

Research Article

Comparison of the Emotional Intelligence Levels of Students Receiving Education in Different Fields

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Aim. This descriptive study was conducted to determine and compare the emotional intelligence levels of senior students receiving education in different fields of Atatürk University. *Methods.* The population of the study consisted of senior students receiving education in different fields of Atatürk University. The sample group of study consisted of 305 senior students receiving education in different fields (health, social, and natural) and they were selected by using the simple random sampling method. Three faculties from three different fields were selected. Data of the study were obtained by using the personal information form, which was prepared by researchers in the light of the literature and involved sociodemographic characteristics and the “Emotional Intelligence Evaluation Scale.” *Results.* It was determined that while natural science students had the lowest total mean score of emotional intelligence scale, students of social sciences had the highest total mean score according to departments. Examining the difference between the mean scores of three different educational fields, it was determined that this difference was statistically significant. *Conclusion.* Consequently, the emotional intelligence level was determined to be lower in natural science students and moderate in students of health and social sciences.

1. Background

Even though various studies have been conducted regarding emotions until today, the concept of “emotional intelligence” was presented for the first time by Salovey and Mayer (1989) [1]. Salovey and Mayer (1989) defined the emotional intelligence as the skill of understanding and questioning with feelings, internalizing the emotions within thoughts, and regulating the emotions in self and others [1–4]. Then, this concept started to be discussed in many fields with a great attention upon publication of the book *Emotional Intelligence* of the Journalist Daniel Goleman, having the title of Ph.D. in the field of psychology, in 1995. Goleman, on the other hand, defines the emotional intelligence as the skill of recognizing and understanding emotions of our own and others, motivating the self, and managing our emotions in ourselves and our relations accurately [5, 6].

Goleman collected the emotional intelligence under five main titles as awareness of emotions, management of

emotions, self-motivation, empathy, and social skills. Every individual might differ in terms of the skills of emotional intelligence in these five different fields [5, 7–9].

Considering the studies conducted inland, it is seen that the number of studies on emotional intelligence has increased as from 2000. There are numerous studies revealing the importance of emotional intelligence especially in the management and business fields. Another field that attaches importance to emotional intelligence after the business world is the field of education. Studies conducted in this field indicate that the importance of the concept of emotional intelligence has been noted. The study group generally consists of students in studies conducted in the field of education. These studies aim to approach the emotional intelligence levels of students in terms of several variables and reveal the relationship between them. In these studies, significant relations were determined between emotional intelligence levels and social skill level, interpersonal relation styles, commitment styles, and decision-making strategies [10–13]. Considering

the studies conducted abroad regarding emotional intelligence, it is seen that there is a very wide range of research and variables, which are investigated in terms of their relation with emotional intelligence after the comprehension of importance of emotional intelligence during the 1990s.

It is reported that, being different from the intelligence quotient, the emotional intelligence is emphasized to have no relation with fate and to possibly develop with education, which increases the importance of emotional intelligence even more [14]. The first education of an individual living in a society undoubtedly starts with family, which is followed by school. Since the education at schools is only based on giving information, the emotional intelligence plays a key role in enhancing the success of individual in both business and private life. It is seen that students are required to develop their emotional intelligence during their education before beginning to work and training programs are required to support this development at universities, where human relations are extremely important. This will establish a ground for training students who can know and motivate themselves, manage their emotions, have a high empathy power, control their relations, and consequently cope with their problems and realize themselves. Based on these facts, this descriptive study was conducted to determine and compare the emotional intelligence levels of senior students receiving education (natural, social, and equally weighted) in different fields of Atatürk University.

2. Methods

2.1. Type of Study. The study was conducted as a descriptive and cross-sectional study.

2.2. Population and Sample Group of Study. The population of the study consisted of students of three different areas of faculties in Ataturk University. The sample group of study, on the other hand, consisted of 305 senior students, who were voluntary to participate in the study, received education in different fields (health, social, and natural) of Atatürk University between November 2011 and December 2011, and were selected by using the simple random sampling method. Three faculties from three different fields were selected. The related faculties were enumerated and the simple random table was used in the selection of these faculties.

