Jordanian Medical Students’ Perspective on the Impact of a Pass/Fail USMLE Step 1: A Cross-Sectional Investigation

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ABSTRACT

BACKGROUND AND AIMS - Glioblastoma multiforme (GBM), a grade IV astrocytoma, is the most common primary brain tumor in adults. Bevacizumab, a humanized anti-vascular endothelial growth factor monoclonal IgG1 antibody, is a Food and Drug Administration-approved agent for treating advanced Glioblastoma multiforme. In this review, we aimed to discuss the therapeutic effects of bevacizumab for Glioblastoma multiforme treatment.

METHODS - We searched Google Scholar, PubMed, and Scopus using the keywords “Glioblastoma multiforme,” “GBM,” and “Bevacizumab.” Two authors screened the records independently to identify relevant studies and classify them according to our outcomes of interest. We have only included articles published after the year 2000.

RESULTS - Bevacizumab selectively binds circulating VEGF, interfering with the role of VEGF in endothelial cell differentiation, sprouting, and capillary formation. Consequently, it inhibits tumor neovascularization and induces the development of normal vascular structures.

CONCLUSIONS - Ultimately, Bevacizumab helps to slow down tumor growth and progression. It promotes the development of normal vascular structures, which can help to improve the overall health of the patient. Overall, its effectiveness in inhibiting tumor neovascularization makes it a valuable addition to the arsenal of anti-cancer drugs available.

KEYWORDS - Antibody, Bevacizumab, Glioblastoma, Monoclonal
INTRODUCTION

The United States Medical Licensing Examination (USMLE) Step 1 is one of three examinations administered by the Federation of State Medical Boards (FSMB) and the National Board of Medical Examiners (NBME)[1]. The three-digit numerical score of the USMLE Step 1 exam played a major role in the selection criteria for residency applications. However, the NBME and the FSMB announced the transition of the USMLE Step 1 score to Pass/Fail, which became active in January 2022[2]. This transition might have a huge effect on medical students and residency programs, but the effect is still unclear. In 1979, the USMLE Step 1 numerical score was viewed as being less significant than recommendation letters, clerkship grades, Alpha Omega Alpha membership, and class rank. Nevertheless, the USMLE Step 1 score was the most frequently mentioned factor in selecting applicants for an interview in the 2020 NRMP survey of program directors[3,4]. A study found that 53.5% of US medical students favored numeric scale over pass/fail score; since pass/fail score had a significant negative impact on their residency match and specialty of choice[5]. In another study, the percentage of Internal Medicine residents not favoring pass/fail score was 55%, with significance found mainly in males, those training at the Postgraduate Year 1 (PGY1) level, and graduates of international medical schools (IMGs) [6]. In a survey conducted in the US, only 26% of medical students and residents prefer the USMLE Step 1 pass/fail scoring system. The main reason behind this low percentage was the negative effect on residency selection criteria and medical knowledge with pass/fail scores [7]. The underrepresented in medicine students may benefit from this change by reducing the effect of inequitable preparation for the exam, increasing the importance of extracurricular activities, and improving well-being. Moreover, a pass/fail system may help achieve greater diversity in the medical work environment[8].

NBME illustrated that medical student performance evaluation, letters of recommendation, research, medical school reputation, elective rotations, community service experience, and personal statement should be included as important factors for residency selection[9]. However, these factors may be less applicable to IMGs, shifting their stress to achieve a high USMLE Step 2 (CK) score[10]. Our study aims to discuss Jordanian medical students’ perspective on USMLE step 1 pass/fail score and its impact on their clinical future. To our knowledge, this study is the first to explore this topic in Jordan.

METHODS

STUDY DESIGN AND POPULATION

This is a cross-sectional study based on an online self-administered questionnaire. Our target population was all medical students in Jordan’s six schools of medicine (the University of Jordan, Jordan University of Science and Technology, Hashemite University, Yarmouk University, Mut’ah University, and Balqa Applied University). The questionnaire was shared via social media platforms. A pilot test was performed by a group of University of Jordan students as being representative of our target population. Five hundred and four responses were recruited from the 1st of May 2022 to the 1st of August 2022.

QUESTIONNAIRE

The English online anonymous self-administered questionnaire was composed of 4 sections with a total of 33 questions. The first section included questions about sociodemographic and academic status (i.e., age, gender, the level of education of the parents, nationality, university, year of study, GPA, and the number of publications). The second section investigated the students’ intention to apply for the USMLE step 1 exam and their awareness of the shift to pass/fail.

In the fourth and the last section, we asked the students to rank residency application items based on their importance from their point of view (i.e., recommendation letters, USMLE scores, dean’s letter, research experience, personal statement, and extracurricular activities) [7].

ETHICAL APPROVAL

This study was reviewed and approved by the Institutional Review Board at Jordan University Hospital, the University of Jordan. Informed consent was obtained from all the participants before filling out the questionnaire. Participants’ privacy was preserved by conducting the data analysis anonymously. No member outside the research team had access to view, manipulate, or change the data.

DATA ANALYSIS

The participants’ data were entered using Microsoft Office Excel 2019 and then imported into IBM SPSS v.25 software which was used
to conduct the analysis. Categorical variables were presented as counts and percentages, while continuous variables were presented as mean and standard deviation. Chi-square and t-tests were used as appropriate to determine the factors associated with the student’s choices and attitudes toward the USMLE Step 1 change to pass or fail system. The variables that were significantly associated with the students’ choices and attitudes were retested using binary and ordinal logistic regression analysis to adjust for confounding variables. The binary and ordinal logistic regression results were presented as Odds Ratio and B Coefficient and their 95% Confidence Intervals (95%CI), respectively. All the variables with a P-value<0.05 in tests were considered statistically significant.

RESULTS

CHARACTERISTICS OF THE INCLUDED STUDENTS
The total number of medical students participating in our study was 504. Half of the participants were females (50.6%). Most of the students did not have any of the parents working as a physician. Most of the study participants were fifth-year medical students, followed by fourth and sixth-year medical students. Moreover, 76.6% of the students did not have any research publications. Table 1 describes the demographic characteristics of the participants.

