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RESEARCH ARTICLE

Comparison of the Professionalism Behaviours of Medical Students from Four GCC Universities with Single-gender and Co-educational Learning Climates

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Abstract:

Background:

Medical professionalism is a multi-dimensional construct that is viewed differently across institutions. Such variations might be related to diverse cultural and societal characteristics of learners and faculty.

Objectives:

This study determined whether differences exist between proposed sanctions for a one-time academic integrity infraction associated with unprofessional behaviors. We selected four medical schools with either single-gender or co-educational learning environments in the Gulf Cooperation Council (GCC) countries.

Methods:

The 34-statement Dundee Polyprofessionalism Inventory I was disseminated to all medical students across years in selected institutions. Descriptive and inferential statistical analyses were conducted, and median scores were used to determine the respondents' proposed sanctions.

Results:

Of the 1941 invitees, 1313 students responded (response rate of 68%). Significant similarity, as recorded by median sanction scores was recorded for 21 (62%) of the 34 inventory items from two medical schools. However, significant differences of one level of difference between all the median sanction scores for single-gender and co-educational students were found for 32% of inventory items. In co-educational schools, males were stricter than females for 9% and seniors were stricter than juniors for 12% of the inventory items. In contrast, in single-gender schools, females were stricter than males for only 6% of the inventory and seniors were more lenient than juniors for another 6% of the inventory.

Conclusions:

This study reports significant congruence and some differences in medical students' perceptions of unprofessional behaviors. Educators are urged to develop a unified framework for enforcing sanctions to unprofessional behaviors.

Keywords: Dundee polyprofessionalism, Medical professionalism, Cultural characteristics, Gulf cooperation council countries, Unprofessional behaviors, Co-education.

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1. INTRODUCTION

Academic integrity is a comprehensive concept that incorporates many fundamental values, such as scientific honesty, originality, accountability, responsibility, respect, trust, fairness, and acknowledgement of the ideas of others. Academic integrity and scientific honesty are the basis of the quality of education and research [1]. Various researchers in different contexts have defined the term "medical professionalism" differently. Such variation might be related to the various types and nature of organizations that researchers are from as well as their due to cultural and societal characteristics [2]. According to the Accreditation Council for Graduate Medical Education (ACGME 2004), professionalism is related to the "commitment to carrying out professional responsibilities, adherence to

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ethical principles, and sensitivity to a diverse patient population" [3]. The main components of medical professionalism include integrity, honesty, the ability to work in a team, and effective communication skills between doctors and their patients [4, 5]. Additionally, altruism is a key component of professionalism that refers to selflessness and commitment to duty over self-care [6].

Medical polyprofessionalism refers to working together with a variety of healthcare specialists to deliver high quality, evidence-based patient care [7]. Worldwide, evaluation of the offenses that violate professional and academic codes of ethics are often subjective and varies among institutions according to cultural and social factors. Within the Gulf Cooperation Council (GCC) countries, a call for the integration of professionalism into medical schools' national curricula has been well received [8]. Therefore, a national competency framework for doctors was developed in the Kingdom of Saudi Arabia (KSA) that contains 6 of 30 elements related to professionalism [9]. In the United Arab Emirates (UAE), a study was performed by Abdel-Raziq *et al.* to reach a consensus on the characteristics of medical professionalism as viewed by a professional team [8]. The study results identified nine characteristics: communication, integrity, education, compassion and empathy, respect, commitment to advocacy, responsibility, adherence to ethical practice, and lifelong learning. Of these, compassion and empathy are noteworthy as they reflect the degree of professional attachment of the physicians with their patients.

