts himself/herself as insufficient and on the contrary as sufficient.

Cronbach Alpha factor of the scale was found out as 0.88 and reliability factor as $r=0.81$. In this study Cronbach alpha factor was calculated as 0.79. The factors were 0.86 in the study of Taylan (26) 0.75 in the study of Kaya (27), 0.86 in the study of Durmaz et al (28) and 0.88 in the study of Keskin and Yildirim (29). Since these results demonstrate similarity with the findings acquired as a consequence of the study, problem solving inventory becomes a reliable measurement scale. However, correlation among sociotropy-autonomy and total score correlation factor with problem solving inventory mean scores was not found significant.

Statistical Analysis

Data was evaluated by SPSS for Windows 14.00 package programme. In evaluation, descriptive statistics such as percentage, mean, standart deviation and Student t-test, Mann Whitney-U test, One-Way ANOVA, Pearson correlation statistical analysis methods were applied. For the conduct of the study with scientific principles, autonomy, privacy and privacy protection, justice, benefits, informed consent that are proper to universal ethical principles were taken into consideration. The permissions

were obtained from the school of nursing directorates. The goal of the study was expressed to the participating students and oral consent by paying attention to being volunteer and willingness to attend the study was received.

Results

Descriptive features

283 students participated in the study containing 86.2 % female, 13.8% male. 98.6% are between the ages 18-25. 67.1 % of students' mothers are graduates of primary and secondary, 10.6% are literate and 88% do not work. Fathers are graduates of primary and secondary with the rate 49.5%, and 23.7% are graduates of high school and 20.5% are university graduates. 4.2% of fathers do not work, 21.2% are officers, 26.5% are retired. 86.2% have social security and it was evaluated that 74.2% have good, 22.6% have medium and 3.2% have weak family relationship.

Sociotropy-Autonomy Scale Scores

The scores the students received from the Sociotropy-Autonomy Scale is displayed in table 1. Depending on this, sociotropy mean score was detected as 68.14 ± 14.34 . The mean scores of sociotropy subscale dimensions were detected as the highest in terms of "separation concerns" (31.95 ± 7.29), and the lowest (15.17 ± 3.79) over pleasing one another. When these mean scores were examined according to the potential dispersion, students were considered to display sociotropic feature at medium level or above. It was determined that the autonomy mean score was 72.72 ± 12.99 . Autonomy subscale dimensions mean scores were 30.79 ± 6.03 for personal success, 30.92 ± 6.43 for independence, 14.12 ± 4.20 for being pleased with loneliness (table 1). These mean scores acquired point out autonomic personality features over medium level according to potential dispersion.

Problem solving ability

When table 2 was examined it was determined that the highest score was 152 and the lowest was 55. The mean score value that all participants received was 95.33 ± 16.64 . That is, the students were insufficient in solving problems.

Table 1. Sub scale and total score dispersion of sociotropy-autonomy (n: 283) and problem solving scale scores (n: 283)

Sociotropy-Autonomy Scale	Potantial Dispersion	Min.	Max.	Median	X±SS
Sociotropy					
Disapproval Fear	0-40	1.00	36.00	21.00	19.64±8.33
Seperation Anxiety	0-52	11.00	48.00	32.00	31.95±7.29
Pleasing others	0-28	4.00	25.00	15.00	15.17±3.79
Sociotropy General	0-120	27.00	104.00	69.00	68.14±14.34
Autonomy					
Personal Success	0-48	10.00	47.00	32.00	30.79±6.03
Independence	0-48	11.00	46.00	31.00	30.92±6.43
Enjoyment of Loneliness	0-24	3.00	24.00	14.00	14.12± 4.20
Autonomy General	0-120	30.00	106.00	73.00	72.72±12.99
General Total	0-240	65.00	204.00	141.00	140.86±21.82

Table 2. Problem solving inventory sub scales and total score dispersion (n: 283)

