



Research Article

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Empathic Tendencies among Student Nurses and Student Teachers: A Comparative Study

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Abstract

The current study compares the empathic tendencies of student nurses and student teachers and identifies whether there are significant differences in the levels due to gender and academic level, data were collected from a study sample of 552 student nurses and student teachers using the Empathic Tendencies Scale. Results showed moderate levels with no significant differences between nurses and teachers, but showed significant differences in the level of empathic tendencies by gender, in favour of female students, and by academic level, in favour of third- and fourth-year academic students.

Keywords: Empathy, Empathic tendencies, Nursing student, Student teacher

1. Introduction

Human behaviours are expressions of our abilities, skills, knowledge, and information which, along with our innate characteristics, deeply affect our lives. One of the most significant skills is that of communication, although the concept is not readily defined however.

Budak (2005) defines communication as the use of signs, symbols, mime, and behaviours to transfer information, while Köknel (2005) describes information transfer as units leaving one entity and going to another where the effect it creates is then returned to the originator. Gürgen (1997) sees communication as the enabling factor in societal and community relations. Several studies (Duan & Hill, 1996; Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004; Panksepp & Lahvis, 2011) conclude that the multiple definitions of communication found in the literature reflect its multidimensional concept. Carr and Lutjemeier (2005) and Eisneberg and Fabes (1990) comment that despite a variety of descriptions of empathy, the most popular definition is the ability to put oneself in another's position and feel his/her emotions, thus recognizing the role of both affective and cognitive components in empathy. De Wied, Goudena, and Mathys (2005) describe the emotional component of empathy as feelings stimulated vicariously by normal social interaction or in the course of more complex thought processes such as perspective-taking. De Kemp et al. (2007) describe it as being able to share another person's emotions and to react appropriately. The cognitive component of empathy is defined (Lawrence et al., 2004; Rueckert & Nayber, 2008; Smith, 2006) as being able to evaluate the perspective of others, an important ability which affects

an individual's social skills; Saarni (1990) elaborates this concept, stating that empathy is associated in particular with superior social functioning or demonstrating positive social behavioural skills.

Some researchers (Batson, 1991; Eisenberg & Fabes, 1990) compare empathic and non-empathic individuals, pointing out that the latter group is incapable of vicariously experiencing others' emotional states, particularly when the emotions are negative. Expectations of the empathic group include sensitivity and motivation towards distress alleviation in others, good social aptitude, and cooperation. The results of other studies (Davis, 1994; Eisenberg et al., 1999) supported theoretical expectations of an affiliation of empathic relationships between children and adolescents, and positive behaviours such as being socially competent, helpful and comforting. Cormier and Nurius (2003) describe empathy as the ability to understand people from the individual's perspective or frame of reference, whereas Strayer and Roberts (1997) define it as a tendency towards understanding others' points of view and the aptitude to share and respond to the emotional states of others. Hakansson and Montgomery (2003) consider empathy as being able to understand others, their perspective, situation, feelings, thoughts, desires, beliefs, or experiences, while Dokmen (2009) views empathy as an individual's ability to accurately comprehend and respond to the emotions of others by putting himself in the other person's place. Cassels, Chan, Chung, and Birch (2010) studied the cross-cultural impact of empathy on social healthiness and emotional well-being. Carlo, Hausmann, Christiansen, and Randall (2003) note its correlation with practical, matter-of-fact, unselfish behaviour, which Le Sure-Lester (2000) and Baron-Cohen (2011) consider to be inhibitors of socially disruptive and belligerent behaviour. Eisenberg, Miller, Shell, McNalley, and Shae (1991) found an association between improved peer relationships and superior levels of empathy and emotional control, whereas empathy is described by Baron-Cohen and Wheelright (2004) and Baron-Cohen (2011), as not only crucial to practicing effective life skills such as social interaction, but low empathy levels have been linked to conditions including Asperger's syndrome and autism.

