

# Male and female interns in postgraduate medical education, A comparative gender analysis of differences in career perspective and their conditions in, Abha, Saudi Arabia

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## Abstract

**Background:** Although considerable gains have been made in reducing the gender gap in education and labour market outcomes, it has yet to completely disappear. The gender difference in job assignment within the firm, however, may reflect differences in career tracks or training provided through job assignment. Differences in specialty choice are not solely related to gender and working hours, and motives for specialty choice may differ according to specialty.

**Methodology:** A descriptive cross-sectional study was conducted targeting all medical interns in all accessible hospitals in Abha city during the period from October 2020 to January 2021. All accessible interns were invited to participate in the survey. The questionnaire was initiated by the researcher after intensive literature review and expert's consultation. The questionnaire covered the interns' socio-demographic data, work-related data and preferred speciality besides preferred workplace and work-time. The last section included occupational self-efficiency expectations.

**Results:** The study included 80 medical interns of whom there were 30 males and 50 females. As for marital status, 73.3% of the male interns were married compared to 24% of the females with statistical significance ( $P=.001$ ). Exactly 45.5% of married males had children compared to 85.7% of females ( $P=.016$ ). The most preferred career choice by male interns was being Senior physician in a hospital (66.7%), and Faculty staff for teaching (66.7%). Among female interns, the most reported preferred workplaces were hospital work in total

(72%), Faculty staff for teaching (52%), and Consultant physician in hospital (48%). High occupational self-efficacy was detected among 46.7% of the male interns versus 32% of females ( $P=.006$ ).

**Conclusions:** In conclusion, the current study revealed that there were gender differences regarding future workplace (especially high responsibility positions) and work time specifically for those who had children, especially for female interns. Besides, males showed bimodal occupational self-efficiency expectations while female interns were at moderate level.

**Key words:** Gender differences, Career, workplace, worktime, occupational self-efficiency, postgraduate

## Introduction

Recently, gender has lost its effect as a significant social and distinguishing social norms and egalitarian qualities have spread and an expanding number of women are working. The vertical isolation inside associations remains. Driving positions are more frequently held by men though women rather take a shot at lower hierarchical levels [1]. This additionally applies to the restorative segment: as of late, the level of female doctors has expanded fundamentally in practically all OECD nations. In Germany, around 66% of medical graduate are females. [2] Notwithstanding, ladies still face more prominent difficulties regarding their expert professions. The expansion in female doctors is yet not spoken to in all hierarchical positions only 10% of leadership positions in the medical field in Germany are currently held by women [3, 4].

Male differs from a female in planning to the future; several studied mentioned that there is the difference in more aspects, for example, standard working hours, consistency, and space for private life are increasingly critical for women when choosing a speciality to fame and a workplace than for their male partners [5, 6]. Moreover, ladies still have serious issues accommodating work and family life [7-11]. There is an expanding hole between the interest for medicinal experts and those searching for work. This escalates the continuous talk about the effect of patterns like 'feminisation' and 'Generation Y' on the restorative work showcase. The great extent of female doctors causes new difficulties in therapeutic consideration, particularly in emergency clinics [4]. The current study aimed to assess the difference between male and female residents in the career differences of in their postgraduate medical education in Saudi Arabia. Also, to determine the position preferences of male and female physicians in the hospital and in how far occupational self-efficacy corresponds to the interest in a hospital leading position.

## Methods

A descriptive cross-sectional study will be conducted targeting all medical interns in all accessible hospitals in Abha city, capital of Aseer province, Southern Saudi Arabia. The study was conducted during the period from October 2020 to January 2021. The interns were selected based on their availability in groups at a single site. All accessible interns were invited to participate in the survey. Response rate was 68% among all invited interns. After obtaining permission from Institutional ethics committee, data were collected from the interns using pre-structured online questionnaire. The questionnaire initiated by the researcher after intensive literature review and expert's consultation. The questionnaire covered the interns' socio-demographic data, work-related data, and preferred speciality. Preferences regarding the preferred workplace and position were collected by asking about which professional position would intern like to reach after finishing your postgraduate medical training. Also,

medical interns were asked about their preferred working hours after finishing their residency. Last section of the questionnaire covered residents' occupational self-efficacy expectation. This scale was validated in connection with the longitudinal study [12]. It consists of six items where interviewees are supposed to specify their degree of agreement on a 5-level scale that ranges from 1 "strongly disagree" to 5 "strongly agree". The ratings were then summarised to form a total score. Therefore, the OSEE-scale ranges between values of 5 and 30.

