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Professional Behavior Learning by Trigger Film, Self-Reflection and Expert Panel in Medical Education

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Transgressions in professional behavior (PB) have markedly been on the rise in education, to the extent that a study on the medical doctor profession revealed that cheating during training is the best predictor of students' performance after they graduate and begin working. This investigation was conducted to evaluate the implementation of PB learning by trigger film, self-reflection and expert panel in medical education. The study employed qualitative and quantitative approaches; the former applied to develop a model of PB learning while the latter to evaluate the implementation of PB learning with an experimental pretest and posttest control group design. As many as 109 first-year students medical students were randomly selected and split into two groups, namely the control group ($n = 57$) and treatment group ($n = 52$). Each group was divided again into five subgroups. The treatment group received intervention through three instances of trigger film, self-reflection and expert panel tutorials. A modified and validated academic integrity questionnaire was distributed to both groups before and after intervention. The collected data were analyzed with a paired t -test and the Wilcoxon and Mann-Whitney test. Results indicated a significant disparity ($p > 0.05$) in answering the question "Is this wrong?" between the control and treatment group with a 1.61 mean difference. However, the conduct of the two groups towards PB learning was not significantly different ($p > 0.05$) in response to the question "Will you commit any offence in the future?" with a 7.32 mean difference value. Meanwhile, a significant dissimilarity ($p < 0.05$) between both groups was found in the answer to the question "What is the sanction level for the first offence?" with a mean difference of 0.5 points. This research concludes that PB learning by trigger film followed by self-reflection and an expert panel influences the perceived sanction level given for the first violation, but does not contribute to the perception that misdemeanor is a wrongdoing and to the prediction of future infringements. Further analysis of student perception showed that plagiarism is a prominent issue.

Keywords: Professional Behavior (PB), Academic Integrity, Triggers Film, Self-Reflection, Expert Panel.

1. BACKGROUND

In the field of medicine, affective competence is better known as professional behavior (PB) which is essential for medical doctor graduates to uphold. In fact, high professionalism is one of the first platforms and competencies in the Indonesian medical doctors' standards of competence.¹ Formal PB learning thus becomes an important means to convey institutional values and to prepare medical students for their future social contract.² According to Jha,³ students need to develop their professional attitude during their medical education right from the onset. The professional behavior of students during the education process may inform their professional behavior in their future medical practice.

PB learning has become an urgent necessity of the medical educational institution, considering the ongoing increase in academic disintegration occurrences. In addition, it is also important for building students' character in anticipating the developing situations in the global era, namely technology advancement and the rising number of violations of academic honesty or integrity and ethics. Advances in technology greatly contribute to education through the availability of information access unlimited by time and space, but this progress has brought up ethical problems in the form of cheating and plagiarism.⁴

As stated by Hejri et al.⁵ commitment towards academic integrity plays a crucial role in medical education because cheating may affect students' acquisition of knowledge and skills, and spur them to commit dishonesty and to abuse trust in performing their professional tasks. Some of the most frequent forms of

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academic disintegration are plagiarism, absence from class, signature forgery, bribery, falsifying or fabricating data, cheating or giving a cheat sheet to other students during examinations, etc.

The American Council on Higher Education has disclosed that cheating has escalated with a margin ranging from 40% to 60% or even up to 80%. The prevalence of cheating according to Mayville⁴ reaches 75% to 98% among students. A study by Hejri et al.⁵ on the frequency of academic disintegration cases involving 124 clerk ship and internship students showed that disguising or masquerading as students who are actually absent from class is the most common infringement at 93%, while cheating or giving a cheat sheet to other students during exams comes second at 67%. Another inquiry on medical students found that the issue of honesty in exams is a prime matter in need of improvement beside responsibility and time discipline.⁶ This study presents and evaluates an alternative method variant of learning PB (honesty, integrity, responsibility, respect, and altruism) by trigger film, self-reflection and expert panel in medical education.

2. METHODS

This study is a combination of qualitative and quantitative research. The qualitative approach was carried out with the development of a PB learning model and review by purposively selected experts, whereas the quantitative side was realized by means of an experimental pretest and posttest control group design.⁷

Subjects of the quantitative method were first-year students of the Medical Education Study Program in the Faculty of Medicine and Health Sciences at Universitas Muhammadiyah Yogyakarta (FKIK UMY), who were randomly chosen and divided into two groups, comprising five control subgroups ($n = 57$) and five treatment subgroups ($n = 52$). Each subgroup consists of 10 to 11 participants. The treatment group was subject to the intervention of three trigger film tutorials, each followed by self-reflection and one expert panel. The delivered PB attributes include honesty, integrity, responsibility, altruism and respect.⁸