Empathy, a multi-faceted concept, has been the focus of study from a number of perceptions (Davis, 1980; Decety & Moriguchi, 2007; Zaki & Ochsner, 2012). For instance, Son by- Borgstrom (2002) examined empathic expression in moral reasoning and social behaviours such as mimicry, from the viewpoint of social psychology; Beadle et al. (2012), Ferrari (2014) and Loewenst in (2005) carried out studies in the field of economics investigating the effects of empathy on decision making.

Keyesers and Fadiga (2008) and Zaki and Ochsner (2012) stated that research into empathy in cognitive neuroscience is generally focused on two distinct precepts: preconscious mechanisms motivating/enabling sharing as well as 'mirroring' or imitating the behaviours or internal conditions/situations of others; and a conscious or intentional process through which deductions are made as to the individual's physical and emotional state, as well as their principles and intent. Smith (2006) supports the concept of an approximate division of empathy into two predispositions: cognitive/reflexive and affective/pre-reflective, while Zaki and Ochsner (2012) elucidate this as movement, sensation, and emotion being associated with affective empathy, while neural systems in those areas of the brain associated with decision making and cognitive control are triggered to deal with cognitive empathy demands.

Starcevic and Piontek (1997) stated that the interpersonal zone is the definitive domain for empathic understanding, since mutual feedback processes and understanding are supported and strengthened by interpersonal interaction. Empathy elicits pleasure and well-being in people because they feel that they are being treated as significant, understood, and worthy individuals (Batson et al, 1997; Dökmen, 1994). Being able to empathize prevents communication misunderstandings and conflicts, and confirms stable positive relationships; in addition, the successful use of empathic skills in diffusing unpleasant situations promotes the practitioner to role-model status, and may encourage wider knowledge and practice of empathic communication. The benefits of empathy on attitude, behaviour, and facilitating palliative and supportive responses are well-documented, as are the negative effects of its absence (Dökmen, 1994; Kalliopuska, 1992; Köksal, 2000; Woolfolk, 1993; Yüksel, 2004). Empathy promotes positive social behaviour whereas its lack encourages antisocial behaviour (Stephan & Finlay, 1999).

According to Baldner, Longo, and Scott (2015), empathy is impacted by negative events and emotions and particularly affected by both positive and negative experiences. Barnet and McCoy (1989)

concluded that lower empathic skill levels evident in adulthood were the result of unpleasant/negative childhood experiences. Rogers (1975), however, was of the opinion that it was possible to educate people to develop empathic tendencies. This view is supported by Kolko (2014) and Smith (1989), who advocated developing empathic skills by improving social interaction, making the effort to get to know people better, and improving one's observation skills. For Brewer and Kerslake (2015), empathy opens the door to understanding the emotions of others and communicates this understanding. Studies by Achim, Ouellet, Roy, & Jackson (2011); Fan, Duncan, De Greck, & Northoff (2011), conclude that empathic individuals generally enjoy strong normal communications in all areas of daily life including social environments. These findings are supported by those of Kolko (2014) and Van Langen et al. (2014) in that empathic skills help to diffuse aggressive encounters, decrease violence, and help solve individuals' problems of social interaction.

2. The Study Problem

As evident from the above literature, a number of studies addressing the empathic tendency variable have been conducted in Western countries; however, little research into this topic has been conducted in the overall Arab academic environment, particularly in Jordan. The present study seeks specifically to achieve the following objectives: to compare the level of empathic tendencies between student nurses and student teachers; and secondly, to compare the level of empathic tendencies by gender and academic level.

3. Method

3.1 Study sample

The study was announced in the Faculties of Nursing and Educational Sciences of the Hashemite University, and students wishing to participate were registered with the authors. The study sample consisted of 552 undergraduates: (208 male and 344 female); of these, 324 were from the Faculty of Nursing and 228 from the Faculty of Educational Sciences. Academic level: 1st year=144, 2nd year = 128, 3rd year = 128, 4th year = 152. The age range was 18 to 22 years.