2.3. Data Collection. Data of the study were obtained by using the personal information form, which was prepared by researchers in the light of the literature [6, 8, 9, 15, 16] and involved sociodemographic characteristics, and the "Emotional Intelligence Evaluation Scale" which was developed by Hall (1999) and Turkish validity and reliability of which was conducted by Ergin (2000) [17]. The Cronbach alpha coefficient of the scale was 0.84 and it was determined as 0.96 in this study. The scale involves five subscales as awareness of emotions (items 1, 2, 4, 17, 19, and 25), managing the emotions (items 3, 7, 8, 10, 18, and 30), motivating the self (items 5, 6, 13, 14, 16, and 22), empathy (items 9, 11, 20, 21, 23, and 28), and social skills (items 12, 15, 24, 26, 27, and 29). This Likert scale consists of 30 items. Answers given to questions in the scale

were evaluated by six-point Likert scale (1: strongly disagree; 2: partially disagree; 3: slightly disagree; 4: slightly agree; 5: partially agree; 6: strongly agree). In the calculation of subscales, the scores of answers given to items that comprise that subscale are summed. The total of scores obtained from 30 items is also the total score of the emotional intelligence. Increasing scores show the highness of that subscale of the emotional intelligence. Table 1 illustrates scoring of the Emotional Intelligence Evaluation Scale (Table 1).

2.4. Data Assessment. The data of study were assessed in the computer environment by using percentage and ANOVA tests.

2.5. Study Ethics. Prior to the study, both oral and written permissions were obtained from the faculty administrations participating in the study. Moreover, approval was received from the Ethical Commission at Atatürk University Health Sciences Faculty. Besides, students who participated in the study were informed about the purpose of the study and voluntariness of the study participation and their verbal permissions were obtained before they filled out the questionnaire.

3. Results

Table 2 illustrates the sociodemographic characteristics of students and it was determined that students were homogeneous in terms of their sociodemographic characteristics. It was determined that 35.1% of the students included in the study received education in the field of natural sciences, 34.4% in health sciences, and 30.5% in social sciences. It was also determined that more than half of the students (54.8%) were in the age range of 22-23 and the majority of them (52.5%) were male. Besides, students were asked about the subscale of emotional intelligence expressing them the best and it was generally determined as "awareness of emotions" in natural sciences (29.9%) and social sciences (33.3%) and "empathy" in health sciences (27.6%) (Table 2).

Table 3 presents the comparison of total scores and subscale mean scores of the emotional intelligence scale according to departments; and it was seen that while natural sciences students had a lower level of emotional intelligence, students of health and social sciences had a moderate level of emotional intelligence. It was determined that while natural sciences students had the lowest total mean score of emotional intelligence scale (107.5 ± 36.1), students of social sciences had the highest total mean score (135.4 ± 26.3) according to departments. Examining the difference between the mean scores of three different educational fields, it was determined that this difference was statistically significant ($p < 0.0001$). As a result of the advanced analysis, the difference was determined to be caused by students receiving education in sciences (subscales, respectively, Bonferroni = 21.22, 21.56, 21.57, 21.87, 21.41, total score Bonferroni = 107.64).

Examining the subscales of the emotional intelligence, it was determined that social sciences had the highest mean score in subscales of "awareness of emotions" (27.6 ± 7.6), "managing the emotions" (25.2 ± 5.5), "motivating the self"

TABLE 1: Scoring of the Emotional Intelligence Evaluation Scale.

Subscales of the scale	Mean scores to be obtained		
	Low	Normal	High
Awareness of emotions	25 and below	26–30	31 and above
Managing the emotions	26 and below	27–31	32 and above
Motivating the self	26 and below	27–30	31 and above
Empathy	25 and below	26–30	31 and above
Social skills	24 and below	25–29	30 and above
<i>Total score</i>	<i>129 and below</i>	<i>130–154</i>	<i>155 and above</i>

TABLE 2: Distribution of sociodemographic characteristics of students.

