



An Investigation of Turkish Specialist and Practitioner Doctors' Empathy and Cognitive Flexibility Levels and Interpersonal Relationship Styles

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Abstract

The aim of this research was to compare general practitioners and specialist doctors' empathy and cognitive flexibility levels along with their interpersonal relationship styles. Research participants involved 30 general practitioners working in family health centers and 30 specialists serving in state hospitals. Data were obtained via sociodemographic information form, Jefferson Scale of Empathy, Cognitive Flexibility Inventory, and Interpersonal Relationship Scale. Although empathy levels did not differ between specialists and practitioners, findings revealed specialists embraced more open, respectful, and less condescending interpersonal relations styles than practitioners. Relatedly, specialists' cognitive flexibility-alternatives subscale scores were significantly higher than practitioners. While practitioners' cognitive flexibility-alternatives subscales were positively correlated with respectful styles and negatively correlated with condescending ones, their cognitive flexibility-control subscales were positively associated with respectful styles. Similarly, in this group, empathy was positively related to both cognitive flexibility subscales and negatively related to condescending styles. For specialists, empathy was not correlated with cognitive flexibility or interpersonal relations style. Demonstrating the importance and implications of communicational and relational interactions between patients and physicians seems to be an urgent issue for research. As a cost-effective measure, empathy and cognitive flexibility can be both learned and improved.

Keywords: Empathy; Cognitive Flexibility; Interpersonal Relationship Styles; Physician; General Practitioner; Specialist

Introduction

The interlocked relationship between mind and body has increasingly resulted in modern medical practices' use of bio-psycho-social and patient-centered models that emphasize various psychological and environmental factors [1-3]. In particular, patient-centered approaches are characterized by a serious consideration of patients' views, preferences, values, and economic resources [4]. In addition to positively affecting various medical outcomes and patient satisfaction levels, patient-centered approaches have been shown to reduce the use of healthcare services, diagnostic tests, prescription, referral, and hospitalization, along with total annual healthcare expenses [5,6]. Given that visiting a physician may in itself induce considerable worry and anxiety in patients [7], physicians' interpersonal communication competencies and styles can directly influence patients' self-expression by providing them with a sense of being listened to and understood, which in turn acts on several factors such as patients' anxieties about their illness, hope for a cure, and adherence to the treatment [8]. In the

treatment of somatic diseases, talking about disease perception reveals the therapeutic effect of talking [9]. In this regard, empathy refers to a "cognitive quality" that by its interpersonal nature involves a physician's capacity to understand and communicate about patients' experiences, anxieties, and viewpoints [10,11]. Empathy has been reported to reduce patients' anxiety and stress levels and to considerably influence positive health outcomes [12]. More specifically, physicians' empathy has been shown to be significantly associated with diabetes patients' clinical outcomes and result in shorter periods of the common cold [13-16].

As these studies point to a concrete and measurable effect in the immune system induced by a positively experienced subjective feeling, they further substantiate the strong relationship between mind and body. Among the factors that have transformed the physician-patient relationship from Emanuel's paternalistic model to a conciliatory model are the rising socioeconomic level with social development, medical technologies that improve the quality of life,

the development of patients' rights, patients' greater knowledge of their rights, developments in the concept of seeking rights, physicians and patients putting more value on human rights, the widespread implementation of legal responsibilities and sanctions on physicians and patients, legal obligations, the application and dissemination of the understanding of quality in healthcare, rising health literacy, and the existence of complaint mechanisms through communication centers of public institutions [17]. Studies supporting patients' empathy expectations in Turkey [18-23] as well as focusing on patient-physician communication show that empathy stands out as a very important element, sometimes alone and sometimes together with other variables [24-26].

There are many studies that evaluate empathy education and empathetic attitudes of students in the basic medical education process in medical schools and investigate how empathy can be developed [27-33]. As another significant variable of this study, cognitive flexibility is regarded as a form of fluid intelligence marked by the skill of providing alternative solutions to different situations [34]. This construct is closely related to the neuro-psychological concepts of role- and perspective-taking, which entail numerous cognitive flexibility dimensions such as understanding others, selecting appropriate behavior, thinking about and generating different ideas, possessing a repertoire for different responses, and exchanging ideas with others in decision-making [35]. Literature on cognitive flexibility related to personnel working in the healthcare field is quite limited. A study on nurses found that coping skills and flexibility were positively correlated with psychological adjustment [36]. A study of medical students and residents showed that incorporating cognitive flexibility and perspective-taking skill instruction has implications for reducing conflict and stress, as well as improving wellness levels [37]. Empirical studies demonstrate that increased cognitive flexibility is linked to reduced levels of experiencing social difficulties, stress, depression, anxiety, and rage [38-42]. Conversely, cognitive flexibility has been found to be related to positive personal outcomes such as critical thinking, self-esteem, social skills, self-competence, and coping with stress [43-45].

