

Sex-Related Differences in Physical Therapy Career Expectations in Taif, Saudi Arabia.

Diferencias de género en las expectativas profesionales de fisioterapia en Taif, Arabia Saudita.

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Resumen. Antecedentes y Objetivos: La fisioterapia es un componente esencial de la atención sanitaria, y aunque las mujeres han dominado históricamente este campo, siguen estando subrepresentadas en los cargos de liderazgo. Comprender estas disparidades resulta fundamental. Este estudio investiga las diferencias basadas en el sexo en las expectativas profesionales entre los estudiantes de fisioterapia en Taif, Arabia Saudita. **Métodos:** Se llevó a cabo un estudio descriptivo transversal entre junio y diciembre de 2024, con la participación de 105 estudiantes (66 hombres y 39 mujeres) de la Universidad de Taif. Los datos se recopilaron mediante una encuesta electrónica adaptada del marco de Johanson, evaluando características demográficas, preferencias de especialidad, aspiraciones de posgrado y expectativas profesionales futuras. **Resultados:** Se observaron diferencias significativas según el sexo: los hombres tendieron a priorizar los roles de gestión (92,4% vs. 48,7%) y la participación en investigación (66,7% vs. 38,5%), mientras que las mujeres destacaron el ejercicio como miembros del personal (46,2% vs. 24,2%) y la publicación en revistas profesionales (35,9% vs. 28,8%). Además, los hombres percibieron su práctica como más prestigiosa en comparación con la de los médicos (81,8% vs. 46,2%) y consideraron su programa de fisioterapia más riguroso (62,1% vs. 53,8%). **Conclusión:** Las tradiciones culturales, las obligaciones familiares y las expectativas sesgadas por género surgieron como factores determinantes en estas disparidades. Los resultados subrayan la necesidad de estrategias específicas —como programas de mentoría y orientación profesional— para fortalecer a las fisioterapeutas en la superación de obstáculos y en el acceso a cargos de liderazgo. Este estudio contribuye a la limitada literatura sobre expectativas profesionales en fisioterapia en Arabia Saudita y refuerza la importancia de abordar las inequidades de género para construir una fuerza laboral más inclusiva y motivada.

Palabras clave: Equidad de género, mujeres, fisioterapia, expectativas profesionales, desarrollo de carrera.

Abstract. Background and Aims: Physical therapy is a critical component of healthcare, and women have historically dominated the field yet are underrepresented in leadership roles. Understanding these disparities is essential. This study investigates sex-based differences in career expectations among physical therapy students in Taif, Saudi Arabia. **Methods:** A descriptive cross-sectional study was conducted from June to December 2024, involving 105 participants (66 males and 39 females) from Taif University. Data were collected via an electronic survey adapted from Johanson's framework, assessing demographics, specialty preferences, postgraduate aspirations, and future career expectations. **Results** revealed significant sex differences: males were more likely to prioritize managerial roles (92.4% vs. 48.7%) and research participation (66.7% vs. 38.5%), while females emphasized practicing as staff members (46.2% vs. 24.2%) and publishing in professional journals (35.9% vs. 28.8%). Males also perceived their practice as more prestigious compared to physicians (81.8% vs. 46.2%) and viewed their PT program as more rigorous (62.1% vs. 53.8%). **Conclusion:** Cultural traditions, family obligations, and gender-biased expectations emerged as major factors shaping these disparities. The results emphasize the necessity of tailored strategies—such as mentorship initiatives and career guidance—to empower female physical therapy professionals in overcoming obstacles and attaining leadership positions. This study adds to the scarce body of

literature on career expectations in physical therapy within Saudi Arabia and reinforces the importance of addressing gender inequities to build a more inclusive and motivated workforce.