STUDENTS’ KNOWLEDGE AND ATTITUDE TOWARD THE USMLE STEP 1 CHANGE
Most of the students (93.5%) were aware of the USMLE change to a pass/fail scoring system. 44.4% agreed with the change in the USMLE Step 1 scoring system.

In our study sample, 75.2% planned to apply for US residency, and 86.7% planned to participate more in research activities. 43.8% of the students expressed that IMGs would likely be more negatively affected by this change. In addition, only 30.4% of the students stated that USMLE Step 1 will be as important for the matching process after the change. When asked about the effect of the change on their chances of getting interviews for residency and their ranking, responses were equally divided as to whether it would increase, not affect, or decrease the number of interviews and their ranking when they apply.

Around half of the students agreed that the change in the scoring system would improve students’ well-being. Also, 82.3% agreed greater emphasis will be on Step 2 (CK) score in selecting applicants (Table 1).

STUDENTS RANKING ACTIVITIES ACCORDING TO THEIR IMPORTANCE FOR RESIDENCY MATCHING
The most frequent activity that was ranked as the first in terms of their importance was USMLE scores (55.0%) followed by research experience (19.0%) and letters of recommendation (16.3%). Conversely, only 6.7%, 2.8%, and 0.2%, respectively, rated personal statements, extracurricular activities, and dean’s letters as most important (Table 2).

FACTORS ASSOCIATED WITH PARTICIPANTS’ ATTITUDE TOWARD THE CHANGES AND THE SHIFT IN STUDENTS’ PLANS TO APPLY FOR RESIDENCY
Univariate analysis showed that the students’ choices toward the change of IMGs applying to residency were associated with age, GPA, number of publications, and their perception to what the USMLE Step 1 tests for. In addition, age, year of study, GPA, and the perception of what USMLE Step 1 tests for were the factors associated with the change in research activities (P-value<0.05) (Table 3). Ordinal regression analysis revealed that age was the only factor associated with participants’ choices toward changing IMG’s preference to apply for residency (B=-0.121; 95%CI: -0.227--0.014). First (B=-1.960; 95%CI: -3.232- -0.689) and second-year students (B=-1.204; 95%CI: -2.373--0.035) were significantly associated with lower expectations toward the increase in research work compared to the sixth-year students. Having either a good (1.312; 95%CI: 0.799-1.825) or a very good (B=0.578; 95%CI: 0.210-0.945) GPA was significantly associated with perceiving the change as a good idea compared to students with excellent GPA (Table 4).

FACTORS ASSOCIATED WITH PARTICIPANTS’ ATTITUDES TOWARD THE IMPORTANCE OF THE USMLE TO KNOWLEDGE, RESIDENCY, AND MEDICAL PRACTICE
Univariate analysis showed that GPA was significantly associated with the student’s preference for the change (P-value<0.001). (Table 3). Ordinal regression analysis revealed that younger age was associated with a lower expectation from the students that Step 1 accurately estimates the knowledge (B=-0.107; 95%CI: -0.204--0.009). Compared with an excellent GPA, a very good GPA was significantly associated with the perception of a lower influence of the change to a Pass/Fail scoring system on the amount of medical knowledge gained by USMLE Step 1 (B=-0.604;95%CI: -1.166- -0.041). Students who considered USMLE Step 1 as a test for basic
medical knowledge were associated with a significantly lower attitude toward USMLE Step 1 score importance for residency application (B=-0.28; 95%CI: -0.975- -0.082) (Table 4).

**FACTORS ASSOCIATED WITH PARTICIPANTS’ ATTITUDE TOWARD THE CHANGE IN THEIR CHANCES OF MATCHING**

Univariate analysis showed that the students’ opinions toward the potential effect of the scoring system change on the number of interviews received were associated with gender and the number of publications. In addition, GPA and the number of publications were associated with the students’ opinion about the potential effect of the scoring system change on their ranking. Having parents who are physicians and GPA were associated with students perceiving the change as a good idea (P-value=0.003, P-value=0.013). (Table 3).

Ordinal regression analysis revealed students who had 1-5 publications had a significantly lower anticipation of the number of interviews they would get (B=-1.156; 95%CI: -2.117- -0.195) and a lower anticipation of being ranked higher by residency programs (B=-1.275; 95%CI: -2.319- -0.232) compared to students who had more than 5 publications. Moreover, students with 0 publications had significantly lower anticipation of being ranked higher than students with more than 5 publications (B=-1.376; 95%CI: -2.369- -0.382). Students who had either a good (B=0.867; 95%CI: 0.333-1.400) or a very good GPA (B=0.563; 95%CI: 0.169-0.957) had higher anticipation of being ranked higher by residency programs compared to students who had excellent GPA. Students who had a good GPA were also associated with significantly lower perceptions regarding this change being a good idea (B=-0.731; 95%CI: -1.243- -0.219) compared to students who had excellent GPA (Table 4).

**DISCUSSION**

The present study was designed to assess the opinion of Jordanian medical students on the effect of USMLE’s binary pass/fail scoring system, which became active in January 2022, as IMGs -including Jordanian medical graduates- constitute an essential part of the United States physician workforce[12,13].

Historically, a variation in medical students’ perspective toward pass/fail Step 1 scores has been noted; a study conducted by NBME in 1989 showed that less than 50% favored pass/fail scores, while a survey in 1997 revealed a strong preference toward pass/fail scores[10,14]. However, studies conducted in 2011 and 2020 revealed that only 26% and 34% of medical students agreed with this transition[7]. Our findings indicate that 44.4% of our study population favored the USMLE pass/fail scoring system, while only 26.8% did not. Our results were comparable to other studies performed to assess medical students’ opinions on the USMLE Step 1 scoring system change to a pass/fail system. In a recent study conducted at Johns Hopkins University in Baltimore, Maryland, 39% of its medical students favored this transition [15]. Moreover, another study performed in 2020 found that 43% of medical students, especially those underrepresented in medicine, favored the transition[16]. These findings could be attributed to a reduction in time and effort for USMLE Step 1 exam preparation, therefore decreasing stress and improving quality of life. These changes might also assist students with lower USMLE Step 1 scores and lower GPAs, and it might decrease socioeconomic disparities[3,8,16]. In our study, having a good or a very good GPA was significantly associated with perceiving the change as a good idea compared to students with an excellent GPA. Our study has shown comparable anticipation in Jordanian medical students, as 53.8% of respondents agreed that this transition might improve well-being.

