Using the Dundee Polyprofessionalism Inventory I: Academic Integrity to Map Student Professionalism in 3 Arab Gulf Countries

Mona Al-Qahtani[1], Sue Roff[2]

Abstract

Background: Teaching professionalism and communication skills have become an integral part of medical education. But professionalism cultures may themselves be at least partially culturally determined. It would be helpful to be able to ‘map’ regional professionalism cultures especially in an era of increasing globalisation and international mobility of practising doctors within and across regional boundaries.

Objectives: To explore medical students’ views in three Arab Gulf countries (Kingdom of Saudi Arabia, United Arab Emirates, and Bahrain) of the appropriate sanctions for a one-time infraction in 34 unprofessional behaviors relating to academic integrity as a proxy for their perception of the relative importance of specific items of poor professionalism.

Methods: In a cross-sectional study, the Dundee Poly-professionalism Inventory I was administered to 2nd, 3rd, 4th, and 5th undergraduate medical students in three colleges of medicine at governmental universities in three Arab Gulf countries. Data were analyzed using descriptive and inferential statistics.

Results: There was extensive congruence and near congruence in the median recommended sanctions from the three sub-groups. Several areas of concern about respondents’ perceptions of the importance of lapses in professionalism are identified.

Conclusion: The results suggest that the Dundee Polyprofessionalism Inventory I can be used to map the professional culture in medical schools in the Gulf states which seem to share a common culture. More research is needed about the implications for learning and teaching student professionalism.

Keywords: Polyprofessionalism, Medical students, , Gulf Countries
Introduction

Professionalism is viewed in general, as behaviors or characteristics and values that exemplify a profession or a professional individual (Aramesh et al. 2009). According to the Royal College of Physicians (Royal College of Physicians 2005) 'Medical Professionalism signifies a set of values, behaviors and relationships that underpin that trust the public has in doctors'. The literature emphasizes that there is no agreement on the exact definition of medical professionalism (ABIM 2001) or even what constitutes it (Tsai et al. 2007), and that it may be culturally defined by the context in which it is generated and practiced. There are more than one hundred definitions of medical professionalism (Tsai et al. 2007). Such diversity in the definition of the concept can be traced back to the different types, and the nature of the professional organizations from which they originated (Inui 2003). According to the US Accreditation Council for Graduate Medical Education (ACGME 2004), professionalism is ‘manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population’.

Nowadays, teaching professionalism and communication skills has become an integral part of medical education, particularly residency training (ACGME 2004). The American Board of Internal Medicine (ABIM) is a leader in the many professional organizations that have tackled the need to support professionalism in the medical profession (ABIM 1995). Some of the important components of professionalism within the medical context are: effective communication skills with patients, commitment to keep abreast with medical advances, respect of patient autonomy, integrity, honesty, responsibility and reliability (Wiggins et al. 2009; Mann et al. 2005; Cruess et al. 2000).

The educational environments of medical schools as well as their affiliated teaching hospitals participate in the shaping and promotion of the professional behavior of their faculty and students (Stern 1996). In addition, accrediting agencies of medical education such as the US Liaison Committee on Medical Education (LCME 2015/2016) demand continuous evaluation of the educational environment to discover and understand the negative and positive behaviors that have an impact on preserving professional standards, and develop proper strategies to foster influences that are positive and diminish those that are negative.

Within the context of Arabian Gulf region, the need to incorporate professionalism issues into the curriculum of medical school have been raised (Deans of medical schools at Gulf countries, 2005). In 2009, the Committee of Deans of Medical Schools in Saudi Arabia established a task force to develop a national competency framework for doctors (Zaini et al. 2011). Accordingly, the first phase of the competency framework has been completed and 30 items generated, 6 of which are in a professionalism domain. However, these items are still very general propositions (Zaini et al. 2011).