Keywords: Gender equity, women, physiotherapy, professional expectations, career development

1. Introduction

The World Health Organization (WHO) estimates that there are about 1 billion people with disabilities globally (1). Furthermore, between 2000 and 2050, the number of individuals over 65 will rise from 600 million to 2 billion globally, according to WHO projections (2). Disability is one of the Ministry of Health's most urgent social and financial issues, according to studies done in Saudi Arabia (S.A.) (3). It is estimated that 3.73% of individuals have a functional handicap that limits their ability to function and be self-sufficient (3). Each of the aforementioned figures illustrates the importance of PTs and the continuous need for their skills and services. Physical therapists (PTs) are an essential part of the medical team (4).

People of all ages who require their help because of various illnesses, injuries, or disabilities are evaluated and cared for by them. PTs can also give guidance to those who want to get healthier and avoid more problems or injuries. Physical therapists may also specialize in pediatrics, neurology, or sports to help clients overcome physical limitations and dependence (5). Women have played a major role in physical therapy programs since the beginning and continue to have a dominant position in this medical specialty. Following World War I, men began to use physical treatment facilities (6, 7). However, compared to 61% of male therapists, only 28% of female therapists are in administrative roles (8). Sex-biased expectations in physical therapy careers might result from a variety of social and cultural variables (9). For instance, it is extremely difficult for Saudi Arabian women physical therapists to advance in their jobs without endangering their cultural customs and familial duties. According to Al-Qahtani et al. (10), women's decisions and preferences about a variety of topics, including workplace, salary expectations, and career transition, might be influenced by this difficult equation. As a result, it can restrict their ability to enter formerly male-dominated areas of their careers.

Physical therapy students' aspirations for their careers were previously examined in relation to their sex. These expectations included having a high salary, owning a private company, doing research, joining academic positions, and becoming an administrator at work (11). Unfortunately, Johanson's study found that males had larger expectations than women in nearly every aspect that was assessed. Other scholars have attempted to examine career-related concerns such as disparities in wage expectations (12-14) and satisfaction (15- 16). Career expectations for physical therapists and other healthcare professionals are also regarded as a significant concern. A favorable opinion may boost self-esteem and enthusiasm to work, which may have an impact on the standard of care provided to patients (17). According to AlEisa et al. (12), motivated physical therapists are less likely to change careers and are more inclined to pursue more education and experience. By implementing policies aimed at eradicating workplace stress and sex-related discrimination, Saudi Arabian authorities frequently assist women in advancing their careers. These protocols were put in place as part of Saudi Arabia's 2030 vision (18). Furthermore, the American Physical Therapy Association (APTA) created a set of objectives aimed at elevating women's status in physical therapy professions and advancing their accomplishments globally (11). Yet, reports discussing different aspects of physical therapy career expectations in Saudi Arabia are scarce (4).

Therefore, this study aimed to determine if the career aspirations of male and female physical therapy students in Taif, Saudi Arabia.

2. Methods

Research sample

A descriptive cross-sectional study to investigate sex-related differences in career expectations among physical therapy students in Taif, Saudi Arabia. This study was conducted between June 2024 and December 2024. Ethical approval was obtained before commencing the study from the ethics committee at Taif University no. (46-120).

Data collection

Using Google Forms, an electronic survey form was created and sent to the students via email, Telegram, WhatsApp groups, and social media. The components of this survey were adapted from one that Johanson had previously used (11). Consent was obtained from subjects who complete the survey. The survey questionnaire used in this study consisted of three sections. The first section collected demographic information, including age, sex, region, contact details, and occupation or study-related data. The second section explored participants' career expectations over the next five to ten years. The third section assessed perceptions of physical therapy in comparison with other healthcare professions. For the second and third sections, participants responded using a 5-point Likert scale, ranging from 1) strongly disagree, 2) disagree, 3) undecided, 4) agree, to 5) strongly agree.

Sample Calculation

The target population was PT students in the Department of Physical Therapy, College of Applied Medical Sciences, Taif University, Saudi Arabia. For sample size calculation, the population is 320 students, to achieve a 95% CI with a 5% margin of error and 50% response distribution, the current study required 175 students to represent the population of all physical therapy students in the department of physical therapy, college of applied medical sciences, Taif University, Saudi Arabia. (www.raosoft.com/samplesize.html)

Statistical analysis

The Statistical Package for the Social Sciences (SPSS©) software, version 25 (IBM Corp., released 2017), was used to code and analyze all of the data. Version 25.0 of IBM SPSS Statistics for Windows, Armonk, NY: IBM Cor. The tool's internal consistency was assessed using Cronbach's Alpha score. Numbers and percentages were used to express descriptive data. Male and female career expectations were compared for proportionality using chi-square analysis. Categorical variables will be displayed as frequencies and percentages, whereas continuous variables will be displayed as means and standard deviations at the alpha level.