3.2 Study instrument

Empathic Tendencies Scale (ETS): The ETS was developed by Corte, Buysse, Verhofstadt, Roeyers, Ponnet, and Davis (2007). It consists of 28 items distributed over four dimensions: perspective taking (7 items) Cronbach alpha= 0.73; fantasy (7 items) Cronbach alpha= 0.83; empathic concern (7 items) Cronbach alpha= 0.73; and personal distress (7 items) Cronbach alpha= 0.77. The ETS uses a 0-5 Likert scale: 0= does not describe me well to 4= describes me very well.

For the purpose of the present study, the ETS was translated from English into Arabic. The back-translation was checked by two members of the Faculty of English to ensure its accuracy and integrity. The ETS Arabic version was applied to a prospective sample of 50 nursing students and 50 student teachers. Table 1 presents the correlation values between the empathic tendencies subscale, and Cronbach's alpha.

Table 1: Pearson correlation between empathic tendencies subscale and Cronbach's alpha

Variable	Perspective taking	Fantasy	Empathic concern	Personal distress	Empathic tendencies	Cronbach alpha
Perspective taking	1					0.70
Fantasy	0.36*	1				0.71
Empathic concern	0.06	0.01	1			0.67
Personal distress	0.39*	0.52*	0.16*	1		0.67
Empathic tendencies	0.70*	0.74*	0.44*	0.77*	1	0.69

($P=0.01$)

The Pearson correlation value between empathic tendencies and its subscales ranged from ($r= 0.44$) to ($r= 0.77$), and the value of Pearson correlation between subscales from ($r= 0.16$) to ($r=0.52$). Cronbach alpha value: empathic tendencies scale 0.69, empathic tendencies subscales: 0.67 to 0.71.

3.3 Data collection and analysis

The study sample was selected, and the author explained the purpose of the study, giving assurances of the data being used solely for research. Questionnaires were completed in group classroom situations. Descriptive statistics means (M), standard deviation (SD) and data were analysed using MANOVA to determine levels of empathic tendencies; the authors adopted the following criteria: less than 2= low, 2-3= moderate, 3-4= high.

4. Results

The first objective was to compare the level of empathic tendencies between nursing students and student teachers. The results are presented in Table 2, and visually in Figure 1.

Table 2: Means(M) and standard deviation (SD), and derived level of empathic tendencies by faculty

Variable	Nursing		Student teachers	
	M	SD	M	SD
Perspective taking	2.40	0.65	2.26	0.54
Fantasy	2.40	0.68	2.32	0.56
Empathic concern	2.36	0.55	2.52	0.51
Personal distress	2.58	0.46	2.53	0.61
Empathic tendencies	2.43	0.37	2.41	0.41

The mean score of empathic tendencies among nurses was ($M= 2.43$),and among teachers ($M= 2.41$), both moderate.

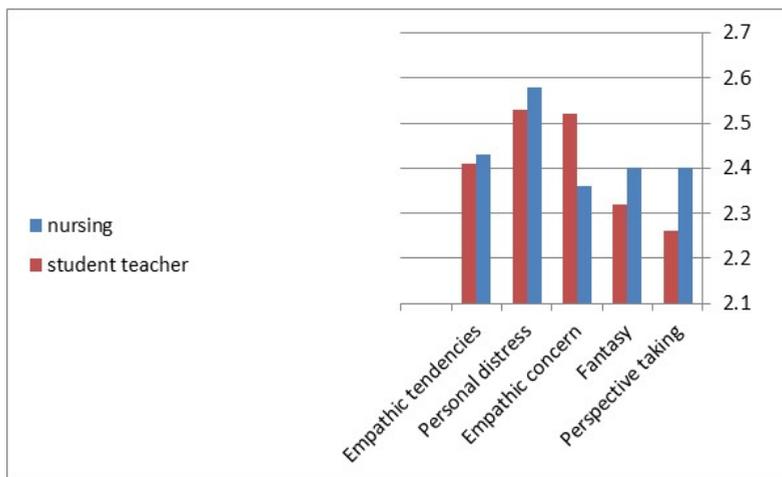


Figure 1: Level of empathic tendencies by faculty

MANOVA was used to compare the level of empathic tendencies between nursing students and student teachers, as presented in Table 3.

