



Relationship between Attachment Style and Specialty Selection in Medical Interns in Ahvaz

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Medical specialty selection is a critical issue that can have a direct impact on the health care workforce and affect the needs of the community health sector. Attachment styles, as one of the influencing factors in interpersonal interactions, can play a role in the specialty selection. The purpose of this study was to investigate the relationship between attachment styles and specialty selection in medical interns in Ahvaz. This is a descriptive epidemiological study. The study population consisted of medical interns from Jundishapur University of Medical Sciences in Ahvaz in 2018. The study selection method was convenience sampling. A questionnaire including the demographics, items regarding preferred and selected specialties, and Collins & Read Adult Attachment Scale were used for data collection. Data were analyzed using SPSS software. The most preferred specialties of the participants were cardiology (16%), general surgery (11.8%), and radiology (10.7%). The specialties mainly selected by the participants were radiology (21.9%) and dermatology (20.1%). 123 students (72.8%) had a secure attachment style, 36 (21.3%) had an anxiety attachment style, and 5 (3%) had an avoidant attachment style. The frequencies of preferred specialties were not significantly different in terms of attachment style ($P = 0.339$), the frequencies of the selected specialties were not significantly different in terms of attachment style as well ($P = 0.774$). The present study results showed no relationship between interns' attachment styles and their interest in their specialties.

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Introduction

Attachment style is one of the most important influencing factors in interpersonal interactions. It develops in childhood and continues to develop in later years regarding the environment in which the individual has evolved [Hoffer 2018]. Theoreticians classify attachment styles into three main categories of secure attachment, anxious-ambivalent attachment, and avoidant attachment [Ciechanowski et al. 2006]. Individuals with a secure attachment always look for secure and stable relationships in adulthood. The main characteristics of adults with a secure attachment are high self-esteem, intimate relationship enjoyment, seeking social support, and the ability to share their feelings with others. People with an anxious-ambivalent attachment often show no interest in becoming closer to other people; they worry that others would not respond to their feelings. It causes them to avoid establishing intimate relationships with others. People with an avoidant attachment style have some difficulties in establishing a close and intimate relationship. These individuals do not usually make an emotional investment in relationships and do not get irritated by the relationship termination as well [Sedigh Arfaei et al. 2014].

Medical specialty selection is an essential issue for a medical student. Also, it can have a direct impact on the number of healthcare professionals [Shahabi et al. 2010]. Unfortunately, most of the students make this life-changing decision without adequate investigation [Shakurnia et al. 2015]. Despite the acceptable growth of graduates in various fields of medical sciences in recent years, there is no uniform and balanced distribution in the healthcare professionals needed for some areas because of the shortage of certain specialists and lack tendency to work in given areas [Shahabi et al. 2010]. The shortage of specialized workers has caused functional problems in many of the hospitals in Iran. It even has led to shutdowns in some healthcare centers.

On the other hand, some specialties are facing higher workforce density and reception [Alizadeh et al. 2014]. Therefore, healthcare authority awareness of determining factors in specialty selection is of great importance and can pave the way for launching interventional programs by having the appropriate effect on the professional selections of physicians and make the selections

more compatible with society needs [Alizadeh et al. 2014]. Factors including personal interests, personality fit, cultural, social, and economic situation, future income, and labor market all can be effective in specialty selection [Koo et al. 2007]. Attachment styles are from intrapersonal resources that may influence the specialty selection, future job, and job satisfaction. According to the studies, attachment styles and personality traits can affect the specialty selection in the medicine field significantly [Kassebaum et al. 1994, Brown et al. 1994] and also may have essential roles in a physician's decision to change his/her specialty [Kassebaum et al. 1994]. Since the relationship between attachment style and specialty selection has been investigated in a limited number of studies, the present study was conducted with the given purpose.

Methods

The present study is a cross-sectional descriptive study. The medical interns from Jundishapur University of Medical Sciences in Ahvaz in 2018 were introduced into the study using a convenience sampling method. Following the sampling, necessary explanations of the study process and accomplishments were given to the participants. They were also ensured about the privacy of the data provided by them. Then, the participants were handed informed consent forms, which they were supposed to read, fill, and sign. In the following, the questionnaires were handed to the participants, and they were asked to answer the questions carefully. The questionnaire included the demographic characteristics, items regarding different specialty tendencies, and also the Revised Adult Attachment Scale (RAAS) by Collins & Read.