Recently, in the United Arab Emirates (UAE), Abdel-Raziq and his colleagues (2016) conducted a mixed methods approach which encompassed the world café, nominal group technique, the Delphi method, and interpretive thematic analysis to develop a consensus statement on attributes of medical professionalism of 14 physicians working in the UAE as clinicians and leaders in education. Nine attributes have been defined: adherence to ethical practice, commitment to advocacy, communication, lifelong learning, education, empathy and compassion, integrity, responsibility, and respect.

A number of studies have been conducted to explore medical students’ perceptions of the appropriate penalties for main lapses (based on developed theoretical/hypothetical scenarios relating to professional dilemma). Examples of such breaches in the medical education environment are: attempts to use personal relationships, bribes, or threats to gain academic advantage; cheating in a written exam; plagiarizing an entire essay assignment; forging a faculty
signature on a patient chart; providing false information to delay writing an exam; and sabotaging another student's work (Teplitsky et al. 2002). However, the literature indicates that research based on hypothetical scenarios have been found too complex to achieve a consistency of appropriate responses from a professional team (Tokuda et al., 2009). In this regard Roff and her colleagues (2011; 2011a; 2012) conducted studies to identify behaviors and attitudes that exhibit poor professionalism and determine a set of agreed levels of sanctions for unprofessional behaviors relating to academic integrity at various levels of medical education. Accordingly, Dundee Poly-professionalism Inventory I: Academic Integrity was developed and validated (Roff et al. 2011a, 2012).

In the context of Arab countries, the Dundee Poly-professionalism Inventory was used to explore recommended sanctions for students and faculty in a single medical school in Saudi Arabia (Sattar et al. 2016); and was also used to compare perceptions of students and faculty of one Saudi medical school with that of a Scottish medical school (Babelli et al. 2015a; Sattar and Roff 2016). It has also been used as a diagnostic tool to create the profile of a cohort's recommended responses at three Egyptian medical schools (Babelli et al. 2015b).

The objective of this study was to assess medical students’ views of the appropriate sanctions for a one-time infraction of 34 unprofessional behaviors relating to academic integrity across three Arab Gulf countries as a proxy for the ‘mapping’ of the prevailing professionalism culture at the pre-registrant level of training.

The findings of this study will contribute to the existing knowledge base of professionalism in the medical educational environment within the Arab Gulf countries. It will begin to establish whether or not there is congruence in professionalism understanding more than one country of the region.

Methods

Study Setting

This study was conducted in three colleges of medicine at governmental universities in three Arab Gulf countries: Saudi Arabia, United Arab Emirates, and Bahrain.

Study Design

A cross-sectional study was conducted during the academic year 2015-2016.

Study population, sample size and sampling technique:

The target population of 2nd, 3rd, 4th, and 5th undergraduate medical students studying at the 3 target governmental universities in Arab Gulf countries were eligible to participate in this study.

Data Collection Tools

Data was collected through a self-administered questionnaire. The purpose of the study was explained on the first page of each questionnaire and the voluntary anonymous nature of participation and confidentiality was assured. Students’ written consent was also obtained, and their right to opt out was emphasized. Approximately 30 minutes was required to complete the questionnaire.

Instrument
The Dundee Poly-professionalism Inventory I: Academic Integrity, developed by Roff and colleagues (2011a, 2012), was adapted to assess students' views of the appropriate sanctions for unprofessional behaviors relating to academic integrity. It consists of 34 items. The items ask the medical students to recommend sanctions for one-time lapses in 34 unprofessional behaviors with no mitigating circumstances by undergraduate medical students. The sanctions ranged from 1= None, 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 (re-admission after one year possible), 9= Expulsion from college (no chance for re-admission), 10= Report to professional regulatory body. In addition, a personal information form was included that contained the following socio-demographic variables: age, gender, nationality, and level of study.