Although limited amount of evidence exists in the literature, there are several empirical studies that substantiate the relationship between empathy and cognitive flexibility. In one major example, neurological patients with various etiologies and cerebral lesions were found to manifest significantly lower empathy than healthy normal adults. The same study found significant correlations, ranging from 0.5 to 0.6, between cognitive flexibility and empathy scores [46]. These data support the idea that cognitive thinking may be closely linked to empathic behavior either via granting a precognitive skill or by being part of another common basic process. The present study is designed to make comparisons between Turkish practitioner and specialist physicians in terms of empathy, cognitive flexibility, and interpersonal relations styles. In so doing, it tests the question of whether practitioners' long-term interactions with their enrolled patients (i.e. spending more time with them, knowing them better) or specialists' longer training

histories are correlated with increased empathy and cognitive flexibility levels.

Methods

Participants

It is included family physicians, who have completed 6 years of medical training and specialists who have completed an additional 5 years. Family physicians see the patients registered with them and specialists see patients who can make an appointment anytime and anywhere. Inclusion criteria for data collection were determined as for specialists who work as clinician. Branches of specialists: 5 orthopedics, 8 chest diseases, 1 neurology, 4 obstetrics, 3 infectious diseases, 2 internal medicine, 1 physical therapy, 1 pediatric, 3 ENT, 2 urology. General practitioner work as clinician. Thus, the sample of the present study comprises 60 participants, i.e. 30 practitioners and 30 specialists. Demographically, 40% of the practitioners and 47% of the specialists were women. Additionally, 90% of the practitioners and 97% of the specialists were married. The age average for practitioners and specialists was 45.5 and 43.2, respectively. As mentioned above, participants' working posts involved family health centers and state or training and research hospitals. Paper-and-pencil questionnaires were filled out by volunteer participants themselves in the major cities of Istanbul and Ankara between January and April 2019.

The questions that the study aims to measure in terms of the variables included are as follows:

Do long-term interaction and being familiar affect physicians' interpersonal relationship styles?

Does residency training affect specialist' relationship styles?

Assessment Instruments

To address its research questions, this research employed the Jefferson Scale of Physician Empathy, the Cognitive Flexibility Inventory, the Interpersonal Relationship Scale, and a socio-demographic form.

Jefferson scale of physician empathy

The Jefferson Scale of Physician Empathy (JSPE) is a 20-item, 7-point Likert-type scale. In a sample of medical doctors, its internal consistency was found to be around .80. In the Turkish context, this scale was adapted by Malkondu in 2006 and its validity-reliability study was done on a sample of dentists [47].

Cognitive flexibility inventory

Developed by Dennis and Vander, the Cognitive Flexibility Inventory involves 20 questions and two subscales entitled "alternatives" and "control" [28]. The alternatives subscale comprises 13 items that tap into the extent to which an individual is able to find alternative solutions to difficult conditions or can form alternative explanations for life situations and people's behaviors. The control subscale is constituted by items that measure to what extent these predicaments can be controlled [48]. The Cronbach's

alpha values for alternatives and control subscale were reported as .91 and .84, respectively. Higher scores are indicative of increased cognitive flexibility [28]. Validity and reliability research for the scale's Turkish version was undertaken, who found Cronbach's alpha values of .90 for the whole scale, .89 for the alternatives subscale, and .85 for the control subscale.

Interpersonal relationship scale

Developed by this 31-item, 3-point Likert-type scale assesses individuals' interaction styles with others. Two subscales measure nurturing and restraining styles, respectively. Nurturing relations involve skills such as expressing one's needs in an open manner, treating the other person with a respectful and accepting style, and employing a constructivist discourse. Conversely, restraining communication styles are marked by behaviors such as self-righteousness, condescension, short temper, verbal abuse, and mockery. The scale has been used in many studies and evidence has been obtained that it is valid and reliable [49-52] Subscales for nurturing styles, in turn, tap into open and respectful styles, while the restraining styles subscale further comprises egocentric and condescending styles. The internal consistency coefficient for the whole scale was measured as .79. Cronbach's alpha values for open, respectful, egocentric, and condescending styles were .73, .70, .56, and .78, respectively.