On the other hand, studies focusing on program directors’ opinions on changing the USMLE scoring system revealed a negative perception toward the USMLE transition to a binary pass/fail scoring system[17–24]. This could be attributed to the reliance on the Step 1 numerical score as a primary standardized tool to stratify applicants in the residency application process, thereby blunting the importance of other metrics, including research experience, elective rotations, letters of recommendation, deans’ letter, and extracurricular activities[10,25]. Therefore, this transition aims to eliminate the use of Step 1 as a single primary metric to screen out applicants and help reestablish and adopt a holistic view in selecting applicants for residency[26–28]. In addition, most program directors revealed that emphasis on Step 2 CK scores will increase after this transition becomes active [29,30]. This is consistent with findings from our study, which revealed that 82.3% of Jordanian medical students agreed that Step 2 CK will carry more weight in selecting applicants for residency.

In prior studies, program directors have expressed concerns that the medical students’ stress and anxiety will shift toward achieving a high Step 2 CK target score, which nullifies the influence of the USMLE Step 1 scoring system change on medical students’ stress and quality of life, potentially leaving the root of the problem...
unaddressed[17,18].

Our study shows a possible future increase in research activity and publications by Jordanian medical students, as 86.7% of respondents, especially sixth-year medical students, believed that more students would participate in research activity and was ranked as the second most important item in residency matching. In addition, respondents with a high number of publications believe that the number of interviews granted would increase. The increased importance of research activities and publications can be anticipated, as recent studies revealed that orthopedic and otolaryngology program directors are more likely to emphasize research activity, elective rotation at esteemed institutions, letters of recommendation, and extracurricular activities for selecting applicants[31,32].

Despite favoring the transition, concerns remain about the negative influence of this transition on IMGs, as several studies have shown that this transition will put IMGs at a disadvantage[16,17,19,31,32]. In agreement with prior studies, our study found that 53.8% of Jordanian medical students, especially those with an excellent GPA, agreed that Step 1 pass/fail scoring would put IMGs at a disadvantage. This may be explained by the fact that IMGs depend on USMLE scores to distinguish themselves when applying to residency programs since foreign medical schools are less acknowledged [17,31]. Another possible explanation for this might be the possible increased importance of visiting international student elective rotations and letters of recommendation, thereby adding more financial burden to IMGs, especially those who cannot afford it[17].

This cross-sectional study has inherent limitations that should be considered when interpreting the results. First, the representation of medical schools was non-uniform. Few medical students at Yarmouk and Mut’ah Universities in Jordan have responded to our questionnaire. Second, a lower number of responses was submitted by 1st year medical students compared to other years. Third, this study only represents Jordanian medical students. Lastly, using convenience sampling methods may increase the risk of selection bias. In conclusion, the study gives us an insight into the opinion of Jordanian medical students on the new USMLE Step 1 binary scoring system. Jordanian medical students believe this change might affect the criteria for selecting applicants for residency. Therefore, the weight and importance of the USMLE Step 2 score, research experience, and extracurricular activities will likely increase. Further studies are warranted to confirm these findings. Accordingly, we anticipate that a higher score in USMLE Step 2, more involvement in research work, and various extracurricular activities will have more influence on the match process for IMGs.

DATA AVAILABILITY

The datasets generated during and/or analyzed during the present study are available from the corresponding author upon reasonable request.