As shown in the literature, many studies have been performed to investigate students' insights for appropriate penalties for infractions based on hypothetical events related to professional problems [10]. Nevertheless, it has been argued that it is difficult to reach a consensus or produce consistent results regarding the proper responses from a professional team through studies based on hypothetical events [11]. Roff and her colleagues carried out a series of studies to generate a list of agreed-upon levels of sanctions for unprofessional actions related to academic integrity, which ultimately led to the development of the Dundee Polyprofessionalism Inventory [12]. This inventory is an accessible, validated tool to evaluate academic integrity worldwide. The inventory investigates the attitudes of respondents regarding the most critical issues related to the quality of academic and professional practice to meet ethical codes by the General Medical Council (GMC) in the United Kingdom (UK). In 2011, an attempt was made to reach a consensus among medical teachers and students in the UK regarding lapses in academic integrity and professionalism. The study reported that there was a broad range of consensus among the two groups [12]. Since then, the inventory has been utilized at national and international levels. For example, the inventory has been utilized to identify the perceptions of medical students from one medical school regarding the recommended sanctions for unprofessional behaviors related to academic integrity [13]; to explore perceptions of the severity of lapses in professionalism among medical students at two medical schools at a national level [14] and among medical students in two different cultural contexts; to determine the degree of consensus regarding recommended sanctions between faculty and students in one medical school environment [12]; to compare the views of students and faculty regarding recommended sanctions at two different medical schools at a national level [15] and at two different medical schools in 2 different cultural contexts (international level) [5]; to map medical students professionalism in three different countries within the Arab Gulf region [16]; and to map norms of professionalism among medical students and faculty cohorts in multiple settings both within the UK and internationally, mainly in the KSA, Pakistan, and Egypt [17]. Regrettably, there is a scarcity of data that can shed light on the role of gender in shaping and explaining participants' views about unprofessional behaviors.

To the best of the authors' knowledge, no formal study has examined the variations in the recommended sanctions for academic integrity infractions among medical students enrolled in medical schools with either single-gender or co-educational learning environments within GCC countries. The purpose of the current study is to compare the two medical schools' learning environments regarding the similarities and differences in students' recommended sanctions for unprofessional behaviors. The study aims to determine whether significant differences exist in the proposed sanctions of students from four medical schools with either single-gender or co-educational learning environments in GCC countries.

2. METHODS

2.1. Study Settings

The current study was performed in four medical schools in GCC countries: one in the KSA (single-gender learning environment), one in Bahrain (BAH) (co-educational learning environment), one in the UAE in Al Ain (UAE-Al Ain) (single-gender learning environment), and one in the UAE in Sharjah (UAE-Sharjah) (co-educational learning environment).

2.2. Study Design

A cross-sectional study was performed from 1st April to the end of October 2016.

2.3. Study Population Sample Size and Sampling Technique

This study recruited all undergraduate medical students in their first, second, third, fourth, and fifth years studying at the four target medical schools in the KSA, BAH, the UAE-Al Ain, and the UAE-Sharjah.

2.4. Data Collection Tools

The questionnaire was administered on paper and online through SurveyMonkey® to all participants studying years one through five in the KSA, BAH, the UAE-Ain, and the UAE-Sharjah. The objective of the study was clarified on the cover page of the questionnaire, and the anonymous and voluntary basis of participation and confidentiality was explained. A participant's completion of the survey was considered his or her provision of informed consent.

2.5. Instrument

We used the Dundee Polyprofessionalism Inventory I: Academic Integrity[9] to investigate students' opinions about the

proper sanctions for unprofessional behaviors related to academic integrity. The inventory includes 34 unprofessional behavior items (**Appendix 1**) for which students were asked to propose a sanction for a one-time lapse in each behavior with no mitigating situations. The sanction scores range from one to ten as shown below;

1= Ignore
2= Reprimand (verbal warning)
3= Reprimand (written warning)
4= Reprimand, plus mandatory counseling
5= Reprimand, counseling, extra work assignment
6 =Failure of specific class/remedial work to gain credit
7= Failure of specific year (repetition allowed)
8= Expulsion from college (readmission after one year possible)
9= Expulsion from college (no chance for readmission)
10= Report to regulatory body

Additionally, sociodemographic data, including variables such as gender, age nationality, and year of study, were included.

Table 1. Descriptive statistics of the medical students who were surveyed about sanctions for unprofessional behaviors (N=1313).