Results

As reassessed from the data, the Cronbach's alpha coefficient for the empathy scale turned out to be .847, while the cognitive flexibility subscales of control and alternatives had internal consistency values of .653 and .749, respectively. The interpersonal relationship subscales' alpha coefficients ranged from 0.653 to 0.749. In terms of between-group comparisons, Mann-Whitney U tests indicated that, although specialists' empathy level was higher than practitioners, the difference was not statistically significant. With respect to cognitive flexibility comparisons, Mann-Whitney U and t-tests substantiated that only the cognitive flexibility-alternatives subscale was significantly higher in specialists than practitioners. The associated values for these comparisons are shown in Tables 1,2. Interpersonal relationship style comparisons centered on nurturing (open-respectful) and restraining (ego centric-condescending) styles. As scores for open and egocentric styles were normally distributed for both groups, t-tests were employed for comparisons. Conversely, distributions for respectful and condescending styles were not normally distributed. Thus, the Mann-Whitney U test was preferred for comparisons in these domains. Accordingly, results indicated that specialists received significantly higher scores than practitioners in nurturing styles and significantly lower scores in restraining styles [Table 3].

Table 1: Comparison of empathy levels between specialists and practitioners.

Group		N	Average	Std. Deviation	U	P
Level of empathy	Practitioner	30	97.63	17.84	367.5	0.222
	Specialist	30	101.3	15.86		

According to the Mann-Whitney U test, although specialists' empathy levels were higher than practitioners', this difference was not statistically significant, ($p>0.05$).

Table 2: Comparison of cognitive flexibility levels between specialists and practitioners.

Group		N	Average	Std. Deviation	U / t	P
Control subscale	Practitioners	30	3.69	0.82	U=318.000	0.05
	Specialists	30	4.1	0.66		
Alternatives	Practitioners	30	3.79	0.52	t= -2.737	.008*
	Specialists	30	4.14	0.46		

* $p<0.05$

According to the Mann-Whitney U and t-tests, alternatives subscale was the only statistically significant difference, and scores were higher for specialists, ($p<0.05$).

Table 3: Comparison of interpersonal relationship styles between practitioners and specialists.

Group		N	Average	Std. Deviation	U / t	P
Open	Practitioners	30	1.73	0.37	t= -2.139	.037*
	Specialists	30	1.95	0.42		
Respectful	Practitioners	30	1.54	0.51	U=257.500	.004*
	Specialists	30	1.91	0.39		

Egocentric	Practitioners	30	0.88	0.43	t= 1.248	0.217
	Specialists	30	0.74	0.44		
Condescending	Practitioners	30	0.49	0.32	U= 312.500	.039*
	Specialists	30	0.31	0.19		

*p<0.05

According to Mann-Whitney U and t-tests, significant differences were found in terms of open, respectful, and condescending styles between practitioners and specialists. Specifically, specialists displayed higher open and respectful style scores and lower condescending style scores.

Spearman-Brown correlational analyses revealed a significant positive association between empathy and cognitive flexibility for practitioners. Similarly, for this group, the relationship between empathy and respectful relationship styles was also significantly positive, while the correlation between empathy and condescending styles was significantly negative [Table 4]. Specialists' correlations between empathy and cognitive flexibility and relationship styles were not significant [Table 5]. Regarding correlations between cognitive flexibility and relationship styles, for practitioners, control and alternatives subscales were moderately associated with respectful styles. For specialists, cognitive and alternatives subscales were significantly related to open styles. For this group, an alternatives subscale was also moderately related to respectful styles. These significant positive associations are shown in Tables 6 and 7, respectively. Gender and marital status were not significantly

related to specialists' or practitioners' empathy tendencies, relationship styles, cognitive flexibility total, or subscale scores. For practitioners, having longer careers contributed significantly to increased empathy, cognitive flexibility levels, and nurturing styles. For this group, age and cognitive flexibility was also positively related. For specialists, age and working duration were not significantly correlated with empathy levels, relationship styles, or cognitive flexibility levels. These results are shown in Table 8. According to the Spearman-Brown analysis, significant moderate associations were found between cognitive flexibility alternatives and respectful and condescending styles that were positive and negative in nature, respectively. There was also a positive moderate correlation between cognitive flexibility control and respectful style.