Characteristics	Natural sciences (<i>n</i> : 107, % = 35.1)		Health sciences (<i>n</i> : 105, % = 34.4)		Social sciences (<i>n</i> : 93, % = 30.5)		Total (<i>n</i> = 305)		Test and <i>p</i> value
	Number	%	Number	%	Number	%	Number	%	
<i>Age group</i>									
20-21	10	9.3	24	22.9	13	14.0	47	15.4	$\chi^2 = 9.45$ df = 4 <i>p</i> > 0.05
22-23	58	54.2	56	53.3	53	57.0	167	54.8	
24 and older	39	36.4	25	23.8	27	29.0	91	29.8	
<i>Gender</i>									
Female	41	38.3	57	54.3	47	50.5	145	47.5	$\chi^2 = 5.90$ df = 2 <i>p</i> > 0.05
Male	66	61.7	48	45.7	46	49.5	160	52.5	
<i>Mother's education</i>									
Primary school	31	29.0	34	32.4	31	33.3	96	31.5	$\chi^2 = 8.94$ df = 6 <i>p</i> > 0.05
Secondary school	41	38.3	51	48.6	35	37.6	127	41.6	
High school	17	15.9	9	8.6	18	19.4	44	14.4	
University	18	16.8	11	10.5	9	9.7	38	12.5	
<i>Father's education</i>									
Primary school	44	41.1	40	43.0	40	43.0	132	43.3	$\chi^2 = 1.52$ df = 6 <i>p</i> > 0.05
Secondary school	16	15.0	16	17.2	16	17.2	47	15.4	
High school	32	29.9	28	30.1	28	30.1	91	29.8	
University	15	14.0	9	9.7	9	9.7	35	11.5	
<i>Residence</i>									
W/relatives	26	24.3	47	44.8	33	35.5	106	34.8	$\chi^2 = 11.8$ df = 6 <i>p</i> > 0.05
Family	28	26.2	15	14.3	23	24.7	66	21.6	
Dormitory	50	46.7	41	39.0	35	37.6	126	41.3	
Home (friend/alone)	3	2.8	2	1.9	2	2.2	7	2.3	
<i>Statement that she/he thinks reflects her/him the best</i>									
Being aware of emotions	32	29.9	24	22.9	31	33.3	87	28.5	$\chi^2 = 10.13$ df = 8 <i>p</i> > 0.05
Being empathic	20	18.7	29	27.6	27	29.0	76	24.9	
Managing the emotions	22	20.6	18	17.1	8	8.6	48	15.7	
Motivating the self	10	9.3	8	7.6	6	6.5	24	7.9	
Social skills	23	21.5	26	24.8	21	22.6	70	23.0	

TABLE 3: Comparison of total scores and subscale mean scores of the emotional intelligence scale according to departments.

Subscales	Natural sciences (<i>n</i> : 107)	Health sciences (<i>n</i> : 105)	Social sciences (<i>n</i> : 93)	Test and <i>p</i> value
	<i>X</i> ± SD	<i>X</i> ± SD	<i>X</i> ± SD	
Awareness of emotions	21.2 ± 9.1	27.6 ± 7.6	28.6 ± 5.9	<i>f</i> = 26.8, <i>df</i> = 2, <i>p</i> < 0.0001
Managing the emotions	21.5 ± 8.4	24.9 ± 6.3	25.2 ± 5.5	<i>f</i> = 8.8, <i>df</i> = 2, <i>p</i> < 0.0001
Motivating the self	21.5 ± 8.4	26.5 ± 6.9	28.1 ± 6.1	<i>f</i> = 21.4, <i>df</i> = 2, <i>p</i> < 0.0001
Empathy	21.8 ± 8.5	27.4 ± 6.8	26.8 ± 6.5	<i>f</i> = 17.5, <i>df</i> = 2, <i>p</i> < 0.0001
Social skills	21.4 ± 8.1	26.3 ± 6.2	26.5 ± 7.3	<i>f</i> = 16.2, <i>df</i> = 2, <i>p</i> < 0.0001
<i>Total</i>	107.5 ± 36.1	132.9 ± 31.4	135.4 ± 26.3	<i>f</i> = 20.9, <i>df</i> = 2, <i>p</i> < 0.0001

(28.1 ± 6.1), and “social skills” (26.5 ± 7.3). However, the subscale of “empathy” (27.4 ± 6.8) was determined to be higher in health sciences.

4. Discussion

In the study, the students were asked about the subscale of emotional intelligence expressing them the best and it was generally determined as subscale of “awareness of emotions” in natural sciences and social sciences and subscale of “empathy” in health sciences. Self-consciousness signifies that the individual knows her/his emotions, as well as strong and weak aspects, is aware of her/his needs and motivations, and understands her/his internal state. Empathy, on the other hand, includes individuals who can comprehend the viewpoints of other people, become good listeners, perceive the unmentioned emotions as well, and understand other people through putting themselves in their shoes. The fact that students consider these subscales expressive might have been caused by both their personal tendencies and their education.