Features	Single-gender	Co-educational	Total
Age (Years)	**21.07±1.37**	**21.24±1.36**	
	No (%)	No (%)	No (%)
17-19	71 (8.6)	57 (11.8)	128 (9.7)
20-24	745 (90.0)	385 (79.4)	1130 (86.1)
25 or more	12 (1.4)	43 (8.9)	55 (4.2)
Gender			
Male	181 (13.7)	232 (17.6)	404 (30.7)
Female	291 (22.1)	618 (47)	909 (69.3)
Level of study			
Junior	266 (20.2)	421 (32)	687 (52.3)
Senior	219 (16.6)	407 (30.9)	626 (47.7)

2.6. Statistical Analysis

The Statistical Package for Social Sciences, version 19 (SPSS, IBM, Chicago, Illinois, USA) was utilized to analyze the data. Descriptive statistics were calculated, with categorical data reported as frequencies and percentages and continuous data reported as medians, means, and standard deviations. According to the results of the normality test, non-parametric tests were utilized. Comparison analyses of the participants' median sanction scores based on their demographic characteristics were performed using the Mann-Whitney U test and Kruskal-Wallis tests (for two groups and for more than 2 groups, respectively). A significance level of 0.05 was considered the cut-off point for statistical significance.

2.7. Ethical Considerations

The current study obtained ethical approval from the institutional review board (IRB-2016-03-022) of the target medical school in the KSA, the Research Ethics Committee of the target medical school in the UAE-Sharjah (REC-18-10-09-01) and agreements with the targeted medical schools in BAH and the UAE-Al Ain.

3. RESULTS

Of 1941 distributed questionnaires, 1313 complete responses were received (response rate of 68%). Table **1** shows that the majority of the students in the two types of medical schools (90%, single-gender; 79%, co-educational) belonged to the 20-24 year age group. Most students were females at both single-gender and co-educational medical schools; 909 (69.3%) females and 404 (30.7%) males. Similarly, other demographics are outlined in Table **1**.

3.1. Comparison of the Students Proposed Sanctions for Unprofessional Behaviors

We found high similarity, as measured by the median sanction scores, for 21 (62%) of the 34 items in the inventory as proposed by the two groups of medical schools (Table **2**).

Table **3** shows that for 11 (32.4%) of the 34 items in the inventory, there were significant differences of one level of difference between all the median sanction scores provided by the students of single-gender and co-educational medical schools.

As many as 10 of the 34 items in the inventory showed significant similarity between all the median sanction scores provided by male and female students at single-gender or co-educational medical schools (Table **4**).

Table 2. Median scores of the proposed sanctions among students in single-gender and co-educational medical schools (N=1313).

Statement	Single-gender Medical Schools	Co-educational Medical Schools
S1	2	2
S2	4	4
S5	5	5
S6	5	5
S7	5	5
S8	4	4
S11	5	5
S12	3	3
S14	8	8
S15	5	5
S16	2	2
S17	8	8
S18	4	4
S19	3	3
S20	6	6
S22	9	9
S24	5	5
S25	6	6
S29	10	10
S31	4	4
S32	4	4

Table 3. Differences in the median sanction scores (of one level of difference) among students in single-gender and co-educational medical schools (N=1313).

Statement	Single-gender	Co-educational	*p-Value*
S3	2	3	0.000
S4	1	2	0.000
S9	4	5	0.000
S10	7	6	0.000
S13	7	6	0.000
S21	4	5	0.000
S23	5	4	0.002
S28	5	6	0.004
S30	3	4	0.000
S33	6	5	0.000
S34	8	7	0.000

Table 4. Comparison of responses with reference to the demographic characteristics of students from the single-gender and co-educational medical schools (N=1313).

		Gender			Age Group			
Statement	**Segregation Status**	**Male**	**Female**	***p-value***	**17-19**	**20-24**	**≥ 25**	***p-value***
S6	Single-gender	5	5	0.000	5	5	5	0.888
	Co-educational	4.50	5	0.555	4	5	4	0.608
S7	Single-gender	5	5	0.009	6	5	6	0.696
	Co-educational	5	5	0.614	5	5	5	0.517
S8	Single-gender	4	4	0.000	4	4	3.50	0.809
	Co-educational	4	4	0.820	4	4	4	0.763
S11	Single-gender	5	5	0.001	5	5	8.50	0.333
	Co-educational	5	5	0.909	5	5	5	0.749
S17	Single-gender	6	8	0.000	8	8	10	0.726
	Co-educational	7	8	0.382	9	7	8	0.028
S18	Single-gender	3	5	0.000	5	4	3.50	0.112
	Co-educational	4	3	0.958	2	4	4	0.000
S23	Single-gender	4	5	0.055	5	5	3	0.233
	Co-educational	4	4	0.302	3	4	4	0.055
S24	Single-gender	5	5	0.031	5	5	3.50	0.010
	Co-educational	5	5	0.239	5	5	5	0.256
S25	Single-gender	6	6	0.000	6	6	6	0.586
	Co-educational	6	6	0.092	6	6	7	0.007
S27	Single-gender	4	3	0.000	3	3	4	0.967
	Co-educational	4	3	0.054	3	4	4	0.004
	Co-educational	4	4	0.004	5	4	5	0.000

