

# The impact of teaching experience on interview performance of different candidates of basic medical sciences in PhD admission

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## ABSTRACT

**Background:** Admission includes written and interview at universities belonging to the ministry of the health and medical education of Iran at PhD level. In the present work, it was tried to find out the likelihood of interview performance of different candidates with their teaching experience in Iranian national medical PhD admission in the year 1386-87. **Methods and Materials:** In this study, applicants' exam results were extracted from their score workbooks for year 86-87. PhD applicants' categories were public (ordinary) and employed lecturers. Invited numbers of candidates for interview were 556 from 29 different fields of study. As the number of written subjects were not the same within different fields of study, at the first, each group score distribution were normalized to one and then combined together for final consideration. **Results:** Accept and reject percentage within public applicants were 45.1 and 54.9, respectively, while the accept percentage within lecturer applicants was 66 and the reject was 34 respectively. Scores of all 29 groups were combined after normalization. The overall performance including test plus interview for public and lecturers were  $1.02 \pm 0.12$  and  $0.95 \pm 0.1$ , respectively. The average and standard deviation of test exam of public and lecturer were  $1.04 \pm 0.16$  and  $0.91 \pm 0.12$ , respectively. The average and standard deviation of interview exam of public applicants and lecturers applicants were  $0.98 \pm 0.18$  and  $1.04 \pm 0.17$ , respectively. **Conclusion:** As results show, the interview performance of lecturers is better than public applicants. Unbalanced acceptance rate amongst lecturers was increased due to the hold of reservation toward interview and due to their higher results gain during interview. If the test performance was a reliable measure for viability of applicant, this reservation would change the acceptance rate close to balance.

**Key words:** Admission, interview exam, reservation, test exam

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## INTRODUCTION

There are different measures in the admission of postgraduate such as written exam, tests, oral exams (interview). In countries such as Iran, India, and Pakistan, the postgraduate admission for universities were relies on the undergraduate performance and national subjective entrance exam called conquer.<sup>[1]</sup> In US, Canada, and Europe, in addition to undergraduate performance and recommendations, they mostly rely on international measures such as TOFEL or GRE performance test for admission toward MSc and PhD.<sup>[2,3]</sup> In the former case, the final evaluation measure relies on written exam (test

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exam) and, therefore, unlimited candidates are welcomed. In this type of admission, organizations are collective and governmental, and the main aim was the fulfillment of justice and right of candidates. But, in the second type, admissions were private and limited. In private organizations, in which the incomes are relied on the performance of students, more care should be taken in admission of students. In this method, the evaluation needs more human resources and expertise per candidate. The first method is more objective than the second one, because the second method relies on human judgment.<sup>[4,5]</sup> In the first method, the committee of admission is responsible for further complains of candidates. To manage this type of complains, admission procedure should be as documentary and comparable as possible. To justify the application procedure, there would be national exam for all applicants all over the Country. In Iran, admission at undergraduate and MSC level was based on written exam performance of applicants. In the high priority seats such as PhD, in addition to written test exam, there was an interview. There was an especial collective exam for admission of PhD students among universities belong to the ministry of the health and medical education in the year 1367-68. This admission exam was held at two stages; the first stage was test exam for each branch of sciences for all candidates and at the second stage, candidates with higher test performance were invited for interview exam. The number of interviewees was two times of available seats in each branch of study. The interview formats were structural.<sup>[6-8]</sup> Seventy percent of the total discrimination mark was devoted to test exam and the rest of 30 percent to the interview. The interview marks of 30 percent were dedicated to teaching experience, research experience, scientific analysis, scientific presentation, desires toward the branch of study, official performance, and English language experience.<sup>[9]</sup> Applicants of PhD seats could be divided into public (ordinary) and employed lecturers. There was special reservation for lecturers. They could catch up to 20 percent of these seats in clause to acquirement limit of 80 percent of the public interviewee with least performance. This clause was applicable at two stages of test and interview exam. Therefore, it would bring up the chance of lecturer applicant even further.<sup>[9]</sup> These reservations were considered in respect to upgrading the position of employed lecturer staffs at different departments to revise evaluation parameters of these departments. In recent years, the number of lecturers was increasing compared to the number of available seats in some branches; it may limit the chance of young fresh public applicants. There were some general complains among ordinary candidates on occupation of the seats by lecturer candidates with special reservations. There were some changes in the style of admission in recent years. Now, it would be worthwhile to study and evaluate the past method of admission to revise some possible shortcomings in current style of admission. In this study, the written and interview exams of two group of applicant were considered and analyzed.