The instrument was translated into Arabic language by the first researcher. A back-translation procedure was performed. The Arabic version was back-translated into English by a bilingual linguistics expert who is a native Arab who had not seen the original English version. The back-translated version was compared to the original English version by the first researcher to identify inappropriateness. The Arabic translation then was attuned with remedial re-translation as needed, prior to being employed.

**Pilot study**

The translated instrument was piloted with 5 females and 5 males randomly selected from 2nd, 3rd, 4th, and 5th levels of one medical school in Saudi Arabia to assess the clarity and cultural suitability of the statements. Students answered the Arabic version easily/comfortably within 30 minutes without asking for modification / alteration of its contents. Two weeks later, the questionnaire was retested again on the same group. The test-retest reliability coefficient for individual items ranged from 0.70 to 0.88 which indicated that they were satisfactory.

**Data Collection:**

The data was collected during the academic year 2015-2016.

For the Saudi medical school, the paper questionnaires were distributed at the end of classes by a student leader at each level and then collected immediately after completion. A total of 909 questionnaires were distributed to 2nd, 3rd, 4th, and 5th year students at the Saudi University.

For UAE medical school, arrangements were made with the coordinators of administration at the College of Medicine to access 3rd and 4th year students from 13th to -17th March, 2016, prior to their classes, to explain the purpose of the study and distribute the questionnaire. After the classes, the questionnaires were collected. With regard to the 5th year students, the questionnaires were distributed to all students prior to "students' gathering for USMLE discussion". The 2nd year students were busy with their exam at the time data was being collected, so these students were excluded from the study. A total of 252 questionnaires were distributed to 3rd, 4th, and 5th year students at the UAE medical school.

For Bahrain medical school, students at 2nd, 3rd, and 4th year were divided into groups of 8-10 students in the tutorial briefing sessions held twice per week. Arrangements had been made with their tutors in collaboration with student leaders. For 5th year students, arrangements had been made, through the secretaries of the departments and student leaders to have the questionnaires distributed and collected during students' clinical rotations. A total of 480 questionnaires were distributed to 2nd, 3rd, 4th, and 5th year students at the Bahrain medical school.
Statistical Analysis

A Statistical Package for Social Sciences (SPSS) version 19 was used for data analysis. Continuous data was presented as mean, median and standard deviation, and categorical data was presented as number and percentages. Based on the results of normality test, non-parametric tests were used. Comparisons of the students’ scores of the sanctions recommended by medical students based on demographic variables were conducted, using the Kruskal-Wallis tests (for more than 2 groups). A P-value of 0.05 was considered statistically significant.

Ethical Considerations

Ethical approval and permission to access the sample was secured from the Institutional Review Board of the University of Dammam, Saudi Arabia (IRB-2016-03-022) and accepted by the Arabian Gulf University, Bahrain, and United Arab Emirates University, UAE.

Results

Of a total of 1639 medical students invited to participate in the survey, 1072 (65%) responded. The response rate varied by medical school as follows: 650/909 (72%) at KSA; 178/252 (71%) at UAE; and 244/480 (51%) at BAH.

Characteristics of the Participants

The descriptive statistics of these 1072 respondents showed that the majority, 418 (64.3%), 141 (79.2%), and 150 (61.5%), of the responding students were females at KSA, UAE, and BAH respectively. A majority also [363 (55.8%, KSA), 104 (58.4%, UAE), and 143 (58.6%, BAH)] belonged to the 21-23 years age group. The majority of respondents from students at KSA and BHA were in their 2nd and 3rd year of study (n= 346, 53.2%; n= 132, 54.1%) respectively, while respondents from UAE were in their 4th and 5th year (n= 103, 57.9%) (Table1).

Comparisons of Students’ Recommendations for Sanctions

Table 2 reports that for 18 (53%) out of the 34 items in the inventory, there was high congruence between all the median sanctions recommended by the three groups of Arabian Gulf respondents.

Table 3 reports that for 13 (38%) out of the 34 items in the inventory, there was only one level of difference (i.e. nearly congruent) between all the median sanctions recommended by the three groups of Arabian Gulf countries.