## Data analysis

After data were extracted, it was revised, coded and fed to statistical software IBM SPSS version 22 (SPSS, Inc. Chicago, IL). All statistical analysis was done using two tailed tests. P value less than 0.05 was considered to be statistically significant. Discrete scores for occupational self-efficacy expectation scale were summed and the overall score categorized into interns with low occupational self-efficacy (scored 5-13), moderate occupational self-efficacy (scored 14, 22), and occupational self-efficacy (scored 23-30). Descriptive analysis based on frequency and percent distribution was done for all variables including demographic data, work related data, preferred speciality, preferred future workplace and position, and preferred working hours after finishing their residency by interns' gender. Pearson chi-square and exact probability tests were used for testing significance.

## Results

The study included 80 medical interns of which 30 males and 50 females. As for marital status, 73.3% of the male interns were married compared to 24% of the females with statistical significance ( $P=.001$ ). Exact of 45.5% of married males had children compared to 85.7% of females ( $P=.016$ ). As for internship duration, 93.3% of male interns spent 10-12 months compared to 76% of females ( $P=.051$ ). Exact of 66.7% of male interns exposed to faculty awareness courses about postgraduate programs versus 36% of females. Also, 80% of male interns exposed to SCHS awareness courses about residency programs compared to 28% of females ( $P=.001$ ). Selecting the future speciality was reported by 80% of male interns in comparison to 68% of females ( $P=.245$ ). The most preferred specialities among male interns were family medicine (36.7%) followed by surgery (26.7%), and medicine (20%) while the most preferred by females were family medicine (54%) followed by other specialities (paediatrics, dermatology, and radiology) with recorded statistical significance ( $P=.005$ ). Exact of 73.3% of male interns decided about future speciality during internship compared to 72% of females (Table 1).

Table 2 shows preferred future workplace and position after medical board certification by medical interns' gender. The most preferred by male interns was being Senior physician in hospital (66.7%), Faculty staff for teaching (66.7%), hospital work in total (60%), and Other career objectives (60%) while 46.7% did not decide regarding this item. Among female interns, the most reported preferred

workplaces were Hospital work in total (72%), Faculty staff for teaching (52%), Consultant physician in hospital (48%), and Senior physician in hospital (40%) while 36% have no final decision.

Considering preferred work time model after medical board certification by gender and parental status (table 3), exact of 60% of male residents with children preferred part-time work throughout their career compared to 66.7% of females while full time work was preferred by 20% of male interns with children compared to 16.7% of females ( $P=.247$ ). As for those with no children or not married, 60% of male interns preferred full-time work throughout their entire career versus 10.5% of females where 42.1% of them preferred few years of full-time work followed by part-time work compared to 20% of males with recorded statistical significance ( $P=.001$ ).

Table 4 illustrates distribution of interns' occupational self-efficacy expectations items by their gender. Exact of 53.3% of male interns agreed on being very confident that I could deal efficiently with the challenges of their work if they wanted to compare to 36% of females with recorded statistical significance ( $P=.014$ ). Also, 46.7% of male interns agreed on that they know that being sufficiently interested in all requirement of their work in comparison to 32% of females. Exact of 56% of female interns know that they have the skills necessary for my work in comparison to 46.7% of males ( $P=.001$ ). The ability of achieving professional aims and goals was confirmed by 53.3% of male interns versus 28% of females ( $P=.008$ ). Also, 33.3% of male interns were confident that they were motivated enough to deal with serious difficulties at work compared to 16% of females ( $P=.002$ ). Totally, high occupational self-efficacy was detected among 46.7% of the male interns versus 32% of females ( $P=.006$ ).

## Discussion

The current study aimed to assess the difference between male and female residents in the career differences of in their postgraduate medical education in Saudi Arabia. Also, to determine the position preferences of male and female physicians in the hospital and in how far occupational self-efficacy corresponds to the interest in a hospital leading position. The future career preferences of postgraduate interns are crucial to the keep of an adequate supply of medical staff and the future delivery of health care to the population. Some specialties are chosen less frequently, and interest in these specialties is not high especially among females, it may be helpful to explore the motives and intentions for future career, workplace, and work time agenda [13, 14].

The current study revealed that marital status was significantly higher among male interns than females but having children was more among married female interns which means more responsibilities among female interns and many familiar considerations regarding the future career and work times which should be suitable for family with children. Besides, an interesting finding which raise

many questions about the university and SCHS role in explaining future careers and job specifications for each specialty was very defective among female interns who the main risky group for speciality preference in contrast to male interns are where more than three quarters of them talked about that role. That explains the next finding of that majority of female interns are interested about family medicine speciality which is somewhat calm speciality with no emergency and no midnight calls. In contrast to male interns who preferred family medicine but at a lower portion (nearly 1:2) but also surgery was under their future interest.

