Using the Dundee Polyprofessionalism Inventory I to Identify Differences in Students’ Recommended Sanctions for Lapses in Academic Integrity within Three Arab Gulf Medical Schools

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Abstract

Objectives: To determine whether there are significant differences in medical students within three medical schools in their recommended sanctions for a one-time infraction in 34 unprofessional behaviors related to academic integrity based on the students’ gender, age group, and level of study in three Arab Gulf countries (Kingdom of Saudi Arabia (KSA), United Arab Emirates (UAE), and Bahrain (BAH)).

Methods: This cross-sectional study administered the Dundee Poly-professionalism Inventory I to 1641 2nd-, 3rd-, 4th-, and 5th-year undergraduate medical students at three colleges of medicine at government universities in three Gulf countries.

Results: The response rate was 65%. There was high congruence in 16/47% of the 34 recommended sanctions within the three schools and some lower levels of congruence in the other 18/53% with a trend towards older students in senior years recommending more lenient sanctions.

Conclusions: The Dundee Polyprofessionalism Inventory (Academic Integrity) facilitates identification of areas of weak congruence in recommended sanctions for lapses of academic integrity to facilitate remedial interventions.

Keywords: Poly-professionalism, Medical Students, Gulf Countries

Introduction

Medical education accrediting bodies have emphasised the need to conduct continuous assessment of the educational
climate of medical school in terms of professional and unprofessional behaviors that might influence professional standards. Accordingly, a number of studies have explored the issue of professionalism in medical schools. Roff and her colleagues (2011; 2012) conducted several studies to identify behaviors and attitudes that represent poor professionalism and to define a set of sanctions for unprofessional behaviors related to academic integrity. Consequently, the Dundee Poly-professionalism Inventory I: Academic Integrity was developed and validated (Roff et al. 2011, 2012).

**Methods**

The 34-item Dundee Polyprofessionalism Inventory I was administered to consenting students at one medical school in each of the Kingdom of Saudi Arabia (KSA), the United Arab Emirates (UAE) and Bahrain BAH during the 2015-2016 academic year. Descriptive and inferential statistics were used for data analysis, with statistical significance set at <.05.

The Dundee Poly-professionalism Inventory I: Academic Integrity, developed by Roff and colleagues (2011, 2012) and translated into Arabic (Al-Qahtani and Roff, 2017) was adapted to explore the students' views regarding appropriate sanctions for unprofessional behaviors related to academic integrity. The inventory consists of 34 statements. The statements ask participants to recommend sanctions for one-time lapses in 34 unprofessional behaviors with no mitigating circumstances committed by undergraduate medical students. The sanctions were presented on a hierarchy from one to ten (Figure 1). A personal information form was added to collect respondent variables such as age, gender, nationality, and level of study.

The data were collected during the academic year 2015-2016. For the KSA and BAH medical schools, a total of 909 and 480 questionnaires, respectively, were distributed to 2nd-, 3rd-, 4th-, and 5th-year students. For the UAE medical school, a total of 252 questionnaires were distributed to 3rd-, 4th-, and 5th-year students, as the 2nd year students were taking exams during the data collection period.

**Statistical Analysis**

The data were analyzed using the Statistical Package for Social Sciences (SPSS, IBM, Chicago, Illinois, USA), version 19. Continuous data were presented as the mean, median and standard deviation. Categorical data were presented as numbers and percentages. Based on the results of a normality test, non-parametric tests were used. The medical students' recommended sanction scores were compared according demographic variables using the Mann-Whitney U-test (for 2 groups) and Kruskal-Wallis tests (for more than 2 groups). -value of 0.05 was considered statistically significant.

**Ethical Considerations**

Ethical approval and permission to access the sample were secured from the Institutional Review Boards of the target medical school in the KSA (IRB-2016-03-022) and were accepted by both targeted medical schools in the UAE and BAH.
Results

Of 1641 inventories distributed, 1072 were completed being a response rate of 65% (KSA:72%; UAE: 71%; BAH: 51%) The majority of the respondents were females (KSA:64%; UAE:79%; BAH:61.5%). More than half of the respondents from the KSA (53%) and BAH (54%) were in their second or third year of study, while the majority of those from the UAE (58%) were in their fourth or fifth year. Most of the participants from the three universities (KSA:56%; UAE:58%; BAH:59%) were aged between 21- to 23-years old.

We have reported (Al-Qahtani and Roff 2017) that there was complete congruence for recommended sanction for 18 (53%) of the 34 items between the three schools and agreement within one level of difference of sanction for 13 (38%) of the items. Only recommended sanctions for 3 (9%) items lacked congruence between the 3 schools.

Table 1 reports statistically significant differences of more than one level within the three schools.

Discussion

For 18 (53%) of the items there were statistically significant differences in recommended sanction within one or more of the three schools. The trend was predominantly towards older students recommending more lenient sanctions, most notably for S13 and S 28 at UAE. Two items – S19 and S18 – generated the least congruent recommended sanctions within the three schools.

Conclusions

Analysing statistically significant differences for recommended sanctions two or more levels apart by gender, age and year of study has enabled identification of where school leadership might consider enhancing professionalism learning with targeted intervention – around for instance Resubmitting work at KSA; Intentionally falsifying test results and falsifying references or grades at UAE or Altering/manipulating data at BAH. This information should be correlated with the highly congruent recommended sanctions between schools earlier reported in Al-Qahtani and Roff (2017) in order to assess if the students' recommended sanctions are at the appropriate levels to establish and maintain academic probity within and beyond medical school, especially around maintenance of data integrity.