Table 4: Correlations between empathy and cognitive flexibility and empathy and interpersonal relationship styles in practitioners.

		Cognitive flexibility in Control Domain	Cognitive Flexibility in Alternatives Domain	Open	Respectful	Egocentric	Condescending
Level of empathy	r	0.686	0.631	0.261	0.506	-0.358	-0.514
	p	.000*	.000*	0.164	.004*	0.052	.004*

*p<0.05

According to the Spearman-Brown analysis, positive significant correlations were found between empathy and cognitive flexibility control and alternatives subscales. Empathy was also positively related to respectful styles. The sizes of these relations were moderate. Another moderate correlation was found between empathy and condescending styles that was negative in nature.

Table 5: Correlations between empathy and cognitive flexibility and empathy and interpersonal relationship styles in specialists.

		Cognitive flexibility in Control Domain	Cognitive Flexibility in Alternatives Domain	Respectful	Egocentric	Condescending	
			Open				
Level of empathy	r	-0.06	0.267	0.164	0.244	-0.161	-0.076
	p	0.752	0.154	0.386	0.193	0.396	0.689

Table 6: Correlation between cognitive flexibility and interpersonal relationship style in practitioners.

		Open	Respectful	Egocentric	Condescending
Cognitive flexibility-control	r	0.327	0.414	-0.266	-0.273
	p	0.078	.023*	0.156	0.145
Cognitive flexibility-alternatives	r	0.333	0.433	-0.17	-0.599
	p	0.072	.017*	0.37	.000*

*p<0.05

According to the Spearman-Brown analysis, significant moderate associations were found between cognitive flexibility alternatives and respectful and condescending styles that were positive and negative in nature, respectively. There was also a positive moderate correlation between cognitive flexibility control and respectful style.

Table 7: Correlation between cognitive flexibility and interpersonal relationship style in specialists.

		Open	Respectful	Egocentric	Condescending
Cognitive flexibility-control	r	0.382	0.313	0.115	-0.117
	p	.037*	0.092	0.546	0.539
Cognitive flexibility-alternatives	r	0.58	0.633	-0.112	-0.331
	p	.001*	.000*	0.555	0.074

*p<0.05

According to Spearman-Brown correlation, the cognitive flexibility alternatives subscale was positively and moderately related to open and respectful styles. The cognitive flexibility-control subscale was positively correlated to open style.

Table 8: Associations between Empathy/Cognitive Flexibility and Age/Working Duration.

		Practitioner			Specialist	
		Age	Working duration	Age	Working duration	
Level of empathy	r	0.375	.517*	0.09		0.059
	p	0.059	0.008	0.699	0.759	
Cognitive Flexibility-Control	r	.515*	.644*	0.056		-0.048
	p	0.007	0.001	0.81	0.802	
Cognitive Flexibility-Alternatives	r	0.337	0.363	0.056		0.042
	p	0.093	0.074	0.81	0.826	
Open	r	0.193	0.353	-0.268		-0.134
	p	0.344	0.084	0.24	0.48	
Respectful	r	0.33	.506*	-0.204		-0.12
	p	0.099	0.01	0.375	0.528	
Egocentric	r	-0.072	-0.083	0.342		0.176
	p	0.725	0.695	0.129	0.352	
Condescending	r	-0.321	-0.217	0.112		0.075
	p	0.11	0.297	0.629	0.694	

*p<0.05

Discussion and Conclusion

Discussion

Findings revealed specialists' empathy and cognitive flexibility scores were generally higher than practitioners', yet the only statistically significant dimension was cognitive flexibility-alternatives in specialists.

In interpersonal relations, significant differences in terms of open, respectful, and condescending communication styles demonstrated that, compared to practitioners, specialist physicians were again more competent in these areas. These findings do not corroborate our tentative assumption when undertaking the study, namely that due to familiarity and longer interactions with their patients, practitioners should exhibit higher empathy, cognitive

flexibility, and communication competence. Our particular pattern may have stemmed from various factors: First, with respect to cognitive flexibility, due to certain preexisting cognitive skills, individuals who become specialists may be predisposed to more competently assess alternatives in particular situations and problems. Indeed, [53] proposed that the predominant characteristic of experts is the ability to manipulate versatile mental representations, which in turn enables them to adapt better to environmental changes and use their knowledge more efficiently among different tasks. Alternatively, one may consider the effect of specialists' education in terms of both different cognitive skills acquired and being exposed to courses on patient-doctor interactions. It is conceivable that different specialist branches, the cultures of hospitals and medical schools, socioeconomic status, or even cities of residence may play a role in augmenting or hindering cognitive flexibility, empathy, and interpersonal relationship style. In this regard, future studies may include these variables to determine both their unique and interactive effects for various professionals in the medical field.