Table 3: MANOVA results empathic tendencies by faculty

Variables	Empathic tendencies	Sum of squares	df	Mean square	F	Sig
Student faculty	Perspective taking	2.557	1	2.557	6.820	0.00
	Fantasy	0.729	1	0.729	1.804	0.18
	Empathic concern	3.588	1	3.588	12.372	0.00
	Personal distress	0.348	1	0.348	1.231	0.26
	Empathic tendencies	0.082	1	0.082	0.544	0.46
Error	Perspective taking	206.160	550	0.375		
	Fantasy	222.216	550	0.404		
	Empathic concern	159.504	550	0.290		
	Personal distress	155.311	550	0.282		
	Empathic tendencies	83.315	550	0.151		
Corrected total	Perspective taking	208.716	551			
	Fantasy	222.945	551			
	Empathic concern	163.093	551			
	Personal distress	155.659	551			
	Empathic tendencies	83.398	551			

The table shows no significant differences in the levels of empathic tendencies and the fantasy and personal distress dimensions between nursing students and student teachers, although there are significant differences in the levels of perspective taking and empathic concern dimensions (Wilks's Lambda=0.963, F=5.320, Sig=0.00). The mean score of perspective-taking among nurses (M= 2.40) was higher than that of teachers (M= 2.26). Conversely, the mean score of empathic concern among teachers (M= 2.52) was higher than that of nurses (M= 2.36).

The second objective: Empathic tendencies by gender and by academic level: descriptive statics, means and standard deviation.

Table 4: Means(M) and (SD)levels of empathic tendencies by gender and academic level

Variable	level	Perspective taking		Fantasy		Empathic concern		Personal distress		Empathic tendencies	
		M	SD	M	SD	M	SD	M	SD	M	SD
Gender	Male	2.28	0.56	2.40	0.58	2.42	0.49	2.49	0.51	2.40	0.36
	Female	2.45	0.68	2.31	0.71	2.45	0.61	2.68	0.53	2.47	0.42
Academic level	1 year	2.25	0.34	2.23	0.75	2.29	0.60	2.44	0.64	2.30	0.35
	2 year	2.28	0.67	2.37	0.55	2.38	0.46	2.58	0.49	2.40	0.43
	3 year	2.41	0.61	2.40	0.38	2.49	0.59	2.57	0.50	2.47	0.30
	4 year	2.45	0.75	2.50	0.74	2.55	0.49	2.67	0.43	2.54	0.42

Table 4 and Figure 2 shows that the mean score of empathic tendencies among male students (M= 2.40), and among female students (M= 2.47). Table 4 and Figure 3 show that the mean scores of empathic tendencies by academic level were 1st year 2.30, 2nd year 2.40, 3rd year 2.47 and 4th year 2.54).