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AUTHORS’ CONTRIBUTIONS

HG is the guarantor of the study. HG, YO, HK were involved in conceptualization. HK was the main supervisor. HG, YO, DJ, RM, IA contributed to data collection. AT was the main contributor to data analysis. All authors participated in writing the manuscript. All authors read and approved the final manuscript.
### Table 1. Demographic Characteristics of Participants.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Frequency (n=504)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
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<td></td>
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<tr>
<td>Male</td>
<td>249</td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>255</td>
<td>50.6</td>
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<td>Are any of your Parents a doctor</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>430</td>
<td>85.3</td>
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</tr>
<tr>
<td>One</td>
<td>59</td>
<td>11.7</td>
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</tr>
<tr>
<td>Two</td>
<td>15</td>
<td>3.0</td>
<td></td>
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<tr>
<td>Nationality</td>
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<td>Arabian</td>
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<td>American/European</td>
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</tr>
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<td>Year of Study</td>
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<td>First</td>
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<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>48</td>
<td>9.5</td>
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</tr>
<tr>
<td>Third</td>
<td>70</td>
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<td></td>
</tr>
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<td>Fourth</td>
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<td>Fifth</td>
<td>130</td>
<td>25.8</td>
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</tr>
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<td>Sixth</td>
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<td>GPA</td>
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<td>Pass</td>
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<td>Good</td>
<td>88</td>
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<td>Very Good</td>
<td>240</td>
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<td>Excellent</td>
<td>166</td>
<td>32.9</td>
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<td>Number of Publications</td>
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<td>1-5 Publications</td>
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<td>More than 5 Publications</td>
<td>19</td>
<td>3.8</td>
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<tr>
<td>What does USMLE Step 1 test for</td>
<td>Requirement to graduate from medical school in Jordan</td>
<td>3</td>
<td>0.6</td>
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<tr>
<td>Basic knowledge</td>
<td>411</td>
<td>81.5</td>
<td></td>
</tr>
<tr>
<td>Clinical knowledge</td>
<td>11</td>
<td>2.2</td>
<td></td>
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<tr>
<td>Test to apply for medical school in the United States</td>
<td>79</td>
<td>15.7</td>
<td></td>
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<td>Are you aware of USMLE Step 1 score change to Pass/Fail System</td>
<td>Yes</td>
<td>471</td>
<td>93.5</td>
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<td></td>
<td>No</td>
<td>23</td>
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<td></td>
<td>Not Sure</td>
<td>10</td>
<td>2.0</td>
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<tr>
<td>Are you planning to perform USMLE Step 1</td>
<td>Yes</td>
<td>308</td>
<td>61.1</td>
</tr>
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<td></td>
<td>No</td>
<td>78</td>
<td>15.5</td>
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<tr>
<td></td>
<td>Unsure</td>
<td>118</td>
<td>23.4</td>
</tr>
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<td>How Do you anticipate this change impacting the percentage of IMGs applying to US residency</td>
<td>Less students will apply</td>
<td>41</td>
<td>8.1</td>
</tr>
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<td></td>
<td>Unchanged</td>
<td>84</td>
<td>16.7</td>
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<td></td>
<td>More students will apply</td>
<td>370</td>
<td>75.2</td>
</tr>
<tr>
<td>This change will increase students research activities who are pursuing residency in the United States</td>
<td>Yes</td>
<td>437</td>
<td>86.7</td>
</tr>
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<td>Neutral</td>
<td>49</td>
<td>9.7</td>
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<td>No</td>
<td>18</td>
<td>3.6</td>
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<tr>
<td></td>
<td>Agree</td>
<td>Neutral</td>
<td>Do not agree</td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>-------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>Who do you believe will benefit from this change</td>
<td>101</td>
<td>86</td>
<td>110</td>
</tr>
<tr>
<td>IMGs</td>
<td>221</td>
<td>92</td>
<td>42</td>
</tr>
<tr>
<td>Less prestigious school graduates</td>
<td>156</td>
<td>51</td>
<td>57</td>
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<td>Prestigious school graduates</td>
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<td>57</td>
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<td>Program Directors</td>
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<td>92</td>
<td>62</td>
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<td>American medical students</td>
<td>20.0</td>
<td>17.1</td>
<td>21.8</td>
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<td>Less prestigious school graduates</td>
<td>43.8</td>
<td>18.3</td>
<td>8.3</td>
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<td>Prestigious school graduates</td>
<td>21.8</td>
<td>10.1</td>
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<td>Program Directors</td>
<td>11.3</td>
<td>18.3</td>
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<td>American medical students</td>
<td>31.0</td>
<td>31.0</td>
<td>31.0</td>
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<tr>
<td>I would like USMLE Step 1 to be pass/fail</td>
<td>26.8</td>
<td>28.8</td>
<td>44.4</td>
</tr>
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<td>Do not agree</td>
<td>135</td>
<td>145</td>
<td>224</td>
</tr>
<tr>
<td>Neutral</td>
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<td>145</td>
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<td>Agree</td>
<td>224</td>
<td>224</td>
<td>224</td>
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<tr>
<td>I believe Step 1 gives an accurate estimation of knowledge</td>
<td>43.8</td>
<td>18.3</td>
<td>8.3</td>
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<td>Do not agree</td>
<td>66</td>
<td>145</td>
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<td>Neutral</td>
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<td>145</td>
<td>293</td>
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<tr>
<td>Agree</td>
<td>293</td>
<td>293</td>
<td>293</td>
</tr>
<tr>
<td>With Step 1 pass/fail change, the amount of knowledge gained/</td>
<td>36.1</td>
<td>41.9</td>
<td>22.0</td>
</tr>
<tr>
<td>relearned would</td>
<td>182</td>
<td>221</td>
<td>111</td>
</tr>
<tr>
<td>Increased</td>
<td>221</td>
<td>182</td>
<td>111</td>
</tr>
<tr>
<td>Unchanged</td>
<td>111</td>
<td>182</td>
<td>221</td>
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<td>Decreased</td>
<td>221</td>
<td>111</td>
<td>182</td>
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<td>For residency application pass/fail Step 1 is</td>
<td>37.7</td>
<td>31.9</td>
<td>30.4</td>
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<td>Unimportant</td>
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<td>161</td>
<td>153</td>
</tr>
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<td>Neutral</td>
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<td>190</td>
<td>153</td>
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<tr>
<td>Important</td>
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<td>190</td>
<td>161</td>
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<td>Relevance of Step 1 content to future residency training</td>
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<td>37.7</td>
<td>23.4</td>
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</tr>
<tr>
<td>Not Relevant</td>
<td>118</td>
<td>196</td>
<td>190</td>
</tr>
<tr>
<td>Relevance of Step 1 content to future medical practice</td>
<td>41.7</td>
<td>38.3</td>
<td>20.0</td>
</tr>
<tr>
<td>Relevant</td>
<td>210</td>
<td>193</td>
<td>101</td>
</tr>
<tr>
<td>Neutral</td>
<td>193</td>
<td>210</td>
<td>101</td>
</tr>
<tr>
<td>Not Relevant</td>
<td>101</td>
<td>210</td>
<td>193</td>
</tr>
<tr>
<td>With Step 1 pass/fail, the number of interviews granted to me</td>
<td>29.8</td>
<td>37.9</td>
<td>32.3</td>
</tr>
<tr>
<td>would</td>
<td>150</td>
<td>191</td>
<td>163</td>
</tr>
<tr>
<td>Increase</td>
<td>191</td>
<td>150</td>
<td>163</td>
</tr>
<tr>
<td>Unchanged</td>
<td>163</td>
<td>191</td>
<td>150</td>
</tr>
<tr>
<td>Decrease</td>
<td>150</td>
<td>191</td>
<td>163</td>
</tr>
<tr>
<td>With Step 1 pass/fail, I believe I would have been ranked more</td>
<td>29.2</td>
<td>38.3</td>
<td>32.5</td>
</tr>
<tr>
<td>highly by the residency programs</td>
<td>147</td>
<td>193</td>
<td>164</td>
</tr>
<tr>
<td>Agree</td>
<td>193</td>
<td>147</td>
<td>164</td>
</tr>
<tr>
<td>Neutral</td>
<td>164</td>
<td>147</td>
<td>193</td>
</tr>
<tr>
<td>Do not agree</td>
<td>164</td>
<td>147</td>
<td>193</td>
</tr>
<tr>
<td>Is it a good idea to change USMLE Step 1 to pass/fail</td>
<td>40.3</td>
<td>30.6</td>
<td>29.2</td>
</tr>
<tr>
<td>Agree</td>
<td>203</td>
<td>154</td>
<td>147</td>
</tr>
<tr>
<td>Neutral</td>
<td>154</td>
<td>203</td>
<td>147</td>
</tr>
<tr>
<td>Do not agree</td>
<td>147</td>
<td>203</td>
<td>154</td>
</tr>
<tr>
<td>Will changing USMLE Step 1 to pass/fail improve medical student</td>
<td>53.8</td>
<td>28.6</td>
<td>17.7</td>
</tr>
<tr>
<td>well-being</td>
<td>271</td>
<td>144</td>
<td>89</td>
</tr>
<tr>
<td>Agree</td>
<td>144</td>
<td>271</td>
<td>89</td>
</tr>
<tr>
<td>Neutral</td>
<td>89</td>
<td>271</td>
<td>144</td>
</tr>
<tr>
<td>Do not agree</td>
<td>89</td>
<td>271</td>
<td>144</td>
</tr>
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<td>Will changing the USMLE Step 1 to Pass/Fail make it more</td>
<td>58.9</td>
<td>25.0</td>
<td>16.1</td>
</tr>
<tr>
<td>difficult to objectively compare applicants</td>
<td>297</td>
<td>126</td>
<td>81</td>
</tr>
<tr>
<td>Agree</td>
<td>126</td>
<td>297</td>
<td>81</td>
</tr>
<tr>
<td>Neutral</td>
<td>81</td>
<td>297</td>
<td>126</td>
</tr>
<tr>
<td>Do not agree</td>
<td>81</td>
<td>297</td>
<td>126</td>
</tr>
<tr>
<td>Will changing the USMLE Step 1 to Pass/Fail make applicant</td>
<td>61.5</td>
<td>26.0</td>
<td>12.5</td>
</tr>
<tr>
<td>screening harder</td>
<td>310</td>
<td>131</td>
<td>63</td>
</tr>
<tr>
<td>Agree</td>
<td>131</td>
<td>310</td>
<td>63</td>
</tr>
<tr>
<td>Neutral</td>
<td>63</td>
<td>310</td>
<td>131</td>
</tr>
<tr>
<td>Do not agree</td>
<td>63</td>
<td>310</td>
<td>131</td>
</tr>
</tbody>
</table>
Will changing the USMLE Step 1 to Pass/Fail increase the emphasis on Step 2 CK scores in selecting applicants