Although not displaying a statistically significant difference, higher empathy levels and interpersonal relations competence of specialists may be linked to particular predicaments of the medical system in Turkey. In Turkey, practitioners regularly receive a burdensome number of registered patients. In this sense, it is reasonable to suggest that practitioners may have developed certain emotive strategies to mitigate the emotional burden that accompanies personal interactions with their patients. Alternatively, the mundane and repetitive tasks of referrals to specialists and renewing prescriptions may also hamper the tendency to develop a genuinely empathetic understanding of patients' problems and emotional states. Conversely, specialists in Turkey accept additional patients in return for extra income, which offers them an opportunity to control the overburden they experience. These points highlight the importance of considering the significant role that the nature of healthcare systems may play in determining the quality of interpersonal communication and empathetic interaction. It is particularly telling that both specialist and practitioner empathy scores in Turkey are well below those reported by international studies, which lends support to the idea that predicaments in healthcare systems may greatly compromise cognitive flexibility and empathy. As compared to our scores of 101.30 for specialists and 97.63 for practitioners. Reported international physicians' empathy levels in human-centered and technology-centered specialty fields as 112.9 and 106.9, respectively. Average physician empathy levels were found to be 120 in the United States [54-60].

In another major finding, in a practitioner sample within group analyses, the present study substantiated empathy's significant relation to cognitive flexibility and interpersonal relations. These findings resonate with a prior study on Turkish university students [52] in which, as in this study too, empathy was found to be positively associated with open and respectful styles and negatively linked to condescending styles. Since in our study, empathy in specialists was

not correlated to cognitive flexibility or communication style, one may consider the idea that, for specialists, the more intermittent and impersonal nature of doctor-patient interactions in the Turkish healthcare system enables the acquisition of satisfactory communication skills mainly via cognitive skills. Conversely, for health professionals such as practitioners and nurses who interact more closely with patients, communication skills may be induced mainly along the path of empathy.

Notwithstanding fields or branches among health professionals, the present study can be considered a noteworthy contribution to international research that investigates questions regarding empathy, cognitive skills, communication, and patient outcomes for healthcare professionals and workers at large. Indeed, a recent upsurge in international studies started to increasingly point to relations of these kinds. To give a few examples, prior research found a positive relationship between empathy and interpersonal relations in nursing students [61,62] and similarly posited positive relationships among empathy, perspective-taking, nurturing care, and friendly-harmonious relationship types in medical students [63]. Recently a strong relationship was suggested between empathic thinking and perspective-taking [64]. Hence, the present study lends support to the idea that the empathic and communicational skills of medical professionals should be one of the major avenues of research for promoting patient outcomes [65-67].

This study offers ideas as to why training intervention is needed to improve communication and interpersonal relationships, and also includes suggestions about what the training program should cover. Some limitations should also be noted. The rather small sample sizes, including 30 participants for each group, and non-random, voluntary sampling procedures in this study should be considered caveats preventing satisfactory representativeness and generalizations around the globe. Additionally, variables such as doctors' and patients' personality traits and cultural and socioeconomic backgrounds were excluded from analyses. Lastly, our measuring instruments relied on self-report scales and are thus subject to biases rooted in the conveyance of subjective experience. These points should be taken into account by researchers while drawing cautious inferences for future research studies.

Conclusion

All in all, this study provides support to bio-psycho-social model patient-centered approaches and suggests their adoption positively influences patients' psychological, mental, and physical health. Hence, the cultivation of an understanding recognizing the importance of interpersonal relations, communication skills, and interaction between the mind and body seems to be a worthwhile endeavor in the medical field. The long-term articulation of cost-effective methods in healthcare systems – primarily training in factors promoting interpersonal relationships such as empathy and cognitive flexibility – would positively contribute to more efficient processes of diagnosis and therapy based on fulfilling interactions between physicians and patients.

Conflicts of Interest

There are no conflicts of interest.

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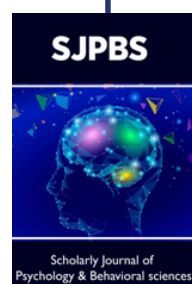
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