The RAAS includes a self-assessment of the individual's relationship-making skills and a self-description of how the person builds attachment relationships with close attachment figures. It also consists of 18 items that are scored using a 5-point Likert Scale from 1 (no applicability to my characteristics at all) to 5 (entirely applicable for my characteristics). Three subscales of Dependence (D), Closeness (C), and Anxiety (A) were determined by analyzing the items. The anxiety (A) subscale corresponds to the anxious-ambivalent attachment. Basically, the closeness (C) subscale is a bipolar dimension that puts the

secure attachment as the opposite of the avoidant description, so closeness (C) corresponds to secure attachment, and the dependence (D) subscale can be considered as the opposite of avoidant attachment.

Collins and Read demonstrated that the subscales of closeness, dependence, and anxiety were stable over 2 months and even for 8 months. Given the reliability of the RAAS questionnaire, Cronbach's alpha for each subscale was reported in three samples of the students. Since Cronbach's alpha was equal or higher than 0.8 in all of the cases, the test has high validity [Collins et al. 2001]. On the other hand, the RAAS test validity was determined in the study by Pakdaman through conducting a retest and calculating the test-retest correlations. The retest was carried out on 100 girls and boys in the 2nd grade of high school (16-year-old pupils) who were randomly selected. The results obtained from these two test conduction within 1 month

indicated that the test has a validity level of 0.95 [Pakdaman et al. 2001].

Data Analysis: In order to describe the data, mean and standard deviation were used for quantitative variables, and absolute frequency and percentage for qualitative variables. Also, the Pearson Correlation Test was used for data analysis. Data analysis was performed using the SPSS software version 22.

Results

169 medical interns from Jundishapur University of Medical Sciences in Ahvaz in 2018 were introduced into the present study. According to the results (Table 1), the preferred specialties in order of popularity were cardiology (16%), general surgery (11.8%), radiology (10.7%), dermatology (7.7%), psychiatry (8.9%), gynecology and obstetrics (7.1%), and ophthalmology (6.5%).

Table 1. Frequency distribution of the interns' preferred specialties

Specialty	Frequency	Percentage (%)
Cardiology	27	16
General Surgery	20	11.8
Radiology	18	10.7
Dermatology	13	7.7
Psychiatry	15	8.9
Gynecology and Obstetrics	12	7.1
Ophthalmology	11	6.5
Neurology	10	5.9
Orthopedics	10	5.9
Internal medicine	7	4.1
Pediatrics	6	3.6
ENT	5	3
Urology	5	3
Radiation Oncology	3	1.8
Emergency Medicine	2	1.2
Neurosurgery	1	0.6
Nuclear Medicine	1	0.6
Forensic Medicine	1	0.6

Undetermined	2	1.2
Total	169	100

According to the results presented in Table 2, the most selected specialties were radiology (21.9%), dermatology (20.1%), gynecology and obstetrics

(8.9%), psychiatry (7.7%), ophthalmology (7.1%), and cardiology (7.1%).

Table 2. Frequency distribution of the interns' selected specialties

Specialty	Frequency	Percentage (%)
Radiology	37	21.9
Dermatology	34	20.1
Gynecology and Obstetrics	15	8.9
Psychiatry	13	7.7
Ophthalmology	12	7.1
Cardiology	12	7.1
Orthopedics	10	6.9
General Surgery	8	4.7
Pediatrics	5	3
Pathology	4	2.4
Internal Medicine	3	1.8
Urology	3	1.8
Neurosurgery	2	1.2
ENT	2	1.2
Emergency Medicine	2	1.2
Nuclear Medicine	1	0.6
Undetermined	6	3.6
Total	169	100

According to the results presented in Table 3, the mean score was 23.43±0.25 for secure attachment style, 20.40±1.20 for avoidant attachment style, and 22.19±0.5 for anxious attachment style. Also, according to the results, 123 interns (72.8%) had a secure attachment style, 36 (21.3%) had an anxious

attachment style, and 5 (3%) had an avoidant attachment style. Also, 3 interns (1.8%) showed an anxious-secure attachment style, and 2 (1.2%) showed an avoidant-secure attachment style.

Table 3. The mean and standard deviation of the attachment style scores of the interns

Attachment style	Mean	Standard deviation	Minimum score	Maximum score
Secure Attachment Style	23.43	0.25	15	30
Avoidant Attachment Style	20.40	1.20	18	25
Anxious Attachment Style	22.19	0.50	17	29

The frequency distribution of the preferred specialties in terms of attachment style is presented in Table 4. According to the results presented in Table 4, the frequencies of the preferred specialties

have no significant differences in terms of attachment style (P=0.339).