Table **4** displays a comparison of the gender differences in the median sanction scores within each type of medical school. For the co-educational medical schools, there were significant differences between one or more levels in the median sanction scores provided by female and male students regarding 3 items (S3, S16, and S26). Male students were significantly stricter ($p < 0.05$) for these items than their female counterparts. For single-gender medical schools, there were significant differences ($p < 0.000$) of one or more levels in the median sanction scores provided by female and male students regarding 3 items (S17, S18, and S27). Females were significantly stricter for S17 and S18, while males were significantly stricter for S27.

Table **4** also displays the significant differences in the median scores for the statements based on age group across the two types of medical schools. For the co-educational medical schools, notably, students belonging to the older age group (*i.e.*, ≥ 25 years old) were stricter than other age groups in their recommended sanctions for seven statements. On the other hand, the younger students (20-24 years old) were more lenient than the other age groups in their recommended sanction for S17, "providing illegal drugs to fellow students". For the single-gender medical schools, older students (≥ 25-year-old) were more lenient than the other age groups in their recommended sanctions for S19, "examining patients without knowledge or consent of supervising clinician", and S24,

"plagiarizing work from a fellow student or publications/ internet". This study also showed that for the co-educational medical schools, senior students were stricter than the junior students in their recommended sanctions for S18, S27, S31, and S32. For the single-gender medical schools, senior students were more lenient than junior students in their proposed sanctions for S4, S12, S17, S19, and S23, while they were stricter for S9, "threatening or verbally abusing a university or college employee or fellow student".

4. DISCUSSION

This research has highlighted some congruence and some variations in perceptions of the 34 identified unprofessional behaviors among medical students from four universities in GCC countries. There were significant similarities for 21 (62%) of the 34 items in the inventory, as measured by the median sanction scores. In sharp contrast, we found significant variations of one level of difference between all median sanction scores provided by the students from single-gender and co-educational medical schools for 11 (32.4%) of 34 items in the inventory. Such findings indicate a lack of standardized policy regarding sanctions and a lack of general consensus regarding the proper way to address unprofessional behaviors in medical schools.

Our study showed that 27 (79%) of the students from single-gender medical schools and 19 (56%) of the students from co-educational medical schools, including both male and female students, exhibited significant similarity for all their median sanction scores. This finding suggests some similarities in the study cohort's understandings of professional attitudes and their suggested sanctions. Interestingly, in the study by Shukr and Roff [14], 1%-64% of Pakistani medical students admitted having committed 44 of 47 lapses in academic integrity, whereas, in our study, 34% of the respondents indicated that they had either witnessed or committed unprofessional acts. This wide range of variation has been linked to cultural and regional differences in various studies [18]. In one study, Ho *et al.* gathered Taiwanese students' responses to ethical scenarios in five medical practice vignettes. The participants were presented with ethical dilemmas from North America, and then the collected data were compared with the data from the Canadian medical students. Although the Canadian framework was generally acceptable to the Taiwanese students, there were some different principles that were predominantly influenced by cultural virtues. In another study, Chandratilake *et al.* [19] identified 46 professional characteristics through a rigorous literature review and then surveyed 584 medical practitioners from the UK, Europe, North America and Asia. The researchers then measured the 'essentialness' of each attribute framed around different geographic perspectives using the content validity index. This study identified 29 attributes as 'essential', thereby indicating the universality of the defined professional attributes; however, six attributes were considered non-essential.