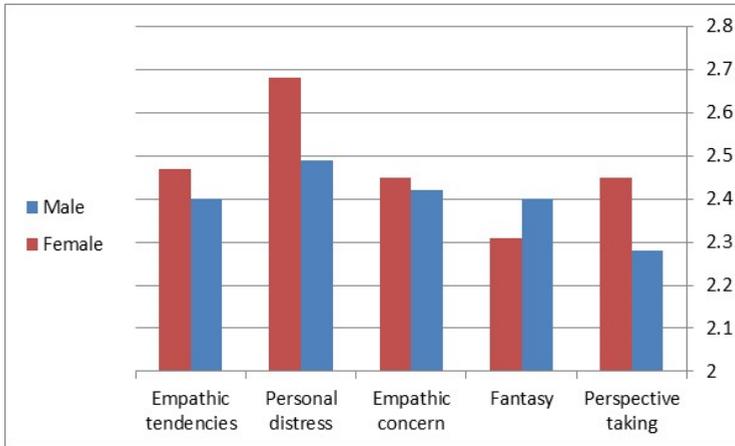


Figure 2: Level of empathic tendencies by gender

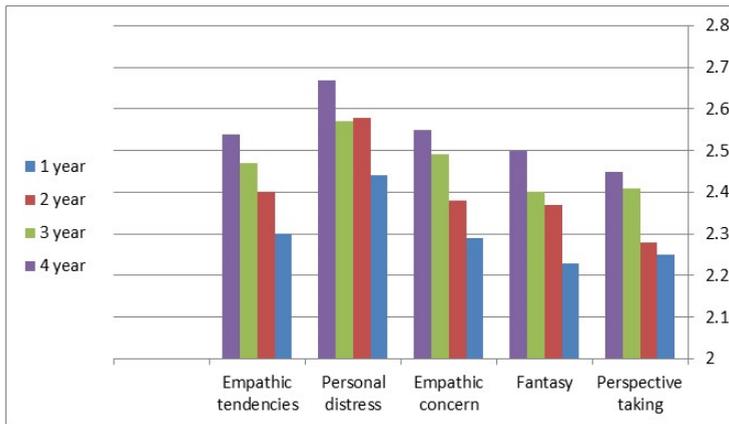


Figure 3: Level of empathic tendencies by academic level

MANOVA was used to compare the level of empathic tendencies by gender and academic level, as shown below.

Table 5: MANOVA analysis gender, academic level variables on levels of empathic tendencies

Variables	Empathic tendencies	Sum of squares	df	Mean square	F	Sig
Gender	Perspective taking	5.555	1	5.555	15.244	0.00
	Fantasy	0.687	1	0.687	1.731	0.18
	Empathic concern	0.018	1	0.018	0.063	0.80
	Personal distress	6.045	1	6.045	22.682	0.00
	Empathic tendencies	1.062	1	1.062	7.200	0.00
Academic level	Perspective taking	5.611	3	0.364	5.133	0.00
	Fantasy	4.839	3	0.397	4.067	0.00
	Empathic concern	5.102	3	0.289	5.894	0.00
	Personal distress	5.467	3	0.266	6.838	0.00
	Empathic tendencies	2.041	3	0.147	4.615	0.00

Variables	Empathic tendencies	Sum of squares	df	Mean square	F	Sig
Error	Perspective taking	199.319	547			
	Fantasy	216.966	547			
	Empathic concern	157.849	547			
	Personal distress	145.773	547			
	Empathic tendencies	80.652	547			
Corrected total	Perspective taking	208.716	551			
	Fantasy	222.945	551			
	Empathic concern	163.093	551			
	Personal distress	155.659	551			
	Empathic tendencies	83.398	551			

Table 5 shows significant differences in the levels of empathic tendencies and perspective taking, and personal distress dimensions between male and female students (Wilks's Lambda = 0.902, F=14.735, Sig=0.00). The mean score of empathic tendencies among female students (M= 2.47) was higher than for male students (M= 2.40); the mean score of perspective taking among female students (M= 2.45) was higher than for male students (M= 2.28); the mean score of personal distress among female students (M= 2.68) was higher than for male students (M= 2.49, while table 3 shows significant differences in the level of fantasy and empathic concern dimensions between male students and female student teachers. Table 5 also shows significant differences in the level of empathic tendencies, as well as in the last five items of the 'corrected total' column, according to academic level (Wilks's Lambda=0.876, F=6.142, Sig=0.00). The Scheffe post hoc test was used to specify these differences, as presented in Table 6.