3. Results

Demographics and Study Characteristics

A total of 105 participants were included in the study (table 1), comprising 66 males (62.9%) and 39 females (37.1%). Most male participants were 20 years old (54.5%), whereas the most common age for females was 21 (48.7%). Male participants predominantly reported having no dependents (81.8%), while females were more likely to have two or more dependents (48.7%). Regarding the study level, most males were in their second year (86.4%), whereas females were predominantly in their third year (89.7%).

Table 1. Demographics Characteristics

Variable	Male (n=66)		Female (n=39)	
	n	%	n	%
Age				
19	16	24.2	0	0
20	36	54.5	12	30.8
21	9	13.6	19	48.7
22	4	6.1	5	12.8
23	1	1.5	3	7.7
Number of dependent				
0	54	81.8	14	35.9
1	3	4.5	6	15.4
2 or more	9	13.6	19	48.7
Study level				
Students 1st Year	0	0	1	2.6
Students 2nd Year	57	86.4	3	7.7
Students 3rdYear	9	13.6	35	89.7

Specialty Preferences and Career Planning

Among males, 93.9% reported having chosen their specialty compared to 64.1% of females. However, 64.1% of females expressed an intention to change their specialty, significantly higher than the 6.1% of males. Career considerations before selecting physical therapy revealed that males were more inclined toward medical fields (56.1%), while females primarily considered military careers (53.8%) Table 2

Postgraduate Aspirations

The majority of males (93.9%) and half of the females (51.3%) planned to pursue postgraduate degrees (table 2). A Master of Science (MSc) degree was the preferred choice among both males (89.4%) and females (69.2%).

Table 2. Specialty Preferences and Career Planning

Variable	Male (n=66)		Female (n=39)	
	n	%	n	%
Did you choose your specialty?				
yes	62	93.9	25	64.1
no	4	6.1	14	35.9
Do you plan to change your specialty?				
yes	4	6.1	25	64.1
no	50	75.8	14	35.9
maybe	12	18.2	0	0
What other careers did you consider before deciding to join physical therapy?				
Medical field	37	56.1	5	12.8
Military field	10	15.2	21	53.8
Engineering field	3	4.5	3	7.7
Computer science	3	4.5	3	7.7
Study of law	2	3.0	3	7.7
No response	11	16.7	9	23
Do you plan to obtain any postgraduate degrees in the future?				

yes	62	93.9	20	51.3
no	1	1.5	3	7.7
not decide	3	4.5	13	33.3
If yes, which postgraduate degrees?				
Diploma	1	1.5	4	10.3
MSC	59	89.4	27	69.2
PHD	5	7.6	5	12.8

Future Career Expectations

Table 3 presents the distribution of male and female responses regarding their future career expectations over the next 5–10 years, along with the results of chi-square tests assessing gender differences. Significant gender differences were found in five out of six career expectation items. A significantly higher proportion of males (66.7%) than females (38.5%) rated participation in research and conferences as "very important" ($\chi^2 = 20.55$, $p < 0.001$). Similarly, the intention to pursue managerial or administrative roles showed a notable gender disparity, with 92.4% of males selecting the highest scale point compared to only 48.7% of females ($\chi^2 = 19.38$, $p < 0.001$). Male respondents were also more likely than females to express strong intentions to own a private clinic ($\chi^2 = 13.67$, $p = 0.001$), and to be active members of professional committees or syndicates ($\chi^2 = 10.10$, $p = 0.006$). Furthermore, while both genders expressed intentions to publish in professional journals, their distributions differed significantly ($\chi^2 = 6.72$, $p = 0.035$), with males more frequently selecting moderate and high ratings. The only item without a statistically significant difference was the intention to practice as a staff member ($\chi^2 = 3.58$, $p = 0.167$), where both genders showed comparable response patterns. These findings suggest that gender plays a role in shaping long-term career goals, particularly in aspirations toward leadership, entrepreneurship, and academic engagement.