As for preferred future workplace and position after medical board certification, there was a significant difference between male and female interns for some but not all positions. Being senior physician in hospitals was more preferred by male interns than females as that position means to spend more time within the hospital, unsuitable for females who had husband and children. Also, male interns showed higher intention to work in ambulatory care than females (3:1). Hospital work in total was more preferred by female interns than males but also higher portion of male interns preferred being specialist in hospital without leading responsibility. One of the interesting findings was that male and female interns' interest for being university staff for teaching which should be considered and improved to have a role in future medicine life in the kingdom.

Regarding preferred work time model after medical board certification, having children is considered as confounding variable where majority of both male and female interns who were married and had children preferred part-time work throughout my entire career with no significant difference. The motive may be different, but the final decision is not different. In more explanation, male interns preferred parttime may be due to their planning for private work, but females, children and family duties may be the motive. The situation is different among those who did not have children as majority of male interns preferred full-time work throughout my entire career (two thirds) while nearly half of the females preferred few years of full-time work followed by part-time work.

All these findings were nearly consistent with a study conducted in Germany by All these findings were nearly consistent with what was reported by Ziegler S et al [15] who found that male and female physicians didn't report the same preferred workplace. Authors found that female physicians prefer part-time work and rarely assume leading positions compared to male physicians. Female physicians with children are loaded and underprivileged more often than their female colleagues without children as well as male physicians in general. There are other many studies which assessed impacts on career planning have confirmed gender differences. Females tend to prefer fields with intensive patient contact, whereas men tend to prefer instrument-oriented and high-technology medicine. In Switzerland, about half of were females but preferred to work fewer hours per week and have part-time jobs more often than men do. [16] Consequently, working hours as

Table 1. Personal and career data of interns in postgraduate medical education by gender, Abha, Saudi Arabia

Personal and career data	Total		Gender				P-value
			Male (n=30)		Female (n=50)		
	No	%	No	%	No	%	
<b>Age in years</b>							
20-25	16	20.0%	6	20.0%	10	20.0%	.229
26-29	50	62.5%	16	53.3%	34	68.0%	
30+	14	17.5%	8	26.7%	6	12.0%	
<b>Marital status</b>							
Single	44	55.0%	8	26.7%	36	72.0%	.001*
Married	34	42.5%	22	73.3%	12	24.0%	
Divorced / widow	2	2.5%	0	0.0%	2	4.0%	
<b>Have children</b>							
Yes	22	61.1%	10	45.5%	12	85.7%	.016*
No	14	38.9%	12	54.5%	2	14.3%	
<b>Internship duration (months)</b>							
6-9	14	17.5%	2	6.7%	12	24.0%	.051
10-12	66	82.5%	28	93.3%	38	76.0%	
<b>Did you expose to any faculty awareness courses about postgraduate programs?</b>							
Yes	38	47.5%	20	66.7%	18	36.0%	.008*
No	42	52.5%	10	33.3%	32	64.0%	
<b>Did you expose to any SCHS awareness courses about residency programs?</b>							
Yes	38	47.5%	24	80.0%	14	28.0%	.001*
No	42	52.5%	6	20.0%	36	72.0%	
<b>Did you choose your specialty of interest?</b>							
Yes	58	72.5%	24	80.0%	34	68.0%	.245
No	22	27.5%	6	20.0%	16	32.0%	
<b>Your first specialty of interest</b>							
Family medicine	38	47.5%	11	36.7%	27	54.0%	.005*
Medicine	6	7.5%	6	20.0%	0	0.0%	
O/G	2	2.5%	0	0.0%	2	4.0%	
Fine surgery	2	2.5%	0	0.0%	2	4.0%	
Surgery	14	17.5%	8	26.7%	6	12.0%	
Others	18	22.5%	5	16.7%	13	26.0%	
<b>When did you decide to choose specialty?</b>							
During clinical years	22	27.5%	8	26.7%	14	28.0%	.897
During an Internship	58	72.5%	22	73.3%	36	72.0%	

P: Exact probability test

\* P &lt; 0.05 (significant)

**Table 2. Preferred future workplace and position after medical board certification by medical interns' gender**

Preferred future workplace and position after medical board certification	Total		Gender				P-value
			Male (n=30)		Female (n=50)		
	No	%	No	%	No	%	
Hospital work in total	54	67.5%	18	60.0%	36	72.0%	.267
Administrative position within hospital	30	37.5%	14	46.7%	16	32.0%	.190
Specialist in hospital without leading responsibility	34	42.5%	16	53.3%	18	36.0%	.129
Senior physician in hospital	40	50.0%	20	66.7%	20	40.0%	.021*
Consultant physician in hospital	38	47.5%	14	46.7%	24	48.0%	.908
Work in ambulatory care in total	22	27.5%	14	46.7%	8	16.0%	.003*
Establish a private practice	30	37.5%	14	46.7%	16	32.0%	.190
Employment in private practice or ambulatory health centre	36	45.0%	16	53.3%	20	40.0%	.246
Faculty staff for teaching	46	57.5%	20	66.7%	26	52.0%	.199
Other career objectives	30	37.5%	18	60.0%	12	24.0%	.001*
No concrete idea	32	40.0%	14	46.7%	18	36.0%	.346