Problem Solving Inventory	Range	Min.	Max.	Ortanca	X	Sd
Sub factor						
Impatience approach	33.00	13.00	46.00	30.00	30.09	5.07
Thinking approach	23.00	5.00	28.00	13.00	13.44	4.70
Avoidance approach	15.00	5.00	20.00	13.00	12.62	3.12
Evaluation approach	15.00	3.00	18.00	9.00	8.90	3.40
Confidence approach	27.00	6.00	33.00	18.00	17.31	5.20
Planned approach	18.00	4.00	22.00	11.00	10.71	3.59
Total	97.00	55.00	152.00	97.00	95.33	16.64

The relation between demographic features and scale scores

The scores the students obtained from sociotropy autonomy scale according to personality features is seen on table 3. In this case, it was detected that 86.2% (n=244) of all students were mostly formed with female students and the difference of mean scores within male and female sociotropy-autonomy and problem solving abilities were stated statistically significant ($p<0.05$)(table 3). Sociotropy (68.86±14.56)and autonomy (73.52±12.71) scale scores of female students were found out higher than the male students. (98.56±16.21)

When the distribution of age groups were examined, ages between 26-33 formed the least (1.4%; n=4) and 18-25 made up the most age groups. (98.6%; n=279) While age groups and sociotropy had significant difference statistically, ($p<0.05$), there was no detection of significance between autonomy and problem solving abilities ($p>0.05$) (Table 3).

57.2 % of the students attending the study (n=162) were in their first year of school, 42.8% were in their

fourth year (n=121). When the students' mean scores were examined of sociotropy, autonomy and problem solving inventory, significant relation was not encountered between sociotropy and autonomy mean scores depending on the classes of the students ($p>0.05$). However, problem solving ability mean scores of first year students were noticed as higher when compared to fourth year students and the relation among was found statistically significant ($p<0.05$) (Table 3).

46.3% (n=131) of the students explained that they had spent most of their lives in cities and 32.2% (n=91) in towns. The difference between residence of students and sociotropy-autonomy and problem solving scale mean scores were stated as insignificant ($p>0.05$) (Table 3).

59.4% (n=168) of the students declared that they selected nursing willingly. Willingness to select nursing profession was stated as insignificant on sociotropy and autonomy mean scores. ($p>0.05$) Problem solving mean scores by selecting the profession by coincidence were lower than the ones to select the profession willingly(low score

Table 3. Sociotropy-autonomy personality dimensions and problem solving ability mean scores dispersion considering individual features of students

Personal Features			Sociotropy	Autonomy	Problem Solving Inventory
	n	%	X±Sd	X±Sd	X±Sd
Sex					
Female	244	86.2	68.86±14.56	73.52±12.71	92.22±15.69
Male	39	13.8	63.69±12.13	67.71±13.76	98.56±16.21
Statistic			T=2.102 P=0.036	T=2.615 P=0.009	T=-2.330 P=0.021
Age					
18-25	279	98.6	68.40±14.17	72.80±13.03	95.32±16.68
26-33	4	1.4	44.33±11.23	65.00±6.00	95.50±15.41
Statistic			T=2.930 P=0.004	T=1.034 P=0.302	T=-0.020 P=0.984
Classes					
1 st Class	162	57.2	68.74±14.43	72.79±13.90	98.27±15.52
4 th Class	121	42.8	67.34±14.23	72.61±11.73	91.38±17.32
Statistic			T=0.812 P=0.418	T=0.113 P=0.910	T=3.514 P=0.001
Residence					
City	131	46.3	66.68±15.06	73.63±13.08	95.04±18.03
District	91	32.2	68.20±13.48	73.27±12.72	95.47±15.87
Country	61	21.6	71.19±13.72	69.93±13.02	95.73±14.78
Statistic			T=0.411 P=0.663	T=0.041 P=0.959	F=0.040 P=0.960
Selection of Nursing					
Willing	168	59.4	67.94±14.57	71.76±12.39	95.18±15.92
Unwilling	74	26.1	68.25±14.90	72.12±13.50	98.67±18.85
By coincidence	41	14.5	68.78±12.52	77.70±13.66	89.90±13.90
Total	283		68.14±14.34	72.72±12.99	95.33±16.64
Statistic			T=0.326 P=0.722	T=0.332 P=0.717	F=3.754 P=0.025
School Life					
Pleased	143	50.5	68.06±14.31	72.86±11.70	95.42±16.67
Not pleased	140	49.5	68.23±14.42	72.57±14.23	95.23±16.66
Statistic			T=0.101 P=0.920	T=0.182 P=0.856	t=0.096 P=0.923