Table 3. Sex-related difference in career expectations within 5-10 years.

Future career expectations after 5-10 years	Scale	Male (n=66)		Female (n=39)		χ^2 value	P
		n	%	n	%		
I plan to apply research and participate in conferences	5	44	66.7	15	38.5	20.55	0.000
	4	12	18.2	6	15.4		
	3	10	15.2	8	20.5		
	2	0	0	3	7.7		
	1	0	0	7	17.9		
I plan to publish articles in professional journals	5	19	28.8	14	35.9	6.72	0.035
	4	20	30.3	13	33.3		
	3	22	33.3	5	12.8		
	2	5	7.6	7	17.9		
	1	0	0	0	0		
I plan to practice as a staff member	5	16	24.2	18	46.2	3.58	0.167
	4	14	21.2	3	7.7		
	3	19	28.8	5	12.8		
	2	14	21.2	6	15.4		
	1	3	4.5	7	17.9		
I plan to be a manager or administrator in my	5	61	92.4	19	48.7	19.38	0.000
	4	3	4.5	8	20.5		

profession	3	2	3	2	5.1		
	2	0	0	3	7.7		
	1	0	0	7	17.9		
I plan to own my private clinic	5	35	53.0	18	46.2	13.67	0.001
	4	12	18.2	3	7.7		
	3	15	22.7	5	12.8		
	2	2	3.0	6	15.4		
	1	2	3.0	7	17.9		
I plan to be an active member of the committee/syndicate	5	21	31.8	14	35.9	10.10	0.006
	4	21	31.8	6	15.4		
	3	21	31.8	9	23.1		
	2	2	3.0	3	7.7		
	1	1	1.5	7	17.9		

5 strongly agree, 4 Agree, 3 don't know, 2 disagree, 1 strongly disagree. N= number, % percent, X²Chi-square, P, p value.

4. Discussion

The findings of this study reveal significant sex-based differences in specialty preferences, career planning, postgraduate aspirations, and perceptions of prestige and program rigor among physical therapy students. These results provide valuable insights into the factors influencing career trajectories and professional expectations, which can inform educational and career counseling strategies in the field of physical therapy. The study included 105 participants, with a higher proportion of males (62.9%) compared to females (37.1%). The age distribution and study level differences between sexes suggest that males and females may enter or progress through their academic programs at different stages or with varying responsibilities. For instance, a higher percentage of females reported having two or more dependents (48.7%), which may influence their academic and career decisions. This aligns with previous research indicating that caregiving responsibilities often disproportionately affect women, potentially delaying their academic progress or career advancement (19).

Sex disparities were evident in specialty preferences and career planning. While 93.9% of males reported having chosen their specialty, only 64.1% of females had done so. Furthermore, a significantly higher proportion of females (64.1%) expressed an intention to change their specialty compared to males (6.1%). This finding may reflect greater uncertainty or dissatisfaction among female students regarding their initial career choices, possibly due to societal expectations or limited exposure to diverse career options (20). Additionally, the tendency of males to favor medical fields and females to consider military careers highlights the influence of sex norms on career aspirations, as noted in prior studies (21).

Postgraduate aspirations also varied by sex, with 93.9% of males and 51.3% of females planning to pursue advanced degrees. The preference for a Master of Science (MSc) degree among both groups suggests a shared recognition of the value of advanced education in enhancing career prospects. However, the lower proportion of females planning postgraduate studies may reflect barriers such as financial constraints or caregiving responsibilities, which are often more pronounced for women (22).