Take Home Messages

The Dundee Poly-Professionalism Inventory-I: Academic Integrity can be used to map medical students professionalism in three Arab Gulf Countries.

Notes On Contributors

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**Appendices**

**Figure 1. Recommended sanctions**

1= Ignore

2= Reprimand (verbal warning)

3= Reprimand (written warning)

4= Reprimand plus mandatory counselling

5= Reprimand, counselling, 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)
Table 1: Results of significant differences in the median recommended sanctions (of more than one level) within each medical school

| Statement                                                                 | Gender | Age-Group | Year of Study | P    | 2nd | 3rd | 4th | 5th | P    |
|---------------------------------------------------------------------------|--------|-----------|---------------|------|-----|-----|-----|-----|------|
| S12. Completing work for another student                                  | KSA    | 3         | 18-20         | .376 | 3   | 3   | 2   | .069 | 3    | 4   | 3   | 2   | .000 |
| S14. Physically assaulting a university or college employee or student    | KSA    | 8         | 21-23         | .279 | 8   | 8   | 10  | .004 | 8    | 8   | 8   | 8   | .422 |
| S17. Providing illegal drugs to fellow students                            | KSA    | 6         | 24-26         | .001 | 8   | 7   | 10  | .106 | 7    | 8   | 6.5 | 7   | .021 |
| S23. Resubmitting work previously submitted for a separate assignment or earlier degree | KSA    | 4         | 24-26         | .254 | 5   | 4   | 2   | .001 | 5    | 5   | 4   | 3.5 | .000 |
| S4. Exchanging information about an exam before it has been taken (e.g. OSCE) | UAE    | 1         | 18-20         | .463 | 3   | 1   | 1.5 | .001 | -    | 3   | 1   | 2   | .001 |
| S9. Threatening or verbally abusing a university or college employee or fellow student | UAE    | 4         | 21-23         | .690 | 4   | 5   | 3   | .014 | -    | 4   | 4   | 4   | .240 |
| 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) | UAE    | 7         | 21-23         | .383 | 8   | 7   | 6   | .085 | -    | 8   | 7   | 6   | .001 |
| S13. Intentionally falsifying test results or treatment records in order to disguise mistakes | UAE    | 6         | 21-23         | .058 | 8   | 7   | 5   | .002 | -    | 8   | 7   | 6   | .038 |
| S28. Falsifying references or grades on a curriculum vitae or altering grades in the official record | UAE    | 5         | 21-23         | .680 | 6   | 5   | 3.5 | .013 | -    | 5   | 5   | 5   | .322 |
|   | S33. Posting inappropriate material about fellow students, teachers or patients on social media | UAE  | 5  | 8 | .026 | 8  | 6  | 5.5 | .503 | -   | 6  | 5  | 7  | .212 |
|---|------------------------------------------------------------------------------------------------|------|----|----|------|----|----|-----|------|-----|----|----|----|------|
|   | S7. Altering or manipulating data or findings (e.g. to obtain a significant result or disguise mistakes) | BAH  | 5  | 5 | .475 | 6  | 5  | 4   | .001 | 5   | 6  | 5  | 4  | .002 |
|   | S15. Purchasing work from a fellow student or internet supplier, etc. | BAH  | 6  | 4 | .000 | 5  | 5  | 5   | .474 | 5   | 5  | 5  | 5  | .465 |
|   | S21. Inventing extraneous circumstances to delay sitting an exam | BAH  | 5  | 4 | .071 | 4  | 4  | 3.5 | .687 | 4   | 4  | 5.5| 3.5| .007 |
|   | S26. Cutting and pasting or paraphrasing material without acknowledging the source | BAH  | 4  | 2 | .000 | 2  | 3  | 3.5 | .351 | 2   | 3  | 5  | 3  | .010 |
|   | S32. Inappropriate involvement in social media by posting photos/videos/texts about class or clinic activities | BAH  | 4  | 4 | .808 | 4  | 4  | 5   | .066 | 4   | 3  | 5  | 4  | .043 |
|   | S34. Drinking alcohol over lunch and interviewing a patient in the afternoon | BAH  | 8  | 9 | .534 | 9  | 8  | 7   | .109 | 9   | 9  | 8  | 7  | .000 |
|   | S18. Not doing the part assigned in group work | KSA  | 3  | 5 | .000 | 5  | 4  | 4   | .034 | 5   | 5  | 4  | 3  | .009 |
|   |                                           | UAE  | 3  | 4 | .032 | 3  | 4  | 2   | .012 | -   | 3  | 4  | 4  | .708 |
|   |                                           | BAH  | 4  | 4 | .101 | 4  | 4  | 4   | .719 | 4   | 4  | 4  | 3  | .431 |
|   | S19. Examining patients without knowledge or consent of supervising clinician | KSA  | 3  | 3 | .728 | 4  | 2  | 2   | .000 | 4   | 4  | 2  | 2  | .000 |
|   |                                           | UAE  | 3  | 4 | .042 | 4  | 4  | 2   | .053 | -   | 4  | 4  | 2  | .000 |
|   |                                           | BAH  | 4  | 3 | .010 | 4  | 3  | 3   | .003 | 4   | 4  | 4  | 2  | .000 |

Note: Bold P-values indicate significant differences (of more than one level) in students’ recommended sanctions.

### Declarations

The author has declared that there are no conflicts of interest.

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