showed that the person perceived his/her own as sufficient.) and the difference between the groups was found out as significant ($p<0.05$)(Table 3).

50.5% of the participants declared that they were pleased with school life. Place of residence and state of satisfaction in school life revealed an inefficient result over sociotropy and autonomy personality dimensions and problem solving abilities mean scores. ($p>0.05$) (Table 3)

When the family features of the students were examined, sociotropy-autonomy and scores of problem solving abilities were indicated in table 3. Depending on this, 79.9% ($n=226$) of the students were detected to have a core family type. While no significant difference was defined between family type, sociotropy and problem solving ability, on the other hand, the separate families' scores of autonomy (92.20 ± 6.05) was determined higher compared to

Table 4. Sociotropy-autonomy personality dimensions and problem solving ability mean score dispersion regarding family features of students

Family Features			Sociotropy	Autonomy	Problem Solving Score
	n	%	X±Sd	X±Sd	X±Sd
Family Type					
Core Family	226	79.9	67.55±14.18	72.43±13.06	92.87±15.73
Large Family	52	18.4	70.50±15.27	72.09±11.86	93.73±17.14
Broken Family	5	1.8	70.60±10.66	92.20±6.05	96.80±9.54
Statistic			F= 0.966 P=0.382	F=5.930 P=0.003	f=-0.198 p=0.821
Family General Structure					
Democratic	66	23.3	65.69±12.74	70.53±11.75	92.86±15.89
Authoritarian	22	7.8	66.63±15.82	69.86±15.44	98.45±15.76
Insensitive	9	3.2	64.55±8.44	76.66±17.44	99.33±22.68
Excessive Family Concern	50	17.7	64.84±15.48	72.74±12.49	92.38±18.80
Protective	136	48.1	71.03±14.30	73.97±12.96	96.84±15.75
Statistic			F=2.798 P=0.026	F=1.265 P=0.284	F=1.368 P=0.245
Income State					
High	43	15.2	68.00±16.64	72.81±12.96	88.27±19.00
Medium	208	73.5	68.89±13.76	72.90±12.54	93.18±15.02
Low	32	11.3	63.46±14.32	71.37±16.00	99.06±15.21
Statistic			F=2.004 P=0.137	F=0.193 P=0.824	F=4.336 p=0.014
Number of Siblings					
None	5	1.8	69.20±14.58	69.40±20.23	98.00±21.03
1-2	113	39.9	66.54±14.30	72.92±12.78	92.11±16.84
3-4	118	41.7	68.11±13.74	73.06±12.74	93.68±14.90
5 and over	47	16.6	71.95±15.58	71.72±13.65	93.48±15.70
Total	283		68.14±14.34	72.72±12.99	93.10±15.88
Statistic			F=1.593 P=0.191	F=0.236 P=0.871	F=0.364 P=0.779

core and large scale families, the difference dealing both groups was specified significant ($p < 0.05$).

When common structure was grouped as democratic, authoritarian, listless, overconcerned and protective, 48.1% ($n=136$) of the families were indicated as protective and 23.3% ($n=66$) as democratic. The sociotropy mean score (71.03 ± 14.30) of having a protective family feature was identified as higher and this difference was statistically significant ($p < 0.05$). There was no significant statistical difference between family structure, autonomy and problem solving mean scores ($p > 0.05$) (Table 4).