## MATERIALS AND METHODS

In the Islamic Republic of Iran, there were varieties of collective national admission exams. The Ministry of Health and Medical

Education has its own admission for higher education each year. This admission exam is held in two stages of written and interview exam. In the first stage, all applicants should have attended subjective written test. From candidates with higher written exam performance were invited for interview as twice as the number of available seats. Final evaluation weighted for written and interview exam, 70% and 30% respectively. In this study, written and interview exams of all applicant in year 1367-68 were extracted from their score workbooks.<sup>[10]</sup> Workbooks were included: First name, surname, father's name, identity number, branch of study, applicant category, test exam score, total score (test plus interview), rank in category, total score of last accepted of the category, individual subject scores, and the final results of acceptance or fail. Then, these results were analyzed by MINTAB\_15.<sup>[11]</sup> In the interview stage, 569 applicants were invited, of which 556 attended interview session. The number of public applicants including clinical practitioners was 397, and the number of lecturer applicants was 159. In this competition, male applicants were 253 and female applicants were 303. Finally, 284 applicants were admitted at 29 different fields of study at different universities. Fields of study included: anatomy, hematology, mycology, immunology, parasitology, virology, bacteriology, medical genetics, nanotechnology, biotechnology, clinical psychology, epidemiology, medical physics, physiology, speech rehabilitation, entomology, social aid, health care management, clinical biochemistry, nursery, physical therapy, nutrition sciences, environmental health, pharmacology, productivity health, industrial health, medical statistics, health education, and medical information management. In this study, there were 29 branches of study, and there was competition within each branch group. It was impossible to mix test and interview marks together, because the number of test subject and their taxonomy were different. Scores of test and interview were normalized on the base of total score in each branch, and then they were mixed for all 29 branches.<sup>[11]</sup> The interview scores were calculated by the subtraction of test score from total score. And, the genders of all applicants were defined by their name because in Iranian culture, the male and female names are separable, clear, and distinct. The number of subjects for test exam is differed by the branch of the study, and subjects are weighted differently on the base of their importance at different branches of study.<sup>[12]</sup> Therefore, to analyze overall test and interview performance of different categories scores at different branches, scores are normalized on the base of mean value of that exam at each branch of study.

## RESULTS

### Acceptance and performance measure of public and lecturer candidates

As it is shown in the Table 1, the overall number of accept is 284, which is one-half of all invitees. But, there was

**Table 1: Number of interviewees and accept at different applicant categories**

Applicant category	Invited for interview	No. of accepts
Public	397	179
Lecturer	159	105

noticeable difference between the number of accept and reject in different categories including public and lecturer applicants. The reject percentage within public applicants was 54.9 and accept percentage was 45.1, while the percentages of accept and reject within lecturer applicants were 66 and 34, respectively.

With respect to these percentages of acceptances and rejects at these two applicants group, it was worthwhile and necessary a further consideration.