Tutorials or small group discussions were held three times for two hours respectively using a film or video to trigger the discussion. The approximately 15-minute film or video talks about cheating, plagiarism and altruism. Each time after the film and tutorial students were asked to individually write a reflection modeled after Gibbs's form regarding the film and to discuss it. The expert panel activity involving four experts from different disciplines lasted for around two hours, discussing topics of academic integrity and altruism in medical education as well as ethical, cultural and Islamic aspects. The evaluation employed a modified and validated academic integrity questionnaire from Roff.⁹ Data from results of the survey for the questions "Is this wrong?" and "Will you commit any offence in the future?" were not normally distributed and thus were analyzed with the Wilcoxon and Mann-Whitney test, whilst responses to the question "What is the sanction level for the first offence?" were normally distributed, hence analyzed with a paired t -test.

2.1. Questionnaire Modification and Testing

Modifications of the questionnaire were made on 41 items or statements about breaches of academic integrity in Roff's questionnaire,⁹ which in turn was developed from previous researchers.¹⁰ The modifications were adapted to typical situations in Indonesia and added items on altruism. As many as

44 items of the modified questionnaire from Roff were tested by randomly spreading them to 56 respondents. From 51 returned questionnaires, 37 provided analyzable data. Validation of the items used Pearson's correlation statistical test. Results of the test indicated that 25 out of 44 statement items were valid and reliable ($r > 0.325$ and $p < 0.05$).

Twenty-five statement items about academic integrity and altruism were each followed by three questions: "Is this wrong?" then "Will you commit any offence in the future?" And "What is the sanction level for the first offence?" Respondents' answer to the question "Is this wrong?" was given a score of 3 for "Yes," 2 for "Not sure," and 1 for "No." For the question "Will you commit any offence in the future?" A score of 3 was given for a "No" answer, 2 for "Not sure," and 1 for "Yes." As for "What is the sanction level for the first offence?" respondents' answers were scored based on sanction level, namely 6 for the heaviest sanction and 1 for the lightest.

2.2. Trustworthiness

The PB learning model development was validated qualitatively through a review process by seven experts. The model's design was three occasions of group discussion using three trigger films about cheating, altruism and plagiarism followed by an expert panel. Validation of the film used as trigger was done by review by competent tutors and lecturers before the film was used, and given inputs was followed up by amendments.

3. RESULTS AND DISCUSSION

Results of quantitative analyses on the PB learning treatment over students' perception of academic integrity can be seen in the following charts.

3.1. Question "Is This Wrong?"

Results of the Wilcoxon statistical analysis on the question "Is this wrong?" from the treatment group revealed that after posttest there were 29 participants whose scores were lower than in the pretest, 14 who got higher scores, and nine whose scores remained the same between both tests. The rank-sum value for the negative trend was 25.1 and 14.8 for the positive, with a p value of 0.001. It can therefore be inferred that there is a significant difference in response to the question "Is this wrong?"

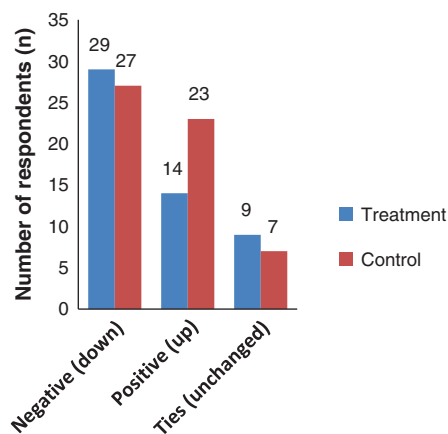


Fig. 1. Changes in respondent scores for the question "Is this wrong?" in the treatment and control groups after PB learning treatment (posttest).

within the treatment group after intervention. For the same question in the control group, among the posttest scores obtained from 57 respondents were 27 scores lower than from the pretest, 23 higher ones, and seven same pretest and posttest scores. The rank-sum value was 22.85 for the negative change and 28.61 for the positive. The gained p value was 0.843, indicating that there was no significant disparity between the pretest and posttest in the control group.

Analysis of the difference in response to “Is this wrong?” yielded an average value of 1.56 for the treatment group, implying that the treatment group had an average score increase of 1.56. The control group had an average value of -0.05 which denotes that the group’s average score for “Is this wrong?” declined by 0.05. The mean difference for “Is this wrong?” between the treatment and control group was 1.61, which signifies that the treatment group’s score for the question was 1.61 greater than that of the control group ($p = 0.05$).