73.5% of participant students ($n=208$) were in medium level regarding income state. Income rates of the families and sociotropy-autonomy mean

scores pointed out insignificant difference ($p > 0.05$). When examined in terms of problem solving, the difference between income rates of the family and problem solving mean scores was found significant statistically ($p < 0.05$) (Table 4).

It was detected that 41.7% of the participants ($n=118$) had 3-4 siblings and 39.9% had 1-2 ($n=113$). The sociotropy-autonomy mean scores were not effected statistically in the number of siblings.

According to agreement to a decision and decision making, sociotropic-autonomic personality dimensions and problem solving ability mean scores of the students were indicated in table 5. Depending on this, the students were asked to attendance or non attendance over a necessary de-

Table 5. Sociotropy-autonomy personality dimensions and problem solving ability mean scores related to decision attendance and decision making (n=283)

Decision Attendance and Who to Decide			Sociotropy	Autonomy	Problem Solving Score
	n	%	X±Sd	X±Sd	X±Sd
Decision Attendance State					
Attendance	269	95.1	68.27±14.23	72.91±12.83	92.44±15.88
Non attendance	14	4.9	65.64±16.61	69.00±15.85	105.64±9.72
Total	283	100.0	68.14±14.34	72.72±12.99	93.10±15.88
Statistic			T=0.670 P=0.504	T=1.099 P=0.273	T=3,07 P=0.002
Decision making related to individual					
Me/Myself	80	28.3	65.83±15,65	75.82±13.24	92.83±17.08
Family guidance	28	9.9	76.00±17,57	78,03±12,06	92.92±15.17
Family, Friends and Me	175	61.8	67.94±12,72	70,45±12,54	93.25±15.51
Total	283	100.0	68.14±14.34	72.72±12.99	93.10±15,88
Statistic			F=5.415 P=0.005	F=7.632 p=0.001	F=0,020 P=0.980

cision and 95.1% (n=269) stated to attend. Taking part in family decisions was detected as insignificant in terms of sociotropy-autonomy mean scores. ($p>0.05$) Mean scores of non attendants about problem solving were higher and the difference among was found significant ($p<0.05$) (Table 5).

When the students were asked about who to decide over the subjects related to himself/herself, 61.8 % (n=175) of the majority responded as family, friend and on his/her own. The relation between self decision and sociotropy-autonomy mean scores was detected significant statistically ($p<0.05$). When mutual comparisons were examined (tukey test) making decisions with family guidance were stated as higher in rate when compared to making decisions with family, friends and self support and this difference was detected as significant ($p<0.05$). In terms of problem solving, mean scores were mentioned as insignificant ($p>0.05$) (Table 5).

Discussion

In the literature, various studies to identify sociotropic autonomic personality features in our country showed a change between 68.50 ± 15.60 and 74.0 ± 14.1 in sociotropy mean scores and between 76.49 ± 15.79 and 83.03 ± 14.51 in autonomic mean scores (3,30,31,32). In a study Karagözoğlu conducted with various department students, midwife students' mean scores were higher than dentistry and nursing departments with 83.48 ± 11.98 (33).

In this study, the sociotropy mean scores were indicated as 68.14 ± 14.34 . Sociotropy subscale mean scores were 19.64 ± 8.33 in the dimension of "disapproval anxiety" 31.95 ± 7.29 in "separation anxiety" 15.17 ± 3.79 in "pleasing others". When these mean scores were examined according to potential range, it can be commented as the students displayed sociotropic features as medium and above. The mean autonomy score of the students was detected as 72.72 ± 12.99 and the autonomy subscale mean scores were 30.79 ± 6.03 in "personal success" 30.92 ± 6.43 in independence and 14.12 ± 4.20 in enjoyment of loneliness. These acquired mean scores point out autonomic personality features over medium level considering potential dispersion. Study findings were parallel to Kaya and Özdemir study (3,30) and students' sociotropic-autonomy mean scores with respect to Yildirak et al (2003) study (31) were determined a bit lower. Advanced sociotropic-autonomic personality feature of the students will lead to attitudes of responsibility, questioning, critical thinking and independent decision in professional applications. These features, significant in terms of professionalism, need to be provided to students in nursing profession.