Only three statements showed statistically significant differences in the sanctions of more than one level (statements 11, 17, 30) (P = .000). UAE students were stricter on S11. They recommended a sanction of 7 (Failure of specific year (repetition allowed)) for "Engaging in substance misuse (e.g. drugs)", whereas students in KSA and BAH proposed sanction 5 (Reprimand, counseling, extra work assignment).

Students in UAE recommended sanction 9 (Expulsion from college (no chance for readmission)) for "Providing illegal drugs to fellow students", whereas students at KSA and BAH recommended sanction of 7 (Failure of specific year (repetition allowed)).
Students at KSA were significantly more lenient than other students for statement number 30. KSA students recommended sanction 2 (Reprimand (verbal warning)) for "Photographing dissection or prosection or cadaver materials", whereas BAH students proposed sanction 4 (Reprimand, plus mandatory counseling) and UAE students proposed sanction level 5 (Reprimand, counseling, extra work assignment).

For 23 (68%) items Arabian Gulf students recommended lower median sanctions as listed in Table 4. For eleven (32%) items respondents at three medical schools recommended higher median sanctions as listed in Table 4.

It was illuminating to learn that more than one-third of the students in all three Gulf countries recommended an 'ignore' sanction for unprofessional behaviors such as:

S1: Getting or giving help for coursework against a teacher's rules (e.g. lending work to another student to look at) (41% at KSA, 36% at UAE, 43% at BAH)

S4: Exchanging information about an exam before it has been taken (e.g. OSCE) (57% at KSA, 49% at UAE, 53.3% at BAH)

S30: Photographing dissection or pro-section or cadaver materials (33% at KSA)

while more than one-fifth of the students would ignore:

S12: Completing work for another student (25% at KSA, 21% at UAE, 30% at BAH).

Discussion

There was conformity in recommended sanctions of most of unprofessional behaviors in students' recommended sanctions in the three Gulf countries. However, there were three items with more than one level that reflect significant variations in students' recommended sanctions in the three Gulf countries.

The results of the current study show that the sanctions recommended by students of KSA and BAH regarding "engaging in substance misuse", "providing illegal drugs to fellow students", "signing attendance sheets for absent friends or asking classmates to sign attendance sheets for you in lab or lectures", "examining patients without knowledge or consent of supervising clinician", and "photographing dissection or pro-section or cadaver materials" were often lenient compared to those of students in the UAE. There were more female respondents from UAE than from the other two schools and gender, age and class level variables in response will be explored in a future paper.

The results of the current study show that for 23 lapses (68%) in professional behavior sanctions recommended by students in Gulf countries were in the 'reprimand' categories. These findings agree with those of Sattar et al. (2016), in which they found that the sanctions recommended for 29 out of 34 lapses by medical students at King Saud University, Saudi Arabia, belonged to the 'reprimand' categories.

Of particular concern is the finding that the majority of students at two of the schools and nearly half at the third recommended that there should be no sanction for Exchanging information about an exam before it has been taken (e.g. OSCE).

Therefore, attempts should be made in conducting workshops, seminars, and teaching activities to raise students' awareness of the importance of achieving not only academic success, but also adherence to the highest standards of
academic integrity in their lives as students. It should be also emphasized that though success is the desired outcome of one’s studies, adherence to academic integrity is not negotiable and that real success in life is ultimately only achievable when there is professional honesty and integrity.

Conclusions

This study aimed at exploring the views of students in three Arab Gulf countries of the appropriate sanctions of a single infraction of 34 unprofessional behaviors relating to academic integrity. Overall, this study has indicated that the *Dundee Poly-professionalism inventory-1* is a valuable instrument for assessing professionalism in academic integrity. There is consonance as well as variations in the recommended sanctions of students across the 3 Gulf countries. The low sanctions recommended for many lapses in professionalism and the high level of willingness to ignore some lapses indicate that it is necessary to integrate the issue of poly-professionalism in teaching in order to enhance students’ readiness for responsibility in their role as doctors of future generations. It is also recommended that clear and transparent regulations on poly-professionalism should be developed and implemented to apply to all students in the university including those in their preparatory year.