In the current study, in the co-educational medical schools, the senior students (*i.e.*, ≥ 25-year-old) were stricter than the junior students in their recommended sanctions for S3, S12, S15, S16, S18, S21, and S25. Most of these unprofessional attributes are related to drug abuse and the provision of drugs to fellow students. Since all participants in this study belonged to the Muslim community, their strictness regarding these unprofessional acts reaffirms a general consensus about drug abuse and its legal and religious implications. In sharp contrast, from the single-gender medical schools, older students (≥ 25 years old) were more lenient than the younger students in their recommended sanctions for S19, "examining patients without knowledge or consent of supervising clinician", and S24, "plagiarizing work from a fellow student or publications/ internet". Worldwide, there has been a staggering rise in the incidence of the plagiarism of scientific literature [20]. Poor writing skills, a lack of knowledge about plagiarism, the pressure to publish mantra and academic and financial perks have been identified as key confounding factors contributing to plagiarism. In our study, other unprofessional behaviors had nonsignificant variations in the recommended sanctions, indicating major areas of consensus about professionalism. This study reports a consensus by the majority of the students from all four medical schools in the recommendation of high sanctions for cheating on examinations. Cheating involves the use of crib notes that are illegally brought into examination rooms and the use of silent cell phones to carry subject notes in students' inbox and outbox folders. In collaborative cheating, candidates exchange special examination papers to help each other. We also observed that the students from single-gender medical schools were stricter than the students from co-educational medical schools for S9, "threatening or verbally abusing a university or college employee or fellow student" [21]. This strictness coincides with the degree of harassment that university students experience, particularly in countries with single-gender institutions [22].

Our study showed that in co-educational medical schools, greater sanctions were recommended by male than female students for 9% of the inventory items, whereas in single-gender learning environments, females were stricter than males in their proposed sanctions for only 6% of the inventory. While no logical insight can be derived from this finding, one can conclude that gender variations do exist among medical students regardless of the educational climate. However, generally, female students recommend strict behavior towards students making personal insults and derogatory remarks, while male students are stricter towards plagiarism and cheating [23]. In a comparative study of cheaters and non-cheaters, Jordan [24] argued that cheaters had different perspectives in terms of their knowledge of institutional policy and social norms about cheating. The study concluded that cheaters possessed lower mastery motivation and higher extrinsic motivation. These findings suggest the need to foster students' awareness of unprofessional attitudes, including cheating and academic misconduct [25].

Understanding professionalism and its key elements hold a vital place for international medical graduates (IMGs), who are qualified in other countries but serve in the UK [26]. IMGs account for 37% of the registered physicians within the GMC. IMGs working in the Great Britain are reported to have been subjected to proportionally more investigations by the GMC regarding complaints about poor clinical skills, insufficient

professional knowledge about legislative codes [27]. A body of literature has signaled that the majority of IMGs are not prepared to work in the UK due to difficulties in understanding the legal framework and cultural expectations of patients [28]. Poor communication skills, unawareness of cultural norms, individual autonomy, probity, confidentiality, and informed consent to treatment, which are required within the National Health Services (NHS), are major hurdles to the trainees. This dilemma, if not appropriately handled, can potentially lead to serious consequences, such as threats to patient safety, more complaints against practicing doctors, escalating compensation claims, and poor impressions of the NHS [29]. Another study concluded that Australian IMGs also showed significant variations in cultural attitudes, professional behaviors, and clinical acumen, as they felt culturally disconnected and isolated [30 - 31]. Educators have argued that better IMGs can be produced by applying a unified code of professional conduct that can cater to the culture-oriented professional characteristics of medical students worldwide [32]. This strategy will not only promote doctors' confidence and professional performance but also lead to more highly skilled doctors working across countries. The current analysis reiterates the need to develop a standard code for professional values that can be conveniently applied across several regions of the world.

CONCLUSION

Using the Dundee Polyprofessionalism Inventory I: Academic Integrity, this study shows some regional similarities and some variations in understandings of the sanctions to unprofessional behaviors. Cultural and religious backgrounds essentially drive these differences. Nevertheless, we have identified a considerable number of areas that are universally agreed upon. This research emphasizes the need for more cross-cultural in providing a unique roadmap for reaching a consensus for recommended sanctions of unprofessional behaviors for the first time offense with no mitigating circumstances.

Appendix 1. The Dundee Polyprofessionalism Inventory I: Academic Integrity.