In the literature problem solving abilities were defined in medium level in many studies conducted to detect problem solving abilities of nurses (27,34-36). In a study conducted by Abaan and Al-tintoprak to evaluate problem solving abilities of nurses, it was defined that nurses that have mana-

gerial responsibility received mean score of 79.45 (± 17.26) from problem solving ability inventory and the nurses without managerial responsibility got a mean score of 77.22 (± 14.43) (35). In the studies with university students medium level of problem solving ability was indicated. (16,29,37-39) In another study by Yurttaş and Yetkin (2003) with nursing school students problem solving ability was identified as 80.25 ± 17 (40). In a study with students in South Africa the mean score in problem solving was found out as 81.20 ± 19.30 (41). In this study, the lowest score to receive from problem solving ability inventory was 55 and highest was 152 and total score of students was 95.33 ± 16.64 . Since the mean score rate was 80 and the rates above mean showed insufficiency and below displayed sufficiency and since problem solving mean score was above average, problem solving ability can be considered as insufficient. This result different from other studies can be identified as the problem solving ability is more insufficient. To play an effective role of nurses having high abilities of problem solving for providing care and health service quality, changes with respect to nursing educational system should be implemented and development of problem solving abilities of students should be assisted.

In a study conducted by Keskin et al. (2008) problem solving, autonomy, multi intelligence conditions were evaluated and when mean scores that the students acquired from problem solving inventory were compared, males (93.1 ± 17.6) were detected to get higher scores than the females (87.3 ± 17.1) and this was evaluated as a significant difference. In this study, sociotropy-autonomy scale mean scores were higher in females and this result was found statistically significant. Problem solving ability mean score was high in males and statistically significant (98.56 ± 16.21). This finding has a parallel side with the study of Keskin et al. (2008) Mean scores that the male students had higher than females from problem solving inventory showed that this ability is less sufficient for male students.

In a study by Uslu et al. (2010) conducted with 890 university students, male students were identified to be more talented compared to females and this was defined as significant statistically (42). In a study by Genç and Kalafat within a context of identifying emphatic and problem solving abilities of stu-

dent teachers, the scores regarding sex were found close to each other and no significance was detected (22). In the study of Olgun et al (2010) with nursing students, problem solving ability and sub dimensional total scores were defined as insignificant statistically (16). In a study in faculty of education by Otacioglu, the males were found out to be more successful in problem solving (43). In this study, like in many other studies females were identified as having more sociotropic autonomic features and problem solving abilities to be better than the males.

In the study of Kaya et al (2006) no significant difference was detected within the sociotropic autonomic features and age (3). Uslu et al. with a population of 890 students the increase of problem solving abilities were detected from the first year through fourth. As the age grows, problem solving ability gets higher (42). Abaan and Altintoprak stated no difference between the ages and scores (35). In the study of Öztürk Can et al. (2009) and Yurttaş et al. (2003) with the growing of age and education problem solving abilities were stated to increase (38-40). As the fourth year students had difference from the first years show parallelism regarding this study. While there is a significant difference between age groups and sociotropy mean scores, significant difference was not identified between autonomy and problem solving abilities mean scores. Average age and sociotropy autonomy mean scores showed no statistical difference as well. When scores were examined of first and fourth classes in sociotropy autonomy and problem solving inventory, no significant relation was detected according to the classes. First class students were defined with higher scores of problem solving when compared with fourth classes and the relation among was defined significant ($p < 0.05$). That is, first class students perceived themselves less sufficient than fourth classes. Getting older and being upper classes provide the students to perceive the issues and find out solutions.