Acknowledgements

We wish to thank all students for their valuable collaboration in this study.

Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

Funding

This project is self-funded.

Take Home Messages

- The *Dundee Poly-professionalism inventory-1: Academic Integrity* can be used to map student professionalism in three Arab Gulf Countries
- The data showed congruence in recommended sanctions for most of the unprofessional behaviors in the three Gulf countries.
- The results highlight the importance of integrating the issue of poly-professionalism in teaching.
Notes On Contributors

Mona Faisal Al-Qahtani, MedEd PhD, is Associate Professor, Department of Health Information Management & Technology, College of Public Health, Imam AbdulRahman Bin Faisal University, Kingdom of Saudi Arabia.

Sue Roff, BA Hons, MA, is a Part-Time Tutor in centre for Medical Education, University of Dundee, Dundee, UK, and an Education Consultant.

Acknowledgements

We wish to thank all students for their valuable collaboration in this study.

Bibliography/References

Abdel-Raziq S, Ibrahim H, Alameri H, Hamdy H, Abu Haleeqa K, Qayed K, Obaid L, Al Fahim M, Ezimokhai M, Sulaiman N, et al. 2016. Creating a Framework for Medical Professionalism: An Initial Consensus Statement from an Arab Nation. J Grad Med Educ. 8(2):165-172.

https://doi.org/10.4300/JGME-D-15-00310.1

ACGME. 2004. Advancing education in medical professionalism: An educational resource from the ACGME outcome project, Accreditation Council for Graduate Medical Education.

Adkoli BV, Al-Umrani KU, Al-Sheikh M, Deepak K, Al-Rubaish A. 2011. Medical students’ perception of professionalism: A qualitative study from Saudi Arabia. Med Teach. 33: 840–845.

https://doi.org/10.3109/0142159X.2010.541535

American Board of Internal Medicine (ABIM) 2001. Project professionalism. Philadelphia, PA: American Board of Internal Medicine. Available at: https://medicinainternaucv.files.wordpress.com/2013/02/project-professionalism.pdf

American Board of Internal Medicine. Project Professionalism. Philadelphia: ABIM; 1995.

Aramesh K, Mohebbi M, Jessri M, Sanagou M. 2009. Measuring professionalism in residency training programs in Iran. Med Teach. 31: e356-e361.

https://doi.org/10.1080/01421590802638022

Babelli S, Chandratilake M, Roff S. 2015a. Recommended sanctions for lapses in professionalism by student and faculty respondents to Dundee Polyprofessionalism inventory I: academic integrity in one medical school in Saudi Arabia. Med Teach. 37(2):162-7.

https://doi.org/10.3109/0142159X.2014.943712
Babelli S, Chandratilake M, Roff S. 2015b. Egyptian medical students' recommended responses to the Dundee Polyprofessionalism Inventory I: Academic Integrity. Med Teach. 37(3):277-80.

https://doi.org/10.3109/0142159X.2014.947932

Cruess RL, Cruess SR, Johnston SE. 2000. Professionalism: an ideal to be sustained. Lancet. 356(9224): 156-159.

https://doi.org/10.1016/S0140-6736(00)02458-2

Dinger MK, Waigandt A. 1997. Dietary intake and physical activity behaviors of male and female college students. Am. J. Health Promot. 11:360-362.

https://doi.org/10.4278/0890-1171-11.5.360

Gulf Countries Council Medical Deans Committee (GCC-MDC) 2005. Recommendation and guidelines on minimum standards for establishing and accrediting medical schools in the Arabian Gulf Countries, Makkah; Umm Al-Qura University Press.