#	Unprofessional Behavior	Sanction Level
1	Getting or giving help for coursework against a teacher's rules (*e.g.* lending work to another student to look at)	-
2	Removing an assigned reference from a shelf in the library in order to prevent other students from gaining access to the information therein.	-
3	Signing attendance sheets for absent friends or asking classmates to sign attendance sheets for you in clinic or lectures	-
4	Exchanging information about an exam before it has been taken (*e.g.* OSCE)	-
5	Forging a clinical tutor's signature on a piece of work, patient chart, grade sheet or attendance form	-
6	Claiming collaborative work as one's individual effort	-
7	Altering or manipulating data or findings (*e.g.* to obtain a significant result or disguise mistakes)	-
8	Failure to follow proper infection control procedures	-
9	Threatening or verbally abusing a university or college employee or fellow student	-
10	Attempting to use personal relationships, bribes or threats to gain academic advantages (*e.g.* by getting advance copies of exam papers or passing the exam)	-
11	Engaging in substance misuse (*e.g.* drugs)	-
12	Completing work for another student	-
13	Intentionally falsifying test results or treatment records in order to disguise mistakes	-
14	Physically assaulting a university or college employee or student	-
15	Purchasing work from a fellow student or internet supplier, etc.	-
16	Lack of punctuality for classes or clinics	-
17	Providing illegal drugs to fellow students	-
18	Not doing the part assigned in group work	-
19	Examining patients without knowledge or consent of supervising clinician	-
20	Sabotaging another student's work	-
21	Inventing extraneous circumstances to delay sitting an exam	-
22	Sexually harassing a university employee or fellow student	-
23	Resubmitting work previously submitted for a separate assignment or earlier degree	-
24	Plagiarizing work from a fellow student or publications/ internet	-
25	Cheating in an exam by *e.g.* copying form neighbor, taking in crib material or using mobile phone or getting someone else to sit for you	-
26	Cutting and pasting or paraphrasing material without acknowledging the source	-
27	Damaging public property (*e.g.* scribbling on desks or chairs	-
28	Falsifying references or grades on a curriculum vitae or altering grades in the official record	-
29	Involvement in paedophilic activities - possession/viewing of child pornography images or molesting children	-
30	Photographing dissection or prosection or cadaver materials	-

(Appendix) contd.....

#	Unprofessional Behavior	Sanction Level
31	Joking or speaking disrespectfully about bodies/body parts	-
32	Inappropriate involvement in social media by posting photos/videos/texts about class or clinic activities	-
33	Posting inappropriate material bout fellow students, teachers or patients on social media	-
34	Drinking alcohol over lunch and interviewing a patient in the afternoon	-

STUDY LIMITATIONS

The findings of this study reflect a selected cohort of medical students from four institutions in the GCC region. This may have some selection bias and more evidence-based research is needed to validate our findings.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The current study obtained ethical approval from the institutional review board (IRB-2016-03-022) of the target medical school in the KSA, the Research Ethics Committee of the target medical school in the UAE-Sharjah (REC-18-10-09-01) and agreements with the targeted medical schools in BAH and the UAE-Al Ain.

HUMAN AND ANIMAL RIGHTS

No animals/humans were used for studies that are the basis of this research.

CONSENT FOR PUBLICATION

Informed consent was obtained from all participants.

STANDARD OF REPORTING

STROBE Guideline and methodology were followed.

AVAILABILITY OF DATA AND MATERIALS

The data was collected from institutions involved in the study and then we did statistical analysis and incorporated in the article. The data is not stored in a URL or repository.

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CONFLICT OF INTEREST

The author declares no conflict of interest, financial or otherwise.

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Declared none.

REFERENCES

[1] Younis J, Gishen F. Practical tips for teaching academic integrity in the digital age. MedEdPublish 2019; 8(2) [http://dx.doi.org/10.15694/mep.2019.000142.1]

[2] Guraya SY, Norman RI, Roff S. Exploring the climates of undergraduate professionalism in a Saudi and a UK medical school. Med Teach 2016; 38(6): 630-2. [http://dx.doi.org/10.3109/0142159X.2016.1150987] [PMID: 27007746]

[3] Brotherton SE, Rockey PH, Etzel SI. US graduate medical education, 2004-2005: trends in primary care specialties. JAMA 2005; 294(9): 1075-82. [http://dx.doi.org/10.1001/jama.294.9.1075] [PMID: 16145028]