Table 6: Scheffe post hoc multiple comparisons

Variable	Academic level	Mean	1 year	2 year	3 year	4 year
Perspective taking	1st year	2.25			-0.16*	-0.20*
	2 nd year	2.28				-0.17*
	3 rd year	2.41	0.16*			
	4 th year	2.45	0.20*	0.17*		
Fantasy	1st year	2.23			-0.17*	-0.27*
	2 nd year	2.37				
	3 rd year	2.40	0.17*			
	4 th year	2.50	0.27*			
Empathic concern	1st year	2.29			0-.20*	-0.26*
	2 nd year	2.38				-0.17*
	3 rd year	2.49	0.20*			
	4 th year	2.55	0.26*	0.17*		
Personal distress	1st year	2.44				-0.23*
	2 nd year	2.58				
	3 rd year	2.57				
	4 th year	2.67	0.23*			
Empathic tendencies	1st year	2.30			-0.17*	-0.24*
	2 nd year	2.40				
	3 rd year	2.47	0.17*			
	4 th year	2.54	0.24*			

Table 6 shows significant differences in the level of empathic tendencies and the level of perspective taking, fantasy, empathic concern, and personal distress dimensions by academic level, with 3rd and 4th year scores higher than those of 1st year students; mean scores for empathic tendencies, perspective taking, and empathic concern among students in their third and fourth years was higher than those of students in the first year; mean scores for perspective taking among students in the fourth year were

above those of students in the second year; mean score for personal distress among students in the fourth year; above those in their first year.

5. Discussion

Good communication skills are essential to understanding the people with whom we come into contact and in contributing to social discourse. Those with low-level communication skills are more likely to misunderstand others, be unable to voice their feelings and opinions, and resort to aggressive behaviour. By adopting an empathic behaviour pattern communication skill can be improved, leading to better mutual understanding and the formation of positive relationships. Yuksel (2004) emphasizes the importance of this in all situations and stages of life, since success in the individual's personal, social, and working life is dependent on his/her communication skills.

This study compares levels of empathic tendencies between student nurses and student teachers; no significant differences were found overall. We explain this result by the good training in empathy skills received by both groups through their relevant university courses. Likewise, both deal with individuals on a personal level by virtue of their work, which leads to similarities in their levels of empathic tendencies.

There were, however, significant differences in the respective levels of perspective taking ($M=2.40$) for nurses, higher than the ($M=2.26$) for teachers. This may be because nurses have to consider all aspects of a situation before taking any decision, and are thus more likely than teachers to put themselves in the place of others. Conversely, the teachers scored higher for empathic ($M=2.52$) did nurses ($M=2.36$). This may be explained by the fact that teachers have feelings of concern toward other people with problems, and are more upset than nurses when other people experience misfortune.

The results of the current study show significant differences in the level of empathic tendencies according to gender variable, with mean score among female students ($M=2.47$) higher than for males ($M=2.40$). An assessment founded on perceived societal gender roles may well reveal strong environmental motivation for girls to be more attentive, responsive and compassionate in their relations with others. As students, friendships are intensely correlated with understanding the nuances of one-another's lives and in helping to solve or alleviate one-another's difficulties and distressing situations. Therefore, during this stage of their lives, female students are gaining life-experience and naturally practicing empathy. It is therefore not surprising to find female students' empathic abilities and aptitudes better established and developed than those of males in a similar age-bracket, whose friendships relationships are more likely to be built on participation in sports or other commonly enjoyed group events, and socializing. Thus, male student group activities such as sports tend to engender more regulated, task-related associations than those enjoyed by their female counter parts, thus leading to the deduction of far lower male compared to female student participation in activities that include empathic experiences.

In view of the significantly higher scores of females on the empathic scale, empathy is regarded as a critical cognitive gender difference. Rueckert (2011) notes that empathy assessment studies using self-report scales provide highly convincing evidence of gender difference. Baron-Cohen and Wheelright (2004) found female scores to be significantly higher on the emotional quotient than those of males, and Davis (1980) showed comparable results for the interpersonal reactivity index. Baron-Cohen (2005) concluded that the development of empathy is strongly related to the significant role of culture and socialization, which may account for discrepancies in the findings of studies examining differences in empathy related to gender differences, while Eisenberg and Lennon (1983) note that reported gender differences in self-report studies could be due to bias, given that the prevailing social mores make men reluctant to admit empathic tendencies, while Michalska, Kinzler and Decety (2013) believe that an individual's identification with gender stereotyping may influence his/her responses in studies involving empathy assessment. Ruecker's (2011) societal stereotyping of women sees them as more caring, having better people skills and orientation, and being generally more empathic than males.