Inui TS. 2003. A Flag in the Wind: Educating for Professionalism in Medicine. Association of American Medical Colleges, Washington, DC.

Lee RL, Loke AJ. 2005. Health-promoting behaviors and psychosocial well-being of university students in Hong Kong. Public Health Nurs. 22:209-220.

https://doi.org/10.1111/j.0737-1209.2005.220304.x

Liaison Committee on Medical Education (LCME) 2015-2016. Data Collection Instrument for Full Accreditation Surveys.

Mann KV, Ruedy J, Millar N, Andreou P. 2005. Achievement of non-cognitive goals of undergraduate medical education: perceptions of medical students, residents, faculty and other health professionals. Med Educ. 39:40-48.

https://doi.org/10.1111/j.1365-2929.2004.02031.x

Roff S, Dherwani K. 2011. Development of inventory for polyprofessionalism lapses at the proto-professional stage of health professions education together with recommended responses. Med Teach. 33: 239–243.

https://doi.org/10.3109/0142159X.2010.535867

Roff S, Chandratilake M, Mcalleer S, Gibson J. 2011a. Preliminary benchmarking of appropriate sanctions for lapses in undergraduate professionalism in the health professions. Med Teach. 33(3):234-8.

https://doi.org/10.3109/0142159X.2010.535866

Roff S, Chandratilake M, Mcalleer S, Gibson J. 2012. Medical student rankings of proposed sanction for unprofessional behaviours relating to academic integrity: results from a Scottish medical school. Scott Med J. 57(2):76-9.

https://doi.org/10.1258/smj.2012.012003
Royal College of Physicians. Doctors in society: medical professionalism in a changing world. Report of a Working Party of the Royal College of Physicians of London. London: RCP, 2005.

Rozmus CI, Evans R, Wysochansky M, Mixon D. 2005. An analysis of health promotion and risk behaviours of freshman college students in a rural southern setting. J. Pediatr. Nurs. 20:25-33.

Sattar K, Roff S. 2016. Comparison of recommended sanctions for lapses in professionalism of undergraduate medical students in a Saudi Arabian and a Scottish medical school. Med Teach. 38(12): 1262-1266.

Sattar K, Roff S, Meo SA. 2016. Your professionalism is not my professionalism: congruence and variance in the views of medical students and faculty about professionalism. BMC Med Educ. 16(1):285.

Stern DT. 1996. Values on call: a method for assessing the teaching of professionalism. Acad Med. 7(10 sup):S37-S39.

Teplitsky PE. 2002. Perceptions of Canadian dental faculty and students about appropriate penalties for academic dishonesty. J Dent Educ. 66(4):485-506.

Tokuda Y1, Barnett PB, Norisue Y, Konishi R, Kudo H, Miyagi S. 2009. Questionnaire survey for challenging cases of medical professionalism in Japan. Med Teach. 31(6):502-7.

Tsai TC, Lin CH, Harasym PH, Violato C. 2007. Students' perception on medical professionalism: the psychometric perspective. Med Teach. 29(2-3): 128-134.

Wiggins MN, Coker K, Hicks EK. 2009. Patient perceptions of professionalism: implications for residency education. Med Educ. 43(1): 28-33.

Zaini R, Bin Abdulrahman K, Al-Khotani A, Al-Hayani A, Al-Alwan I, Jastaniah S. 2011. Saudi Meds: a competence specification for Saudi medical graduates. Med Teach. 33(7):582-4.