[4] Cruess RL, Cruess SR, Steinert Y. Teaching medical professionalism: supporting the development of a professional identity. Cambridge University Press 2016. [http://dx.doi.org/10.1017/CBO9781316178485]

[5] Guraya SY. Comparing recommended sanctions for lapses of academic integrity as measured by Dundee Polyprofessionalism Inventory I: Academic integrity from a Saudi and a UK medical school. J Chin Med Assoc 2018; 81(9): 787-95. [http://dx.doi.org/10.1016/j.jcma.2018.04.001] [PMID: 30173724]

[6] Furgal KE, Norris ES, Young SN, Wallmann HW. Relative and Absolute Reliability of the Professionalism in Physical Therapy Core Values Self-Assessment Tool. J Allied Health 2018; 47(1): e45-8. [PMID: 29504031]

[7] Hafferty FW. Academic Medicine and medical professionalism: A legacy and a portal into an evolving field of educational scholarship. Acad Med 2018; 93(4): 532-6. [http://dx.doi.org/10.1097/ACM.0000000000001899] [PMID: 28877035]

[8] Abdel-Razig S, Ibrahim H, Alameri H, *et al.* Creating a framework for medical professionalism: an initial consensus statement from an Arab nation. J Grad Med Educ 2016; 8(2): 165-72. [http://dx.doi.org/10.4300/JGME-D-15-00310.1] [PMID: 27168882]

[9] Zaini RG, Bin Abdulrahman KA, Al-Khotani AA, Al-Hayani AMA, Al-Alwan IA, Jastaniah SD. Saudi Meds: a competence specification for Saudi medical graduates. Med Teach 2011; 33(7): 582-4. [http://dx.doi.org/10.3109/0142159X.2011.578180] [PMID: 21696288]

[10] McKenzie AM. Academic integrity across the Canadian Landscape. Canadian Perspectives on Academic Integrity 2018; 1(2): 40-5.

[11] Yadav H, Jegasothy R, Ramakrishnappa S, Mohanraj J, Senan P. Unethical behavior and professionalism among medical students in a private medical university in Malaysia. BMC Med Educ 2019; 19(1): 218. [http://dx.doi.org/10.1186/s12909-019-1662-3] [PMID: 31215454]

[12] Roff S, Chandratilake M, Mcaleer S, Gibson J. Preliminary benchmarking of appropriate sanctions for lapses in undergraduate professionalism in the health professions. Med Teach 2011; 33(3): 234-8. [http://dx.doi.org/10.3109/0142159X.2010.535866] [PMID: 21345063]

[13] Sattar K, Sethi A, Akram A, Khan M, Nawaz S, Irshad M. Dental professionalism: perceptions of undergraduate students. Pakistan Orthodontic Journal 2018; 10(2): 91-7.

[14] Shukr I, Roff S. Prevalence of lapses in academic integrity in two Pakistani medical colleges. Med Teach 2015; 37(5): 470-5. [http://dx.doi.org/10.3109/0142159X.2014.947928] [PMID: 25157900]

[15] Sattar K, Roff S, Siddiqui D, Meo SA. Standing out with Professionalism: How do Students and Faculty of two different Medical Schools perceive it? Pak J Med Sci 2017; 33(5): 1248-53. [http://dx.doi.org/10.12669/pjms.335.13432] [PMID: 29142573]

[16] Al-Qahtani M, Roff S. Using the Dundee Polyprofessionalism Inventory I: Academic Integrity to Map Student Professionalism in 3 Arab Gulf Countries. MedEdPublish 2017; 6. [http://dx.doi.org/10.15694/mep.2017.000201]

[17] Roff S, Druce M, Livingston K, Roberts CM, Stephenson A. Mapping norms of academic integrity as an aid to proactive regulation. Journal of Medical Regulation 2015; 101(3): 24-31. [http://dx.doi.org/10.30770/2572-1852-101.3.24]

[18] Hodges B, Paul R, Ginsburg S. The Ottawa Consensus Group Members. Assessment of professionalism: From where have we come - to where are we going? An update from the Ottawa Consensus Group on the assessment of professionalism. Med Teach 2019; 41(3): 249-55. [http://dx.doi.org/10.1080/0142159X.2018.1543862] [PMID: 30696355]