Sex differences in career expectations were particularly striking. Males were more likely to prioritize research and conference participation (66.7%) and managerial roles (92.4%), while females placed greater emphasis on practicing as staff members (46.2%) and publishing in professional journals (35.9%). These findings may reflect broader societal trends where men are often encouraged

to pursue leadership and high-visibility roles, while women may gravitate toward roles perceived as more stable or collaborative (23). The similar interest in owning a private clinic among both sexes (53.0% of males and 46.2% of females) suggests that entrepreneurship is a shared aspiration, though further research is needed to explore the factors influencing this goal. This results in alignment with a previous study by Hussein, Hisham M., et al (24).

The current study's findings can be explained by several factors. First, Saudi Arabian cultural norms encourage women to pursue jobs with fewer hours and responsibilities, which lowers the number of women seeking administrative positions or private business ownership (25). Longer working hours, which may be required for a private company owner or a department or hospital leader, are known to have an impact on family duties, which are the primary issue in eastern nations like Saudi Arabia (26). Second, because of the nature of women, they may favor government jobs over private ones since they are less dangerous and more stable. Second, because of the nature of women, they may favor government jobs over private ones since they are less dangerous and more stable. Thirdly, men often look for high-paying positions due to their many obligations; instead, they would rather take on leadership roles or launch their own private company, which is riskier but may provide higher profits (8).

Our results are consistent with previous research highlighting gender-related disparities in health professions education. Caregiving responsibilities disproportionately affect women, often delaying academic or career advancement (27). Similar findings have been reported in other studies showing that female healthcare students often express greater uncertainty in specialty choice, influenced by societal expectations and limited exposure to diverse career opportunities (28). The observed tendency of males to favor leadership and managerial roles aligns with global evidence that men are more frequently encouraged to pursue high-visibility career paths, while women prioritize stability or collaborative positions (29, 30). Hussein and colleagues (24) reported comparable trends in Saudi Arabia, where male students gravitated toward leadership and entrepreneurship while females emphasized stable clinical roles. International studies likewise indicate that men perceive their professions as more prestigious, while women face structural barriers to leadership and research engagement (31). Taken together, these comparisons suggest that the disparities observed in this Saudi cohort reflect both global gender inequities and local sociocultural norms that reinforce traditional gender roles (32-33).

Implications and explanation of findings

The disparities documented in this study can be explained by several contextual and cultural factors. First, Saudi cultural norms encourage women to pursue government or staff roles with predictable hours, thereby reducing opportunities for administrative or entrepreneurial careers (32). Second, the disproportionate burden of family obligations placed on women limits their ability to engage in postgraduate education or research activities (27). Third, societal expectations for men to provide financially may drive their preference for higher-paying positions and riskier ventures such as private practice or leadership roles (24, 34).

These findings have important implications for educational practice and policy. Structured mentorship programs, gender-sensitive career counseling, and institutional efforts to promote research participation among female students are crucial to addressing these inequities (30). Additionally, efforts to challenge gender stereotypes within healthcare education may foster more inclusive career pathways. By promoting equity in training and career development, educational institutions can enhance the growth of the physical therapy profession and strengthen the healthcare workforce.

Limitations and future research

This study is not without limitations. Its cross-sectional design prevents assessment of changes in career aspirations over time, and reliance on self-reported data introduces the possibility of

response bias. Although the calculated sample size was 175 participants, only 105 students were recruited ($\approx 60\%$ of the target) due to limited availability and voluntary participation. This may restrict the generalizability of the findings, but the study still provides valuable insights into sex-based differences in career expectations among physical therapy students.

Future longitudinal studies are warranted to examine how professional expectations evolve across different stages of training and practice. Additionally, qualitative research could provide deeper insights into the cultural and personal factors underlying these disparities.

5. Conclusions

- This study underscores the persistent influence of sex on specialty preferences, career planning, and professional expectations among physical therapy students in Saudi Arabia.
- Addressing these inequities through mentorship, counseling, and inclusive policies will not only support female students in achieving leadership roles but also strengthen the advancement of the profession.
- Promoting gender equity in physical therapy is therefore essential to ensuring both professional development and improved patient care outcomes.

Conflict of interest: There are no conflicting relationships or activities

6. References

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