Appendices
### Table 1: Characteristics of Participants

|        | KSA                        | UAE                        | BAH                        |
|--------|----------------------------|----------------------------|----------------------------|
| Age    | Frequency                  | %                          | Frequency                  | %                          | Frequency                  | %                          |
| 18-20  | 261                        | 40.2                       | 62                        | 34.8                       | 75                        | 30.7                       |
| 23-21  | 363                        | 55.8                       | 104                       | 58.4                       | 143                       | 58.6                       |
| 26-24  | 26                         | 4.0                        | 12                        | 6.7                        | 26                        | 10.7                       |
| Gender |                            |                            |                           |                            |                           |                            |
| Male   | 232                        | 35.7                       | 37                        | 20.8                       | 94                        | 38.5                       |
| Female | 418                        | 64.3                       | 141                       | 79.2                       | 150                       | 61.5                       |
| Year of Study |                  |                            |                           |                            |                           |                            |
| 2      | 182                        | 28.0                       | -                         | -                          | 57                        | 23.4                       |
| 3      | 164                        | 25.2                       | 75                        | 42.1                       | 75                        | 30.7                       |
| 4      | 162                        | 24.9                       | 74                        | 41.6                       | 36                        | 14.8                       |
| 5      | 142                        | 21.8                       | 29                        | 16.3                       | 76                        | 31.1                       |

### Table 2: Highly Congruent Median Recommended Sanctions

| Behavior                                                                                      | KSA n= 650 | UAE n= 178 | BAH n= 244 |
|------------------------------------------------------------------------------------------------|------------|------------|------------|
| S1 Getting or giving help for coursework against a teacher's rules (e.g. lending work to another student to look at) | 2          | 2          | 2          |
| S5 Forging a clinical tutor's signature on a piece of work, patient chart, grade sheet or attendance form | 5          | 5          | 5          |
| S6 Claiming collaborative work as one's individual effort                                      | 5          | 5          | 5          |
| S7 Altering or manipulating data or findings (e.g. to obtain a significant result or disguise mistakes) | 5          | 5          | 5          |
| S8 Failure to follow proper infection control procedures                                       | 4          | 4          | 4          |
| S12 Intentionally falsifying test results or treatment records in order to disguise mistakes   | 3          | 3          | 2.5        |
| S13 Intentionally falsifying test results or treatment records in order to disguise mistakes   | 7          | 7          | 7          |
| S14 Physically assaulting a university or college employee or student                          | 8          | 8          | 8          |
| S15 Purchasing work from a fellow student or internet supplier, etc.                           | 5          | 5          | 5          |
| Behavior                                                                 | KSA n= 650 Median | UAE n= 178 Median | BAH n= 244 Median |
|------------------------------------------------------------------------|------------------|------------------|------------------|
| S2  Removing an assigned reference from a shelf in the library in order to prevent other students from gaining access to the information therein. | 4                | 3                | 3                |
| S3  Signing attendance sheets for absent friends or asking classmates to sign attendance sheets for you in lab or lectures | 2                | 3                | 2                |
| S4  Forging a clinical tutor's signature on a piece of work, patient chart, grade sheet or attendance form | 1                | 2                | 1                |
| S9  Threatening or verbally abusing a university or college employee or fellow student | 4                | 4                | 5                |
| S10 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) | 7                | 7                | 6                |
| S16 Lack of punctuality for classes or clinics | 2                | 3                | 3                |
| S19 Examining patients without knowledge or consent of supervising clinician | 3                | 4                | 3                |
| S20 Sabotaging another student's work | 6                | 5                | 6                |
| S22 Sexually harassing a university employee or fellow student | 9                | 10               | 9                |
S23 | Resubmitting work previously submitted for a separate assignment or earlier degree | 5 | 5 | 4

S26 | Cutting and pasting or paraphrasing material without acknowledging the source | 4 | 3 | 3

S27 | Damaging public property (e.g. scribbling on desks or chairs) | 3 | 3 | 4

S33 | Removing an assigned reference from a shelf in the library in order to prevent other students from gaining access to the information in it | 5 | 6 | 5