3.2. Question “Will You Commit Any Offence in the Future?”

Statistical analysis results from the Wilcoxon test on the question “Will you commit any offence in the future?” after intervention on the treatment group disclosed that 18 participants got lower scores than from their pretest, 28 had higher scores after intervention, and six gained identical scores prior to and following intervention. The rank-sum value gained was 22.8 for the negative change and 23.9 for the positive. The obtained value was 0.154, suggesting that there was no significant score difference for the question “Will you commit any offence in the future?” Between before and after the intervention on the treatment group. Meanwhile, the Wilcoxon analysis results for the question in the control group revealed that the same number of participants among the 57 respondents, as many as 27 respectively, received higher and lower scores than in the pretest, while only three of them had unchanged scores.

The Mann-Whitney test on the treatment group resulted in a mean rank of 51.17 and 58.49 for the control group. The generated p value was 0.226, implying no significant difference in value between the treatment and control group for the question “Will you commit any offence in the future?”

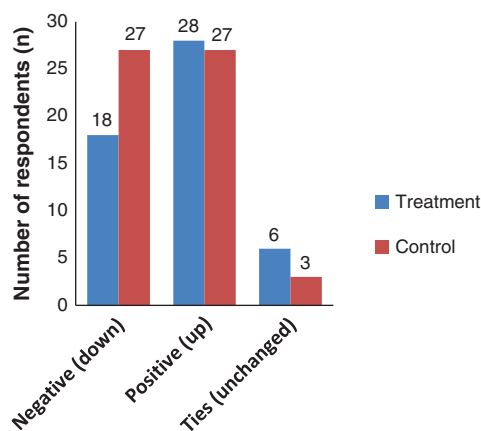


Fig. 2. Changes in respondent scores for the question “Will you commit any offence in the future?” in the treatment and control groups after PB learning treatment (posttest).

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3.3. Question “What is the Sanction Level for the First Offence?”

Statistical analysis results using a paired t -test for the question “What is the sanction level for the first offence?” showed that the treatment group acquired an average score of 2.65 from the pretest and 3.02 from the posttest. The average difference between both tests was 0.4, indicating a score increment of 0.4 on average. The p value was 0.001, leading to the inference that the average scores proceeding and following intervention were significantly different for the question “What is the sanction level for the first offence?” in the treatment group. In the control group the mean pretest score was 2.62 and the mean posttest score was 2.45. The mean difference between posttest and pretest was -0.2 , which signifies that the mean score decreased by 0.2 for this question. The p value of 0.001 implies that there was indeed a significant difference in mean scores between before and after the intervention for this question in the control group.

Analysis on the sanction level difference produced a mean value of 0.4 for the treatment group, denoting a score increase of 0.4. As for the control group, the average value was -0.2 which indicates that the control group’s average score abated by 0.2 for the sanction level question. The mean difference between the treatment and control group for the same question was 0.5, meaning that the treatment group’s average score was higher by 0.5 than the control groups. The p value for this difference was 0.0001, signifying a meaningful difference between both groups.

Results from the students’ evaluation of the question “Is this wrong?” expressed that breach of academic integrity is not wrong in 13 out of 25 items. From the 13 items judged as not wrong by students, seven items (2, 3, 4, 5, 6, 8, and 10) relate to the attribute of honesty, three items (11, 13, and 14) pertain to the attribute of responsibility, two items concern justice (23 and 25), and one item is linked with the attribute of altruism (20). Three items that were most frequently perceived as not wrong by students were, in descending order, item number 2 (Helping a fellow student complete an assignment), number 6 (Citing a source which was in fact not entirely read), and number 23 (Accessing past papers or class assignments unpublished to all classes to assist study).

Findings from the quantitative evaluation of the experimental implementation of the PB learning design divulged that the PB learning intervention with a trigger film group discussion,

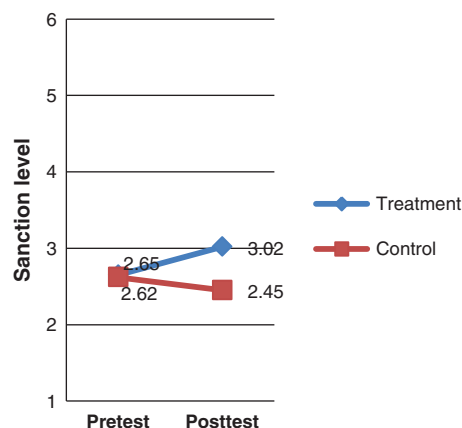


Fig. 3. Changes in average level between the treatment and control group for the question “What is the sanction level for the first offence?”

reflection and expert panel did impact on students' perception of the appropriate sanction level for the first instance of violation ($p < 0.05$). A meaningful difference was identified between the pretest and posttest in the treatment group ($p < 0.05$) and between the control and treatment group ($p < 0.05$). Answers to the question "What is the sanction level for the first offence?" exposed that more students in the treatment group opted for a higher sanction level than those in the control group, particularly in items of honesty, responsibility and respect. This significant result was in part affected by the fact that the film used as trigger was relatively interesting and relevant with the students' experience.