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>415</td>
<td>82.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>68</td>
<td>13.5</td>
</tr>
<tr>
<td>Do not agree</td>
<td>21</td>
<td>4.2</td>
</tr>
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</table>

Will changing the USMLE Step 1 to Pass/Fail put international medical graduates at a disadvantage

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>271</td>
<td>53.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>139</td>
<td>27.6</td>
</tr>
<tr>
<td>Do not agree</td>
<td>94</td>
<td>18.7</td>
</tr>
</tbody>
</table>

Will changing USMLE Step 1 to Pass/Fail impact the ability to predict passing boards

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>203</td>
<td>40.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>209</td>
<td>41.5</td>
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<tr>
<td>Do not agree</td>
<td>92</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Will changing USMLE Step 1 to Pass/Fail decrease the quality of applicants

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>154</td>
<td>30.6</td>
</tr>
<tr>
<td>Neutral</td>
<td>169</td>
<td>33.5</td>
</tr>
<tr>
<td>Do not agree</td>
<td>181</td>
<td>35.9</td>
</tr>
</tbody>
</table>

GPA, grade point average. USMLE, United States Medical License exam. IMG, international medical graduate

Table 2. Ranking of activities in their importance from 1-6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Frequency (n=504)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USMLE Scores</td>
<td>First</td>
<td>277</td>
<td>55.0</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>105</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>57</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>Fourth</td>
<td>33</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>Fifth</td>
<td>19</td>
<td>3.8</td>
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<tr>
<td></td>
<td>Sixth</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td>Personal Statement</td>
<td>First</td>
<td>34</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>52</td>
<td>31.2</td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>84</td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td>Fourth</td>
<td>123</td>
<td>24.4</td>
</tr>
<tr>
<td></td>
<td>Fifth</td>
<td>141</td>
<td>28.0</td>
</tr>
<tr>
<td></td>
<td>Sixth</td>
<td>70</td>
<td>13.9</td>
</tr>
<tr>
<td>Research Experience</td>
<td>First</td>
<td>96</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>194</td>
<td>38.5</td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>84</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>Fourth</td>
<td>59</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>Fifth</td>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Sixth</td>
<td>8</td>
<td>1.6</td>
</tr>
<tr>
<td>Letter of Recommendations</td>
<td>First</td>
<td>82</td>
<td>16.3</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>106</td>
<td>38.5</td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>115</td>
<td>22.8</td>
</tr>
<tr>
<td></td>
<td>Fourth</td>
<td>84</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>Fifth</td>
<td>75</td>
<td>14.9</td>
</tr>
<tr>
<td></td>
<td>Sixth</td>
<td>42</td>
<td>8.3</td>
</tr>
<tr>
<td>Deans Letter</td>
<td>First</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>Second</td>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Third</td>
<td>51</td>
<td>10.1</td>
</tr>
<tr>
<td></td>
<td>Fourth</td>
<td>114</td>
<td>22.6</td>
</tr>
<tr>
<td></td>
<td>Fifth</td>
<td>133</td>
<td>26.4</td>
</tr>
<tr>
<td></td>
<td>Sixth</td>
<td>185</td>
<td>36.7</td>
</tr>
</tbody>
</table>
### Extracurricular Activities

<table>
<thead>
<tr>
<th>Position</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
<th>Sixth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>27</td>
<td>70</td>
<td>91</td>
<td>116</td>
<td>186</td>
</tr>
<tr>
<td>Percentage</td>
<td>2.8</td>
<td>5.4</td>
<td>13.9</td>
<td>18.1</td>
<td>23.0</td>
<td>36.9</td>
</tr>
</tbody>
</table>