Consequently, when responding to a questionnaire or scale thought to be associated with empathy assessment, and being aware of gender stereotyping, women tend to answer with greater empathy whereas men respond less empathically.

The collected results of gender-based investigations into emphatic tendency levels demonstrate definitive, statistically significant higher empathic tendency levels in females than in males. This is supported by the meta-analysis of Mitsopoulou and Giovazoliz (2015), which collected sufficient data on two categories in the emotional and cognitive dimensions of investigating empathy levels in sub-dimensions, rather than collating the total empathic tendency levels; their results illustrated female empathic tendency levels in the cognitive and emotional dimensions to be significantly higher than that of males, showing a significant positive variance between genders and empathy in favour of females. Dokmen (2005) reasoned that the concept of 'female sensitivity' explained the higher levels of female empathy, supporting this view by the argument that in both animal and human domains, higher status or stronger individuals are constantly monitored by those of a lower or weaker status, in anticipation of aggression; based on this observation and the historical fact that because males have always enjoyed higher status, females have always monitored male behaviour as an 'early warning system' to detect possible aggression, consequently increasing female levels of empathy. A study by Ekinici and Aybek (2010) examining levels of empathy or empathic tendency found comparable results of high levels in female pre-service teachers, while a study by Ilkiz (2009) assessing empathic ability in primary school psycho counselors, found female counselors had higher scores than their male counterparts. Akbulut and Saglam (2010) found higher scores for empathic ability in female primary teachers than in male teachers. These results were supported by research by Duru (2002), into the influence of empathic tendency non-constants on the scores of pre-service teachers, where significantly higher scores were found for the female teachers. In the study by Kapikiran (2009), pre-service teachers self-monitored empathic tendency results; although the results showed that the females' scores were higher those of the males, the males were more egocentric.

Colakoglu and Solak (2014), investigating empathic tendency levels in secondary-school students, found that the levels were higher in female students. Yazgan and Özgen (2017) found that females had stronger levels of empathic tendency than was found in the males. On the other hand, Dincer, Karaks, Kucuk and Bayram (2014) found that according to gender variable, male student empathic tendency levels were significantly higher than those of the female students.

Dincer et al. (2014) also found significant differences in the level of empathic tendencies by academic level, in favour of first-year students, and significant differences by student faculty. In contrast, the current study shows that third- and fourth-year students had higher levels of empathic tendencies than students in their first and second years. Our results may be explained by maturity, because the third- and fourth-year students are older, more attentive, have a more positive regard for others and greater sensitivity towards understanding the lives of others. Atan (2017), however, found no differences in the empathy tendency scores between students younger than 20 and those older than 21. Similar results were found by Korkmaz, Sahin, Kahraman, and Ozturk (2003), where no differences were detected between empathic skills scores of students in the 17 to 19, 20 to 22, and over 23 age brackets. In studies by Yilmaz and Akyel (2008) and Kilic (2005) into empathic skill levels of pre-school teachers, the results indicated that they declined with age.

6. Conclusion

This study aimed to compare the level of empathic tendencies of student nurses and student teachers. The results showed moderate levels with no significant differences between nurses and teachers, but showed significant differences in the level of empathic tendencies by gender, in favour of female students. The results also showed that significant differences in the level of empathic tendencies by academic level, in favour of third-year and fourth-year academic students.

7. Limitation and Recommendation

The current study was limited to a sample of student teachers and student nurses at the Hashemite University during the academic year 2019-2020. In light of the results, researchers are recommended to conduct a comparative study on a sample of working teachers and nurses, as well as future studies to explore the factors affecting empathic tendency.

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