Table 4. Frequency distribution of the preferred specialties in terms of attachment style

Specialty	Attachment Style					Total
	Secure	Avoidant	Anxious	Anxious-Secure	Avoidant-Secure	
Cardiology	22	1	4	0	0	27
General Surgery	13	1	5	1	0	20
Radiology	12	1	3	0	2	18
Dermatology	9	1	3	0	0	13
Psychiatry	9	0	5	1	0	15
Gynecology and Obstetrics	7	1	3	1	0	12
Ophthalmology	8	0	3	0	0	11
Neurology	8	0	2	0	0	10
Orthopedics	9	0	1	0	0	10
Internal Medicine	7	0	0	0	0	7
Pediatrics	5	0	1	0	0	6
ENT	3	0	2	0	0	5
Urology	5	0	0	0	0	5
Radiation Oncology	1	0	2	0	0	3
Emergency Medicine	2	0	0	0	0	2
Neurosurgery	1	0	0	0	0	1
Nuclear Medicine	1	0	0	0	0	1
Forensic Medicine	0	0	1	0	0	1
Undetermined	1	0	1	0	0	2
Total	123	5	36	3	2	169
P value	0.339					

The frequency distribution of the selected specialties in terms of attachment style is presented in Table 5. According to the results presented in Table 5, the frequencies of the selected specialties

have no significant differences in terms of attachment style (P=0.774).

Table 5. Frequency distribution of the selected specialties in terms of attachment style

Specialty	Attachment Styles					Total
	Secure	Avoidant	Anxious	Anxious-Secure	Avoidant-Secure	
Radiology	27	1	8	0	1	37
Dermatology	24	1	9	0	0	34
Gynecology and Obstetrics	10	0	3	1	1	15
Psychiatry	10	0	2	1	0	13
Ophthalmology	7	1	4	0	0	12
Cardiology	9	1	2	0	0	12
Orthopedics	10	0	0	0	0	10
General Surgery	5	1	1	1	0	8
Pediatrics	4	0	1	0	0	5
Pathology	2	0	2	0	0	4
Internal Medicine	1	0	2	0	0	3
Urology	3	0	0	0	0	3
Neurosurgery	2	0	0	0	0	2
ENT	1	0	1	0		2
Emergency Medicine	2	0	0	0	0	2
Nuclear Medicine	1	0	0	0	0	1
Undetermined	5	0	1	0	0	6
Total	123	5	36	3	2	169
P value	0.774					

Discussion

A number of 169 interns from Jundishapur University of Medical Sciences were introduced into the present study. They were asked to report their preferred specialties (based on interest rather than the society standards and conditions) and the specialties that they intend to choose in the future (based on the society standards and conditions and other criteria rather than their interest). According to the results, the most preferred specialties were cardiology (16%), general surgery (11.8%), and radiology (10.7%). The most selected specialties were radiology (21.9%), dermatology (20.1%), and gynecology and obstetrics (8.9%). The findings showed that specialties such as radiotherapy, infectious diseases, urology, and emergency

medicine, having higher amounts of stress and pressure in workplace, are not of top priorities for the interns, and most of them prefer specialties like radiology and dermatology. Also, the results demonstrated that the interns mainly selected specialties like radiology (21.9%) and dermatology (20.1%), although they were more interested in cardiology (16%) and general surgery (11.8%). This fact indicates the effect of society standards and conditions on the specialty selection. In a study by Alizadeh et al. (2014) on 273 medical students from Guilan University of Medical Sciences, the most selected specialties were dermatology (41.4%), radiology (8.9%), and ophthalmology (7.9%) [Alizadeh et al. 2014]. According to the study by Shakurnia et al. (2015)

on 389 residents from Jundishapur University of Medical Sciences, radiology (20.5%), cardiology (17.8%), and ophthalmology (9.2%) had the highest priorities for selection [Shakurnia et al. 2015]. Generally, the specialties of radiology, dermatology, ophthalmology, and cardiology have higher priorities among Iranian medical students and interns. These selections are influenced by factors like personal interest, work hours, job difficulty, and economic issues [Alizadeh et al. 2014].

In a study by Ko et al. (2007) in Britain on 237 medical students, 28% of the students chose family medicine, 23% preferred internal medicine, 8.5% chose general surgery, and 37% selected other specialties [Ko et al. 2007]. In a study on the students from Yamaguchi University, it was observed that male students had higher tendencies to specialties like general surgery, neurosurgery, orthopedics, and emergency medicine, but female students preferred gynecology and obstetrics or pediatrics [Fukuda et al. 2010]. According to Al-Jarallah et al. in Kuwait, men mainly preferred general surgery and internal medicine, and women usually were interested in specialties like gynecology and obstetrics, pediatrics, and family medicine [Al-Jarallah et al. 2003]. In a study by Alshahrani et al. in Saudi Arabia, the first choice of 56 students (14.77%) was reported to be internal medicine, 35 students (9.2%) reported family medicine as their first choice, 34 students (8.97%) reported general surgery, and 27 (7.1%) preferred pediatrics or emergency medicine [Alshahrani et al. 2014]. It is evident that the student specialty priorities investigated in countries like Saudi Arabia, Kuwait, Britain, and Japan is different from the studies carried out in Iran; this difference indicates the influence of cultural, social, and health policies on specialty selection.