**USMLE**, United States Medical License Exam

### Table 3. Factors associated with participants’ attitude toward the change

<table>
<thead>
<tr>
<th>Variable</th>
<th>The change in IMGs number applying to the residency</th>
<th>The change in research work</th>
<th>I would like Step 1 to be pass/fail</th>
<th>Step 1 Gives accurate estimation of knowledge</th>
<th>The amount of knowledge gained/re-learned would</th>
<th>Importance of Step 1 score for residency application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.035*</td>
<td>0.000*</td>
<td>0.783</td>
<td>0.011*</td>
<td>0.000*</td>
<td>0.744</td>
</tr>
<tr>
<td>Gender</td>
<td>0.557</td>
<td>0.124</td>
<td>0.247</td>
<td>0.960</td>
<td>0.605</td>
<td>0.026</td>
</tr>
<tr>
<td>Parents are doctors</td>
<td>0.228</td>
<td>0.219</td>
<td>0.150</td>
<td>0.045*</td>
<td>0.000*</td>
<td>0.228</td>
</tr>
<tr>
<td>Nationality</td>
<td>0.770</td>
<td>0.764</td>
<td>0.607</td>
<td>0.179</td>
<td>0.910</td>
<td>0.195</td>
</tr>
<tr>
<td>Year of study</td>
<td>0.713</td>
<td>0.000*</td>
<td>0.777</td>
<td>0.851</td>
<td>0.498</td>
<td>0.267</td>
</tr>
<tr>
<td>GPA</td>
<td>0.017*</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.198</td>
<td>0.162</td>
<td>0.838</td>
</tr>
<tr>
<td>Number of publications</td>
<td>0.023*</td>
<td>0.110</td>
<td>0.231</td>
<td>0.239</td>
<td>0.132</td>
<td>0.255</td>
</tr>
<tr>
<td>What does USMLE step 1 test for</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.639</td>
<td>0.064</td>
<td>0.000*</td>
<td>0.024*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Relevance of Step 1 content to future residency</th>
<th>Relevance of Step 1 to future medical practice</th>
<th>Number of interviews granted</th>
<th>With step 1 pass/fail, I would be ranked more highly</th>
<th>This change is a good idea</th>
<th>Make it more difficult to compare applicants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.405</td>
<td>0.278</td>
<td>0.567</td>
<td>0.608</td>
<td>0.900</td>
<td>0.110</td>
</tr>
<tr>
<td>Gender</td>
<td>0.775</td>
<td>0.585</td>
<td>0.003*</td>
<td>0.644</td>
<td>0.440</td>
<td>0.426</td>
</tr>
<tr>
<td>Parents are doctors</td>
<td>0.639</td>
<td>0.157</td>
<td>0.241</td>
<td>0.326</td>
<td>0.030*</td>
<td>0.628</td>
</tr>
<tr>
<td>Nationality</td>
<td>0.282</td>
<td>0.872</td>
<td>0.197</td>
<td>0.337</td>
<td>0.886</td>
<td>0.719</td>
</tr>
<tr>
<td>Year of study</td>
<td>0.665</td>
<td>0.631</td>
<td>0.115</td>
<td>0.143</td>
<td>0.736</td>
<td>0.344</td>
</tr>
<tr>
<td>GPA</td>
<td>0.090</td>
<td>0.102</td>
<td>0.166</td>
<td>0.002*</td>
<td>0.013*</td>
<td>0.101</td>
</tr>
<tr>
<td>Number of publications</td>
<td>0.051</td>
<td>0.211</td>
<td>0.031*</td>
<td>0.000*</td>
<td>0.050</td>
<td>0.066</td>
</tr>
<tr>
<td>What does USMLE step 1 test for</td>
<td>0.393</td>
<td>0.426</td>
<td>0.812</td>
<td>0.788</td>
<td>0.178</td>
<td>0.151</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Make it more difficult to screen applicants</th>
<th>Increase the emphasis on the Step 2 score</th>
<th>Puts IMGs in Disadvantage</th>
<th>Impact predicting passing boards</th>
<th>Decrease the quality of the applicants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.156</td>
<td>0.000*</td>
<td>0.053</td>
<td>0.350</td>
<td>0.384</td>
</tr>
<tr>
<td>Gender</td>
<td>0.720</td>
<td>0.489</td>
<td>0.856</td>
<td>0.897</td>
<td>0.993</td>
</tr>
<tr>
<td>Parents are doctors</td>
<td>0.385</td>
<td>0.033*</td>
<td>0.827</td>
<td>0.000*</td>
<td>0.240</td>
</tr>
<tr>
<td>Nationality</td>
<td>0.439</td>
<td>0.648</td>
<td>0.704</td>
<td>0.733</td>
<td>0.527</td>
</tr>
<tr>
<td>Year of study</td>
<td>0.544</td>
<td>0.136</td>
<td>0.079</td>
<td>0.537</td>
<td>0.455</td>
</tr>
</tbody>
</table>
Table 4. Ordinal regression analysis for the factors associated with the participants’ choice of who will be influenced positively or negatively by this change.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The change in applying for residency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GPA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-0.121</td>
<td>(-0.227 - -0.014)*</td>
</tr>
<tr>
<td></td>
<td>Fail</td>
<td>0.911</td>
<td>(-3.960 - 5.783)</td>
</tr>
<tr>
<td></td>
<td>Pass</td>
<td>0.039</td>
<td>(-1.766 - 1.844)</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>0.375</td>
<td>(-0.300 - 1.050)</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>0.272</td>
<td>(-0.212 - 0.757)</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td><strong>Number of publications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>0.429</td>
<td>(-0.712 - 1.570)</td>
</tr>
<tr>
<td>1-5</td>
<td></td>
<td>0.262</td>
<td>(-0.942 - 1.467)</td>
</tr>
<tr>
<td>&gt;5</td>
<td></td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td><strong>What does USMLE Step 1 test for</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirement to graduate from medical school in Jordan</td>
<td>0.276</td>
<td>(-4.511 - 5.064)</td>
<td></td>
</tr>
<tr>
<td>Basic Knowledge</td>
<td></td>
<td>-0.496</td>
<td>(-1.141 - 0.148)</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
<td></td>
<td>-1.210</td>
<td>(-2.528 - 0.108)</td>
</tr>
<tr>
<td>Test to apply for medical school in the United States</td>
<td>Control</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td><strong>The change in research work</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>GPA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-0.110</td>
<td>(-0.274 - 0.054)</td>
</tr>
<tr>
<td></td>
<td>Fail</td>
<td>0.024</td>
<td>(-6.531 - 6.579)</td>
</tr>
<tr>
<td></td>
<td>Pass</td>
<td>-0.249</td>
<td>(-2.547 - 2.049)</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>0.073</td>
<td>(-0.802 - 0.948)</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>-0.245</td>
<td>(-0.934 - 0.444)</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td><strong>What does USMLE Step 1 test for</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirement to graduate from medical school in Jordan</td>
<td>0.991</td>
<td>(-5.444 - 7.426)</td>
<td></td>
</tr>
<tr>
<td>Basic Knowledge</td>
<td></td>
<td>-0.118</td>
<td>(-0.864 - 0.627)</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
<td></td>
<td>-1.406</td>
<td>(-2.837 - 0.026)</td>
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<tr>
<td>Test to apply for medical school in the United States</td>
<td>Control</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td><strong>Year of Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td></td>
<td>-1.960</td>
<td>(-3.232 - -0.689)*</td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td>-1.204</td>
<td>(-2.373 - -0.035)*</td>
</tr>
<tr>
<td>Third</td>
<td></td>
<td>-0.722</td>
<td>(-1.774 - 0.331)</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td>-0.116</td>
<td>(-1.121 - 0.890)</td>
</tr>
<tr>
<td>Fifth</td>
<td></td>
<td>-0.508</td>
<td>(-1.396 - 0.381)</td>
</tr>
<tr>
<td>Sixth</td>
<td></td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