Table 4: Median Sanction Recommended by Arabian Gulf Students from Lowest to Highest

| Behavior                                                                 | KSA n= 650 | UAE n= 178 | BAH n= 244 |
|-------------------------------------------------------------------------|------------|------------|------------|
| 1 S4 Exchanging information about an exam before it has been taken (e.g. OSCE) | 1          | 2          | 1          |
| 2 S1 Getting or giving help for coursework against a teacher’s rules (e.g. lending work to another student to look at) | 2          | 2          | 2          |
| 3 S3 Signing attendance sheets for absent friends or asking classmates to sign attendance sheets for you in lab or lectures | 2          | 3          | 2          |
| 4 S16 Lack of punctuality for classes or clinics                          | 2          | 3          | 3          |
| 5 S12 Completing work for another student                                | 3          | 3          | 2.5        |
| 6 S2 Removing an assigned reference from a shelf in the library in order to prevent other students from gaining access to the information therein. | 4          | 3          | 3          |
| 7 S19 Examining patients without knowledge or consent of supervising clinician | 3          | 4          | 3          |
| 8 S26 Cutting and pasting or paraphrasing material without acknowledging the source | 4          | 3          | 3          |
| 9 S27 Damaging public property (e.g. scribbling on desks or chairs)       | 3          | 3          | 4          |
| 10 S31 Joking or speaking disrespectfully about bodies/body parts          | 4          | 4          | 4          |
| 11 S32 Inappropriate involvement in social media by posting photos/ videos/ texts about class or clinic activities | 4          | 4          | 4          |
| 12 S18 Not doing the part assigned in group work                          | 4          | 4          | 4          |
| 13 S8 Failure to follow proper infection control procedures               | 4          | 4          | 4          |
| 14 S21 Inventing extraneous circumstances to delay sitting an exam        | 4          | 4          | 4          |
| 15 S9 Threatening or verbally abusing a university or college employee or fellow student | 4          | 4          | 5          |
| 16 S30 Photographing dissection or pro-section or cadaver materials       | 2          | 5          | 4          |
| 17 | S23 | Resubmitting work previously submitted for a separate assignment or earlier degree | 5 | 5 | 4 |
| 18 | S5  | Forging a clinical tutor's signature on a piece of work, patient chart, grade sheet or attendance form | 5 | 5 | 5 |
| 19 | S6  | Claiming collaborative work as one's individual effort | 5 | 5 | 5 |
| 20 | S7  | Altering or manipulating data or findings (e.g. to obtain a significant result or disguise mistakes) | 5 | 5 | 5 |
| 21 | S15 | Purchasing work from a fellow student or internet supplier, etc. | 5 | 5 | 5 |
| 22 | S24 | Plagiarizing work from a fellow student or publications/ internet | 5 | 5 | 5 |
| 23 | S28 | Falsifying references or grades on a curriculum vitae or altering grades in the official record | 5 | 5 | 5 |
| 24 | S33 | Posting inappropriate material about fellow students, teachers or patients on social media | 5 | 6 | 5 |
| 25 | S20 | Sabotaging another student's work | 6 | 5 | 6 |
| 26 | S25 | Cheating in an exam by e.g. copying from neighbor, taking in crib material or using mobile phone or getting someone else to sit for you | 6 | 6 | 6 |
| 27 | S11 | Engaging in substance misuse (e.g. drugs) | 5 | 7 | 5 |
| 28 | S10 | 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) | 7 | 7 | 6 |
| 29 | S13 | Intentionally falsifying test results or treatment records in order to disguise mistakes | 7 | 7 | 7 |
| 30 | S17 | Providing illegal drugs to fellow students | 7 | 9 | 7 |
| 31 | S34 | Drinking alcohol over lunch and interviewing a patient in the afternoon | 8 | 8 | 8 |
| 32 | S14 | Physically assaulting a university or college employee or student | 8 | 8 | 8 |
| 33 | S22 | Sexually harassing a university employee or fellow student | 9 | 10 | 9 |
| 34 | S29 | Involvement in paedophilic activities - possession/viewing of child pornography images or molesting children | 10 | 10 | 10 |

**Declaration of Interest**

_The author has declared that there are no conflicts of interest._