[19] Chandratilake M, McAleer S, Gibson J. Cultural similarities and

differences in medical professionalism: a multi-region study. Med Educ 2012; 46(3): 257-66.
[http://dx.doi.org/10.1111/j.1365-2923.2011.04153.x] [PMID: 22324525]

[20] Guraya SY, Guraya SS. The confounding factors leading to plagiarism in academic writing and some suggested remedies: A systematic review. J Pak Med Assoc 2017; 67(5): 767-72.
[PMID: 28507368]

[21] Chinamasa E, Mavuru L, Maphosa C, Tarambawamwe P. Examinations cheating: Exploring strategies and contributing factors in five Universities in Zimbabwe J Innov Res Educa 2016; 1

[22] Fairchild AL, Holyfield LJ, Byington CL. National academies of Sciences, engineering, and Medicine report on sexual harassment: making the case for fundamental institutional change. JAMA 2018; 320(9): 873-4.
[http://dx.doi.org/10.1001/jama.2018.10840] [PMID: 30128569]

[23] Jereb E, Urh M, Jerebic J, Šprajc P. Gender differences and the awareness of plagiarism in higher education. Soc Psychol Educ 2018; 21(2): 409-26.
[http://dx.doi.org/10.1007/s11218-017-9421-y]

[24] DuBois JM, Anderson EE, Chibnall JT, Mozersky J, Walsh HA. Serious ethical violations in medicine: A statistical and ethical analysis of 280 cases in the United States from 2008–2016. Am J Bioeth 2019; 19(1): 16-34.
[http://dx.doi.org/10.1080/15265161.2018.1544305] [PMID: 30676904]

[25] Ip EJ, Pal J, Doroudgar S, Bidwal MK, Shah-Manek B. Gender-Based Differences Among Pharmacy Students Involved in Academically Dishonest Behavior. Am J Pharm Educ 2018; 82(4): 6274.
[http://dx.doi.org/10.5688/ajpe6274] [PMID: 29867239]

[26] Kehoe A, McLachlan J, Metcalf J, Forrest S, Carter M, Illing J. Supporting international medical graduates' transition to their host-country: realist synthesis. Med Educ 2016; 50(10): 1015-32.
[http://dx.doi.org/10.1111/medu.13071] [PMID: 27628719]

[27] Tiffin PA, Paton LW, Mwandigha LM, McLachlan JC, Illing J. Predicting fitness to practise events in international medical graduates who registered as UK doctors via the Professional and Linguistic Assessments Board (PLAB) system: a national cohort study. BMC Med 2017; 15(1): 66.
[http://dx.doi.org/10.1186/s12916-017-0829-1] [PMID: 28316280]

[28] Bhat M, Ajaz A, Zaman N. Difficulties for international medical graduates working in the NHS. BMJ 2014; 348: g3120.
[http://dx.doi.org/10.1136/bmj.g3120]

[29] Higgins NS, Taraporewalla K, Edirippulige S, Ware RS, Steyn M, Watson MO. Educational support for specialist international medical graduates in anaesthesia. Med J Aust 2013; 199(4): 272-4.
[http://dx.doi.org/10.5694/mja12.11639] [PMID: 23984785]

[30] Najeeb U, Wong B, Hollenberg E, Stroud L, Edwards S, Kuper A. Moving beyond orientations: a multiple case study of the residency experiences of Canadian-born and immigrant international medical graduates. Adv Health Sci Educ Theory Pract 2019; 24(1): 103-23.
[http://dx.doi.org/10.1007/s10459-018-9852-z] [PMID: 30259266]

[31] Guraya SY, Almaramhy H, Al-Qahtani MF, Guraya SS, Bouhaimed M, Bilal B. Measuring the extent and nature of use of Social Networking Sites in Medical Education (SNSME) by university students: Results of a multi-center study. Med Educ Online 2018; 23(1)1505400
[http://dx.doi.org/10.1080/10872981.2018.1505400] [PMID: 30081773]

[32] Guraya SY, Barr H. The effectiveness of interprofessional education in healthcare: A systematic review and meta-analysis. Kaohsiung J Med Sci 2018; 34(3): 160-5.
[http://dx.doi.org/10.1016/j.kjms.2017.12.009] [PMID: 29475463]