The interview weighted 30% of the total score. This 30 percent is assigned as: 3 for teaching experience, 5 for publication in research, 5 for analytical abilities, 3 for scientific expression, 3 for personal attitude toward higher education, 4 for practical experience, 3 for English language skills, and 4 for GPA of previous level of study and English test score.<sup>[9]</sup>

In this study, there were 29 branches of study, and there was competition within each branch group. It was impossible to mix test and interview marks together, because the number of test subject and their taxonomy were different. Scores of test and interview were normalized on the base of total score in each branch, and then they are mixed for all 29 branches. Therefore, all curves and mean and standard deviation values are extracted from joined normalized scores of different branches. The average and standard deviation of normalized test exam of public applicants and lecturers are  $1.04 \pm 0.16$  and  $0.91 \pm 0.12$ , respectively.

As it is shown in Figure 1 from normal distribution of public and lecturers, the mean value and STD were  $1.04 \pm 0.16$  and  $0.91 \pm 0.12$ , respectively. The test performance scores of public applicants were about 1.0 STD more than lecturer applicants. The normalized mean value and standard deviation of interview exam of public applicants and lecturers applicants were  $0.98 \pm 0.18$  and  $1.04 \pm 0.17$ , respectively [Figure 2]. There was noticeable improvement on interview performance of lecturers compared to their exam test performance, which was about 0.3 STD ahead of public applicants.

The overall performance scores including test scores plus interview scores for public applicants and lecturers were  $1.02 \pm 0.12$  and  $0.95 \pm 0.1$ , respectively. As it is shown in the Figure 3, public applicants' overall mean value performance scores were about 0.7 STD more than lecturer applicants.

### Acceptance rate and performance measure with respect to gender

As it was mentioned, 253 applicants were males and the rest 303 were females. The acceptance and reject rates of female and male applicants in different categories are shown in table 2. The accepted number of male and female was 127 and 157, respectively. There were 219 female and 178 male candidates in public applicants, and success rate of their acceptance was 47.5% and 42%, respectively. The success rate of lecturers for male and female was 69% and 63%, respectively.

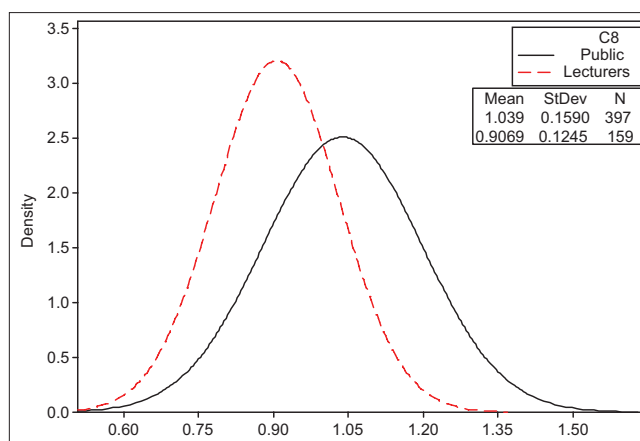


Figure 1: Normalized test performance scores of lecturers and public applicants

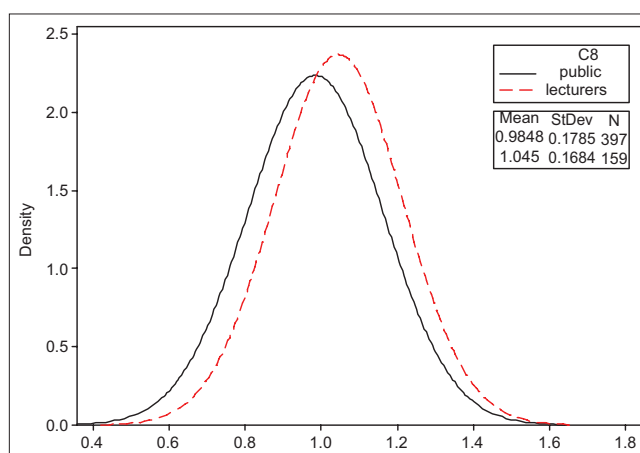


Figure 2: Normalized interview performance scores of lecturers and public applicants