Altruistic behavior is the primary goal in medical education in the global era, hence teaching this behavior formally is of the utmost importance, whereas information about effective methods from prior studies remains limited. For instance, Gede et al.¹¹ conducted teaching and assessment of altruistic behavior on third-year students at a clinic section within the context of interaction between physician and patient. The method was by organizing a workshop on altruism where a role play video was presented to half of the third-year students undergoing rotation at the pediatric section, while the other half did not participate or were not exposed to. The students' capability in clinical knowledge and communication focusing on altruistic behavior was measured using OSCE. However, in our research, the film applied as trigger for learning was more inclined to students' behavioral and attitudinal aspects rather than those between doctor and patient. Furthermore, the students selected to receive learning intervention were first-years in the hope that they would give greater benefits as they have would more extended opportunities to practice PB during their education period. The assessment was carried out by evaluating students' perception towards PB attributes or elements, including altruism, by means of the questionnaire by Roff⁹ which had been modified and validated.

Learning by trigger film was also implemented by Ber et al.¹² to teach ethics, but the film covered various topics and cases with a doctor-patient setting developed for second-year students. A similar approach was taken by Rhodes et al.¹³ who taught responsibility with a short group discussion class method (case-based teaching using video or film), which included a reflection task. In this study, according to the tutor, the film serving as the learning trigger was more appealing than a mere scenario because it involved audiovisual elements and engaged students' emotion. Students would also be driven to reflect on the film's content with their experience, and the film inspired and instilled normative, idealistic values into the students' selves. As the students stated, the trigger film gave realistic depictions, was interesting, had clear goals, was resourceful, and was relevant with everyday life as well as with what the students expected, thus extending their comprehension.

In our study after the students were subjected to the film, they wrote a reflection using a form from Gibbs. Reflection is an essential part of the learning process for students to enhance their professionalism after gaining direct or indirect experience accompanied by feedback from the lecturer or tutor. This reflection method was also undertaken by Branch¹⁴ in teaching respect and appreciation by interview with patients listening to their complaints), role model (informed consent), case reflection and group discussion. Similarly, Weissmann et al.¹⁵ taught humanism with a role model and self-reflection.

The expert panel held at the end of the intervention provided support to the five pillars of academic integrity: (1) honesty; (2) trust; (3) fair treatment; (4) respect; and (5) responsibility and altruism. The experts underlined honesty, as the most profound core element or attribute of knowledge, and altruism, which closely correlates with the Indonesian values of *gotong royong* and *musyawarah* for *mufakat* (placing public needs above personal interest). Thus, a code of conduct needs to be established and any violation against it must be subject to punishment.

Outcomes of the statistical analysis pointed out that the PB learning intervention did not significantly influence students' perception on whether breach of PB is wrongful and whether they would commit such transgression in the future ($p > 0.05$), i.e., there was no meaningful difference between the treatment and control group ($p > 0.05$) in answering the questions "Is this wrong?" and "Will you commit any offence in the future?" This lack of significant difference may be caused by a number of factors, including the time length for the intervention or treatment, technical operations, the tutor, and the instrument or the questionnaire. In terms of the intervention or treatment factor, the length and frequency of the PB learning treatment given as three group discussions with three trigger films followed by reflection and an expert panel were deemed inadequate to spark changes in students' perceptions. Internalization would take place if the PB learning began as early as possible, even when students enter medical education for the first time, and was gradually strengthened throughout the education process.

Students viewed breach of academic integrity as not wrong in 13 items from a total of 25 items. Of those 13 items, seven items correlate with the attribute of honesty, and among them were three prominent items:

1. Deliberately paraphrasing a text in an assignment or copying a text directly without citing the source;
2. Not citing the source of information correctly, e.g., copying a text directly but only citing the source in the reference list; and
3. Citing a source which was in fact not read entirely; all of which pertain to plagiarism.

This implies that students have yet to fully understand which activities are considered as plagiarism and that they need information or elaboration from educational institutions so that they do not plagiarize in any form when writing their assignments, academic essays or papers, etc.

4. CONCLUSION

Professional behavior learning by trigger film followed up by self-reflection and expert panel affects perception of the fitting sanction level for the first offence, but exerts no significant influence on the view that misbehavior is wrongful and the perceived possibility of committing future infringements. Analysis of student perceptions indicates that plagiarism as a component of the attribute of honesty is a prominent issue.

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