In a study conducted by Özdemir et al. (2009) significant relations were detected between variables such as accommodation in university, restrictions of independence by families, educational grade of fathers and sociotropy autonomy mean scores (30). In the study of Kaya et al. (2006) students' sociotropy autonomy personality features, facilities to attend, willingness to select nursing, family type, number of siblings, economical state, attendance

with decisions also autonomy and general structure of families had no significant difference statistically (3). This study likely with the study of Kaya et al. did not reflect a significant difference with willingness to select nursing, being pleased with school life and sociotropy autonomy and problem solving scale mean scores. When examined in terms of autonomy mean scores, significant difference was not found out between family type and sociotropy of the students and autonomy mean scores of separate families were detected higher compared to core and large scale families. That the children of separate families shoulder the responsibility at small ages might have caused for this feature to develop. Problem solving ability was stated as higher in scores for the students having separate families compared to others and the difference was found statistically insignificant. Regarding problem solving of selecting nursing, the students declaring they selected nursing by coincidence were defined as low in score compared with the ones that selected nursing willingly or unwillingly and this difference was defined as significant statistically. As a consequence the students to choose nursing profession by coincidence was detected better in problem solving abilities. The relation between income state and sociotropy autonomy scores of students were found out as insignificant difference. When examined in problem solving scores, the students having a high income were detected as lower in scores compared to families of students with medium or low income (88.27 ± 19.00). That is, the students have more abilities of problem solving. Income level and problem solving mean scores were detected as significant statistically. No significant difference was identified between number of siblings and sociotropy autonomy and problem solving scores. As advance of sociotropic autonomic personality features can be affected by many factors they are also related with personality features since birth. The problems that the individual and the family encountered in life and experience to cope with these issues can also contribute advance of problem solving abilities.

When sociotropic autonomic personality features were examined according to place of settlement, students staying with a relative or in dormitory were detected as having more sociotropic personality features and students living single were more autonomous than the family residents. Students

having highly sensitive and protective family types had more sociotropic personality features compared to uninterested families and students having extreme concerned families had more sociotropic personality features than democratic families (3). In this study, significant relation was not detected statistically between the place the students spent an important part of their lives and sociotropy autonomy and problem solving scale mean scores. Protective family type of students were higher in score regarding sociotropy and this difference was stated as significant. Students with insensitive family type had the most of the score in autonomy and problem solving. These results indicate a relation between sociotropy and care of family. There was no significant difference detected between autonomy and problem solving scores statistically. The attendance state was indicated to have no effect on scores however the problem solving ability of the students that attend with the decisions were stated in a higher level compared to non attendants.

The students to decide with the support of the family in sociotropy and students to decide on her/his own in autonomy had high scores (3). In this study, autonomy sociotropy scores were higher for the students to decide with family support than the ones to decide individually and with friends, family and etc. and this difference was detected as significant statistically. For the high scored sociotropic individuals to obtain an approval, to be admired and to be seen valuable from others is significant. For this reason, it is not surprising for the individuals to demonstrate sociotropic feature with the guidance and protection of families.

Conclusion

In the study, the students showed sociotropic autonomic personality features medium and over and they were insufficient in problem solving. Females had more sociotropic autonomic personality and were better in problem solving compared to males. It was detected that females and fourth grade students had better problem solving abilities, that is, first classes felt insufficient in problem solving abilities compared to fourth classes. There was no significant difference detected between the place to spend an important part of life and sociotropic autonomic and problem solving scores.

Nursing profession that occupational professionalism, interpersonal interaction and communication were indisputable, necessitates graduates with developed autonomy and problem solving abilities. Adopting profession of a student can be achieved with independent decision taking, producing solutions to the problems fast and effectively and having sociotropic autonomic personality and developing problem solving abilities. A study related to the topic should be accomplished with other nursing students and graduates. As a result of this study by identifying the current status, curriculum of nursing schools and educational schedules of postgraduates can be decided. Interdisciplinary education programmes, seminars and symposium activities can enhance the continuation of education.

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