P: Pearson X2 test

\* P < 0.05 (significant)

**Table 3. Preferred work time model after medical board certification by gender and parental status**

Preferred work-time model after medical board certification	Have children							
	Yes				No			
	Male		Female		Male		Female	
	No	%	No	%	No	%	No	%
Full-time work throughout my entire career	2	20.0%	2	16.7%	12	60.0%	4	10.5%
Part-time work throughout my entire career	6	60.0%	8	66.7%	4	20.0%	14	36.8%
Few years of full-time work followed by part-time work	2	20.0%	0	0.0%	4	20.0%	16	42.1%
No work time model detected	0	0.0%	2	16.7%	0	0.0%	4	10.5%
<b>P-value</b>	<b>.247</b>				<b>.001*</b>			

P: Exact probability test

\* P < 0.05 (significant)

Table 4. Distribution of interns' Occupational self-efficacy expectations items by their gender

Occupational self-efficacy expectations items	Total		Gender				P-value
			Male		Female		
	No	%	No	%	No	%	
<b>I am very confident that I could deal efficiently with the challenges of my work if I wanted to</b>							
<i>Disagree</i>	26	32.5%	12	40.0%	14	28.0%	.014*
<i>Neutral</i>	20	25.0%	2	6.7%	18	36.0%	
<i>Agree</i>	34	42.5%	16	53.3%	18	36.0%	
<b>I know that I have the skills necessary for my work</b>							
<i>Disagree</i>	26	32.5%	16	53.3%	10	20.0%	.001*
<i>Neutral</i>	12	15.0%	0	0.0%	12	24.0%	
<i>Agree</i>	42	52.5%	14	46.7%	28	56.0%	
<b>I know that I am sufficiently interested in all requirement of my work</b>							
<i>Disagree</i>	20	25.0%	10	33.3%	10	20.0%	.298
<i>Neutral</i>	16	20.0%	4	13.3%	12	24.0%	
<i>Agree</i>	44	55.0%	16	53.3%	28	56.0%	
<b>I feel able to handle challenges at work because I am confident in my abilities</b>							
<i>Disagree</i>	26	32.5%	14	46.7%	12	24.0%	.002*
<i>Neutral</i>	24	30.0%	2	6.7%	22	44.0%	
<i>Agree</i>	30	37.5%	14	46.7%	16	32.0%	
<b>I have no problems achieving my professional aims and goals</b>							
<i>Disagree</i>	30	37.5%	12	40.0%	18	36.0%	.008*
<i>Neutral</i>	20	25.0%	2	6.7%	18	36.0%	
<i>Agree</i>	30	37.5%	16	53.3%	14	28.0%	
<b>I am confident that I am motivated enough to deal with serious difficulties at work</b>							
<i>Disagree</i>	32	40.0%	16	53.3%	16	32.0%	.002*
<i>Neutral</i>	30	37.5%	4	13.3%	26	52.0%	
<i>Agree</i>	18	22.5%	10	33.3%	8	16.0%	
<b>Occupational self-efficacy expectations level</b>							
<i>Low (5-13)</i>	22	27.5%	12	40.0%	10	20.0%	.006*
<i>Moderate (14-22)</i>	28	35.0%	4	13.3%	24	48.0%	
<i>High (23-30)</i>	30	37.5%	14	46.7%	16	32.0%	

P: Pearson X2 test

\* P &lt; 0.05 (significant)

a factor in career choice has become more important as female physicians wish to balance work and family duties [17, 18]. But working hours are now coming to represent a more important factor for men too [19, 20].

As for Occupational self-efficacy expectations (OSSE), the current study showed that male interns had significantly higher occupational self-efficacy than females but also males showed higher level of low self-efficacy, but female interns were at the moderate level. That difference at OSEE is affected intern's readiness to accept leading duties. When comparing female physicians with a high OSEE score to males with a similar score, no differences about the readiness to take over leadership positions.

## Conclusions and Recommendations

In conclusion, the current study revealed that there were gender differences regarding future workplace (especially high responsibility positions) and work time specifically for those who had children especially for female interns. Besides, males showed bimodal occupational self-efficacy expectations where they were either at low or high grades while female interns were at moderate level. Precise measures should be applied or, if already existing, improved to improve the occupational self-efficacy expectation of female physicians and, enhance their willingness to work in leading positions. Besides, more effort should be paid to clarify future careers and their challenges to help interns correctly put their feet on the ground according to their environmental and familiar responsibilities.

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