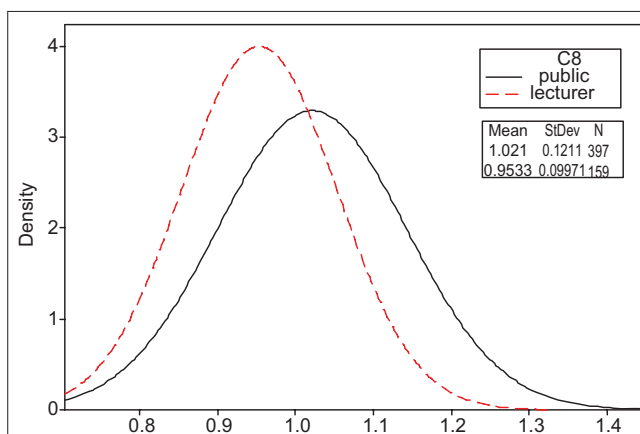


Figure 3: Normalized overall performance scores of public and lecturer applicants

The test performance scores of male and female in public applicants were similar and much higher than test performance scores of lecturer applicants. The test performance scores of public applicants including male and female were  $1.04 \pm 0.16$  in normalized form. Female lecturer applicants have  $0.93 \pm 0.12$  test performance scores, which

**Table 2: The acceptance and reject with respect to gender**

Gender	Public applicant		Lecturer applicant	
	Male	Female	Male	Female
No. of accept	75	104	52	53
No. of reject	103	115	23	31

was higher than male performance scores ( $0.88 \pm 0.13$ ) in normalized form.

## DISCUSSION

The test performance of invited lecturer applicants for interview is poorer than public applicants. As it is shown in the Figure 3, public applicants' overall performance was 7% in mean value better than lecturer applicants. The possible reason for this lagging could be the 80% reservation threshold of last accepted public applicant at that stage. If we accept the reservation limit for these applicants from this stage onward to be right and just on accepts in these two groups, the final acceptance rate should be 50% in each group, which would be around 199 for public applicants and 80 for lecturers. Therefore, if there was not any reservation toward lecturers, there should be more acceptance rate within public candidates than lecturers in one-stage admission, while, lecturers' acceptance rate had gone up to 66% while for public applicants, it went down to 46% in the current two-stage admission. There was noticeable improvement on interview performance of lecturers compared to their exam test performance. As the reservation was steel holds toward lecturer applicants, it has resulted to seats occupation more than 50 percent for them. There should be other reasons for this significant difference. Therefore, further consideration is worthwhile.<sup>[13]</sup> The lecturer applicants were expert in self-expression. They were organized about desires toward the branch of study, and most of them had opportunities toward official performance. They have had teaching experience and enough documentary to present to gain full score of teaching section of interview. As the reservation toward lecturers even stand during interview. Therefore, the performance of lecturers in interview exam was better than public lecturers. In public applicants, acceptance rate of female candidates was higher than male candidates, while in the case of lecturers, the rate is showing reverse results. To rationalize these results, the test and interview performance of public and lecturer applicants with respect to gender should be considered.<sup>[13]</sup>

## CONCLUSION

Statistical information of the written exams shows that capability of public applicants is better than lecturers. It could be due to reservation toward lecturers in the first stage of exam. Therefore, it could be concluded that it is not right

to apply quota threshold of 80% score for lecturers in this type of exams. Also, it is not fair just to reserve 20% of admission capacity for lecturers. It has shown in lecturers results performance, their interview were 20% better than public applicants. Making an equal balance in admission, between lecturers and ordinary fresh graduated applicants, there should be some measure toward ordinary applicant in interview exam. Performance result with respect to gender is not consistent for two groups, but there is noticeable difference between male and female applicants. The interview performance of female applicants (especially public applicants) is better than of male applicants' performance. This difference would raise pessimistic view on interview committees' performances. But, by looking back through performance difference of male and female candidates on written exams, we would realize that the differences are similar to interview performance of genders. Therefore, there is no room to be suspicious about gender tendency.

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