**GPA**, grade point average. **USMLE**, United States Medical License exam. **IMG**, international medical graduate. Chi-square test, *P*-value<0.05.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
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<tbody>
<tr>
<td>GPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fail</td>
<td>1.086</td>
<td>(-1.149-3.321)</td>
</tr>
<tr>
<td>Pass</td>
<td>0.374</td>
<td>(-1.022-1.770)</td>
</tr>
<tr>
<td>Good</td>
<td>1.312</td>
<td>(0.799-1.825)*</td>
</tr>
<tr>
<td>Very Good</td>
<td>0.578</td>
<td>(0.210-0.945)*</td>
</tr>
<tr>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
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</table>

**I would like Step 1 to be pass/fail**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fail</td>
<td>1.086</td>
<td>(-1.149-3.321)</td>
</tr>
<tr>
<td>Pass</td>
<td>0.374</td>
<td>(-1.022-1.770)</td>
</tr>
<tr>
<td>Good</td>
<td>1.312</td>
<td>(0.799-1.825)*</td>
</tr>
<tr>
<td>Very Good</td>
<td>0.578</td>
<td>(0.210-0.945)*</td>
</tr>
<tr>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

**Gives accurate estimation of knowledge**

<table>
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<th>(95%CI)</th>
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</thead>
<tbody>
<tr>
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<td>-0.107</td>
<td>(-0.204-0.009)*</td>
</tr>
<tr>
<td>Any parents are a doctor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.384</td>
<td>(-0.634-1.402)</td>
</tr>
<tr>
<td>One</td>
<td>-0.05</td>
<td>(-1.474-0.741)</td>
</tr>
<tr>
<td>Both</td>
<td>Control</td>
<td>Control</td>
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</tbody>
</table>

**The amount of knowledge gained/relearned would**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any parents are doctors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>-0.468</td>
<td>(-2.171-1.234)</td>
</tr>
<tr>
<td>One</td>
<td>-0.846</td>
<td>(-2.644-0.951)</td>
</tr>
<tr>
<td>Both</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>GPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fail</td>
<td>-2.348</td>
<td>(-5.444-0.748)</td>
</tr>
<tr>
<td>Pass</td>
<td>-1.214</td>
<td>(-2.803-0.376)</td>
</tr>
<tr>
<td>Good</td>
<td>0.425</td>
<td>(-0.426-1.276)</td>
</tr>
<tr>
<td>Very Good</td>
<td>-0.604</td>
<td>(-1.166--0.041)*</td>
</tr>
<tr>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

**Number of Publications**

<table>
<thead>
<tr>
<th>Variable</th>
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<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.692</td>
<td>(-0.529-1.913)</td>
</tr>
<tr>
<td>1-5</td>
<td>-0.169</td>
<td>(-1.442-1.103)</td>
</tr>
<tr>
<td>&gt;5</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

**What does USMLE Step 1 test for**

<table>
<thead>
<tr>
<th>Requirement to graduate from medical school in Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Knowledge</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
</tr>
</tbody>
</table>

**Importance of USMLE Step 1 score for residency application**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-0.318</td>
<td>(-0.642-0.007)</td>
</tr>
<tr>
<td>Female</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>What does USMLE Step 1 test for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirement to graduate from medical school in Jordan</td>
<td>0.768</td>
<td>(-1.483-3.019)</td>
</tr>
</tbody>
</table>

**Relevance of Step 1 content to future residency**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any parents are a doctor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0.497</td>
<td>(-0.453-1.447)</td>
</tr>
<tr>
<td>One</td>
<td>-0.521</td>
<td>(-1.569-0.526)</td>
</tr>
<tr>
<td>Both</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>
## Number of interviews granted

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>-0.617 (-0.948- -0.285)*</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Control</td>
</tr>
<tr>
<td>Number of publications</td>
<td>0</td>
<td>-0.877 (-1.782-0.028)</td>
</tr>
<tr>
<td></td>
<td>1-5</td>
<td>-1.156 (-2.117- -0.195)*</td>
</tr>
<tr>
<td></td>
<td>&gt;5</td>
<td>Control</td>
</tr>
</tbody>
</table>

### With Step 1 pass/fail, I would be ranked more highly by residency programs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>Fail</td>
<td>0.982 (-1.507-3.472)</td>
</tr>
<tr>
<td></td>
<td>Pass</td>
<td>0.877 (-0.555-2.308)</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>0.867 (0.333-1.400)*</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>0.563 (0.169-0.957)*</td>
</tr>
<tr>
<td>Number of publications</td>
<td>0</td>
<td>Control</td>
</tr>
<tr>
<td></td>
<td>1-5</td>
<td>-1.376 (-2.369- -0.382)*</td>
</tr>
<tr>
<td></td>
<td>&gt;5</td>
<td>-1.275 (-2.319- -0.232)*</td>
</tr>
</tbody>
</table>