In the present study, considering a sample of 169 interns, 123 (72.8%) had a secure attachment style, 36 (21.3%) had an anxious attachment style, and 5 (3%) had avoidant attachment style. In a study on the students from Iranshahr University of Medical Sciences, 58% had a secure attachment style, 31% reported to have an avoidant attachment style, and 31% were found to have an anxious attachment style [Kohsari et al. 2017]. In a study on the students from Islamic Azad University, Mahabad branch, the percentage frequencies were 47.3% for secure attachment style, 28.3% for non-secure,

avoidant attachment style, and 24.5% for non-secure, ambivalent attachment style. In a study on the students from Payame Noor University, Abarkuh branch, the percentage frequencies were as follows: 51.7%, 39.28%, and 21.23% for secure, anxious, and avoidant attachment styles, respectively [Safavi et al. 2011]. In a study on the students from Bu-Ali Sina University, the percentage frequencies were 51.33% for secure attachment style, 16.66% for avoidant attachment style, and 32% for anxious attachment style [Amani et al. 2012]. In a study on the 2nd year medical students at Arkansas State, 52.6% had a secure relationship style, 18.42% had self-reliant relationship style, 12.5% had cautious relationship attachment style, and 11.18% had support-seeking relationship style [Ciechanowski et al. 2006]. The attachment style frequency differences in various studies are caused by the differences in investigated populations in terms of different factors, including age and gender distributions, social and cultural differences, and other factors.

In the present study, the preferred and selected specialty frequencies had no significant differences in terms of attachment style. In a study by Ciechanowski et al. (2004) on 2nd-year medical students, it was reported that the students with a secure attachment style had higher tendencies to select primary care specialties versus the students with non-secure attachment styles (61% vs. 41%) [Ciechanowski et al. 2004]. In another study by the same researcher in 2006 on the 4th year medical students, it was observed that the students with a self-reliant relationship style had higher tendencies to select non-primary care specialties versus the students with a secure relationship style. Patient-centrism had a positive correlation, and job reward had a negative correlation with primary care specialty selection [Ciechanowski et al. 2006]. In a study by Roney et al. (2004) on the 1st and 4th-year students studying occupational therapy at Queensland University, it was reported that the majority of the participants had secure and people-centered attachment styles and were satisfied with their job selection. The students reported that the people-centrism associated with the given job was an important factor in their job selection [Roney et al. 2004]. In a study by Meredith et al. (2007) on 153 students (53 studying occupational therapy and 100 studying business), it was observed that the attachment styles of the occupational therapy

students and business students had significant differences, with occupational therapy students having a higher frequency of "secure" attachment styles and lower frequencies of "avoidant" and "ambivalent" attachment styles [Meredith et al. 2007]. Taylor (2003) evaluated the motivation of the medical students in selecting 37 specialties by counseling, and it was observed that factors such as communicating with people, taking care of them, and serving them are from the important priorities of the students in specialty selection [Taylor AD 2003].

Generally, attachment and relationship styles of health care providers can play important roles in interactions between patients and health care providers. Patients usually visit several physicians before finding a physician to be comfortable with him/her, so if the attachment and relationship styles of the patient and physician match, it can be an important factor in "comfort" development [Ciechanowski et al. 2006, Ciechanowski et al. 2004]. Patient comfort and appropriate relationship between patient and physician are associated with patient and physician satisfaction with the treatment course and thereby improving the treatment outcomes [Ciechanowski et al. 2006]. Previous studies have also shown that patients with an avoidant attachment style and a self-reliant relationship style have lower cooperation with the physician in presenting information [Dozier M 1990] and are less likely to adhere to treatment [Ciechanowski et al. 2001] vs. patients with a secure attachment or relationship style. Although previous studies suggested a correlation between attachment style and specialty selection, no correlation was found in the present study. This finding may be due to the low sample size or the few numbers of participants with non-secure attachment styles. The present study advantage over the previous studies was that the participants were interns, not medical students, as interns have higher clinical experience comparing to medical students studying basic sciences. This factor can influence the interest and decision of the participants in specialty selection. The limitations of the present study were the low sample size and the few numbers of students with non-secure attachment styles. Maybe these limitations are the reason that the correlation between attachment style and selected or preferred specialty was not significant.

Conclusion

Based on the study results, the most preferred specialties by the interns were cardiology, general surgery, and radiology, and the most selected specialties were radiology and dermatology. 72.8% of the interns had a secure attachment style, 21.3% had an anxious attachment style, and 3% had an avoidant attachment style. The frequencies of the preferred specialties had no significant differences in terms of attachment style.

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