Total scores and subscale mean scores of the emotional intelligence scale were compared according to departments and it was determined that while natural sciences students had a lower level of emotional intelligence, students of health and social sciences had a moderate level of emotional intelligence. Furthermore, the highest mean was determined in students receiving education in the field of social sciences. The fact that students receiving education in the field of social sciences had the highest total score of emotional intelligence might have been caused by the fact that weighted verbal lessons in this field make a contribution to the development of emotional intelligence. In parallel with this study, Çubukcu et al. (2010) also determined in their study that students subjected to the technical program had lower levels of emotional intelligence [18]. In the study of Kuzu and Eker (2010), it was found out that students at the department of nursing had higher mean scores compared to students in the faculty of forestry and technical training faculty, in other words the students subjected to the technical program, and the difference between the groups was statistically significant [19]. There are numerous studies indicating that individuals who completed and continue their education in the field of health have a moderate level of emotional intelligence [16, 20, 21]. A study conducted with preservice teachers determined that the emotional intelligence of preservice teachers was above average [22]. As well as theoretical courses/applications, many

factors such as the student-teacher relationships and student-student relationships must have also made a contribution to the increase of the level of emotional intelligence in the educational process.

Examining the subscales of emotional intelligence, it was determined that social sciences had the highest score in subscales of “awareness of emotions,” “managing the emotions,” “motivating the self,” and “social skills.” However, the subscale of “empathy” was determined to be higher in health sciences. The fact that the department of health sciences had a prominence in the subscale of empathy might be due to the fact that empathy is tried to be planted in students during their vocational training. Empathy required for patient care in nursing, plantation of competences, which are involved in the subscales of emotional intelligence such as therapeutic communication, in the nursing training, and efforts of reflecting them on the field of practice might have contributed to the increase of this subscale. In their study, Kuzu and Eker (2010) determined that students receiving education at the department of nursing had higher mean scores in the subscales of “awareness of emotions” and “motivating the self,” which are among the subscales of emotional intelligence, compared to students receiving education in the faculty of forestry and technical training faculty and the difference between the groups was statistically significant [19].

5. Conclusion

Consequently, the emotional intelligence level was determined to be lower in natural sciences students and moderate in students of health and social sciences. Among students receiving education in these three different fields, the highest emotional intelligence level was determined in students studying at department of social sciences.

Universities establish an environment where students could develop their emotional intelligence. In order to enable these environments to contribute to development of the emotional intelligence, students should be supported to become skilful at recognizing their own emotions, evaluating their emotional reactions in the face of events, and managing their emotions throughout their education. Besides, this support will make a contribution to students not only during the university period but also after graduation and in their private life to become happy individuals and display a high job performance. Thus, it is required to make regulations in curriculums to develop the emotional intelligence and

establish social sharing environments to contribute to the emotional intelligence development in students.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

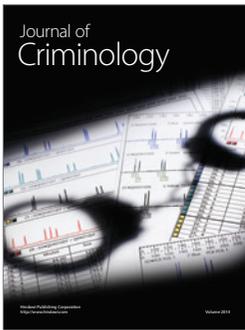
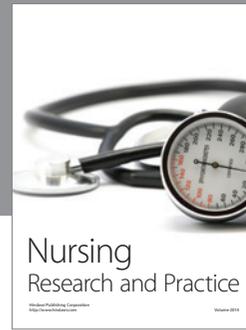
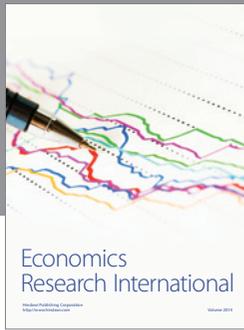
Zeynep Karaman Özlü, Gülçin Avşar, Kübra Gökbalp, and Serap Ejder Apay contributed to the conception and design of the study. Zeynep Karaman Özlü, Gülçin Avşar, Afife Yurttaş, Özlem Şahin Altun, and Kübra Gökbalp contributed to the analysis and interpretation of data. Serap Ejder Apay contributed to statistical analysis and drafted the manuscript. All authors contributed to the critical revision of the manuscript. All authors read and approved the final manuscript.

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