### The change to pass/fail is a good idea

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA</td>
<td>Fail</td>
<td>1.87 (-5.59-9.32)</td>
</tr>
<tr>
<td></td>
<td>Pass</td>
<td>-1.55 (-9.33-6.23)</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>-0.05 (-0.52-0.43)</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>0.21 (-0.07-0.49)</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>0.06 (-0.20-0.32)</td>
</tr>
<tr>
<td>Any of the parents are doctors</td>
<td>None</td>
<td>-1.522 (-2.692- -0.353)*</td>
</tr>
<tr>
<td></td>
<td>One</td>
<td>-1.039 (-2.292-0.214)</td>
</tr>
<tr>
<td></td>
<td>Both</td>
<td>Control</td>
</tr>
</tbody>
</table>

### Make it more difficult to screen applicants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does USMLE Step 1 test for</td>
<td>Requirement to graduate from medical school in Jordan</td>
<td>-2.517 (-5.662-0.629)</td>
</tr>
<tr>
<td></td>
<td>Basic Knowledge</td>
<td>-1.55 (-0.900-0.122)</td>
</tr>
<tr>
<td></td>
<td>Clinical Knowledge</td>
<td>-0.05 (-2.006-0.429)</td>
</tr>
<tr>
<td></td>
<td>Test to apply for medical school in the United States</td>
<td>Control</td>
</tr>
<tr>
<td>GPA</td>
<td>Fail</td>
<td>-0.923 (-3.907-2.060)</td>
</tr>
<tr>
<td></td>
<td>Pass</td>
<td>-0.632 (-2.089-0.824)</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>-0.731 (-1.243- -0.219)*</td>
</tr>
<tr>
<td></td>
<td>Very Good</td>
<td>-0.101 (-0.510-0.307)</td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>Control</td>
</tr>
</tbody>
</table>

### Increase the emphasis on Step 2 CK score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-</td>
<td>-0.084 (-0.192-0.025)</td>
</tr>
<tr>
<td>What does USMLE Step 1 test for</td>
<td>Requirement to apply to graduate from medical school in Jordan</td>
<td>0.200 (-4.769-5.168)</td>
</tr>
<tr>
<td></td>
<td>Basic Knowledge</td>
<td>0.778 (0.194-1.361)*</td>
</tr>
<tr>
<td>Variable</td>
<td>Adjusted B</td>
<td>(95% CI)</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
<td>-0.059</td>
<td>(-1.450-1.332)</td>
</tr>
<tr>
<td>GPA, Test to apply for medical school in the United States</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>Fail</td>
<td>-0.670</td>
<td>(-5.706-4.367)</td>
</tr>
<tr>
<td>Pass</td>
<td>-1.121</td>
<td>(-2.713-0.471)</td>
</tr>
<tr>
<td>Good</td>
<td>-0.259</td>
<td>(-0.992-0.474)</td>
</tr>
<tr>
<td>Very Good</td>
<td>-0.447</td>
<td>(-1.016-0.122)</td>
</tr>
<tr>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>Any of the parents are doctors</td>
<td></td>
<td></td>
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<tr>
<td>None</td>
<td>-0.791</td>
<td>(-2.749-1.168)</td>
</tr>
<tr>
<td>One</td>
<td>-1.262</td>
<td>(-3.295-0.771)</td>
</tr>
<tr>
<td>Both</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>Number of publications</td>
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<tr>
<td>0</td>
<td>0.879</td>
<td>(-0.259-2.016)</td>
</tr>
<tr>
<td>1-5</td>
<td>0.052</td>
<td>(-1.140-1.244)</td>
</tr>
<tr>
<td>&gt;5</td>
<td>Control</td>
<td>Control</td>
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</table>

**Puts IMGs in Disadvantage**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>What does USMLE Step 1 test for Requirement to graduate from medical school in Jordan</td>
<td>-38.875</td>
<td>(0.000-0.000)</td>
</tr>
<tr>
<td>Basic Knowledge</td>
<td>0.016</td>
<td>(-0.456-0.487)</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
<td>-1.196</td>
<td>(-2.391-0.002)*</td>
</tr>
<tr>
<td>Test to apply for medical school in the United States</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>GPA, Fail</td>
<td>18.588</td>
<td>(0.000-0.000)</td>
</tr>
<tr>
<td>Pass</td>
<td>-0.820</td>
<td>(-2.252-0.612)</td>
</tr>
<tr>
<td>Good</td>
<td>-0.720</td>
<td>(-1.268-0.172)*</td>
</tr>
<tr>
<td>Very Good</td>
<td>-0.396</td>
<td>(-0.816-0.025)</td>
</tr>
<tr>
<td>Excellent</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

**Impact predicting passing boards**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted B</th>
<th>(95% CI)</th>
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</thead>
<tbody>
<tr>
<td>Any of the parents are doctors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>-0.282</td>
<td>(-1.267-0.702)</td>
</tr>
<tr>
<td>One</td>
<td>-1.338</td>
<td>(-2.423-0.254)*</td>
</tr>
<tr>
<td>Both</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>Number of publications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>-0.113</td>
<td>(-0.988-0.762)</td>
</tr>
<tr>
<td>1-5</td>
<td>-0.529</td>
<td>(-1.464-0.405)</td>
</tr>
<tr>
<td>&gt;5</td>
<td>Control</td>
<td>Control</td>
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</tbody>
</table>

**Decrease the quality of the applicants**

<table>
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<th>(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does USMLE Step 1 test for Requirement to graduate from medical school in Jordan</td>
<td>-20.869</td>
<td>(-20.869-20.869)</td>
</tr>
<tr>
<td>Basic Knowledge</td>
<td>-0.487</td>
<td>(-0.932-0.042)*</td>
</tr>
<tr>
<td>Clinical Knowledge</td>
<td>0.255</td>
<td>(-0.921-1.431)</td>
</tr>
<tr>
<td>Test to apply for medical school in the United States</td>
<td>Control</td>
<td>Control</td>
</tr>
</tbody>
</table>

GPA, grade point average. USMLE, United States Medical License exam. IMG, international medical graduate. Ordinal regression analysis, *P-value<0.05.
REFERENCES


2. USMLE Step 1 Transition to Pass/Fail Only Score Reporting | USMLE [Internet]. [cited 2022 Mar 25]. Available from: https://www.usmle.org/usmle-step-1-transition-passfail-only-score-reporting


