Reviewer’s report

Title: Just fun or a prejudice? - Physician stereotypes in common jokes and their attribution to medical specialties by undergraduate medical students

Version: 0 Date: 14 Mar 2017

Reviewer: Mark David Schwartz

Reviewer’s report:

The authors are to be congratulated for tackling this complex and pervasive issue in the professional identity development and career choice of medical students. The novel use of jokes as a lens into this socialization process is intriguing.

In addition to the more specific comments below, the paper would be strengthened by clarifying the rationale for the scientific premise (that jokes about doctors reflect culturally socialized beliefs about specialty characteristics in a way that may distort student career predilections, and therefore is a problem that medical educators should address. What is the evidence that medical students choose specialties that are inconsistent with their core values and preferences because of this cultural/socialization process? Why is this a problem that needs to be solved?

Introduction:

- Figure 1 appears only indirectly related to this paper and can be omitted. It is the subjective idea of a single resident that trained more than a decade ago.

- While the notion that negative (or positive) stereotypes of medical specialties and the impact of stereotype threat might influence student career choice, the evidence cited by the authors is largely subjective and anecdotal.

- What is the rationale for seeking to answer questions 2 and 3 re year in medical school and student gender? (lines 112-117)

Methods:

- The "personality characteristics" seem to be generalized behaviors based on artifact jokes. What method did the researchers use to extract these characteristics from the jokes?

  o Since the study is looking at the role of humor in common doctor jokes, the paper would be strengthened by including examples of common jokes and how the characteristics were extracted.
Lines 156-157: Showing an example with the exact language in the questionnaire would help clarify the readers' interpretation of the findings.

Results:

- There is a potential selection bias given the low response rate of students compared to the overall population. These students could potentially be more interested in doctor jokes, for example, depending on the content of the recruitment email.

  o It would help if the authors provided a comparison of student characteristics between those who responded to the survey and those that did not respond.

  o Lines 321-322: It is not clear what the three groups of students compared refer to in this assertion.

- Given that the study takes place at only one medical center in Germany, it is difficult to interpret the generalizability of the study. Furthermore, the professional culture within this university could potentially influence the results of the study and thus a description of the medical center/school and the pattern of career choice among their recent graduates would strengthen this paper.

- Another concern is the average age range of the students in the study, as students begin medical school in Germany directly after high school, and thus their maturity levels may differ from medical students in other countries, i.e. the United States.

Discussion/ Significance:

- Working in an academic medical center, we were not surprised by the existence of stereotypes between fields. In addition, most of the stereotypes that are significantly congruent may be considered to be more common knowledge, as the study suggests, from movies, books, television, etc.

- The finding that surgery and psychiatry are the most readily identified from these characteristics is not novel. Such stereotypes are long-standing and medical schools have been acting to mitigate the potential impact of these for many years. It is not clear how these findings advance our understanding of the potential problem of how popular culture shapes our behavior. Nor does it suggest new strategies to addressing this issue.

- The work could be strengthened by exploring further the impact of the stereotypes on the medical students. This could be an important area of research, to understand if stereotypes impact career choices and professional identity development.
Furthermore, it would be interesting to know the specialty choices chosen by participants of the study, though this would change the study design greatly. By understanding the role of stereotype threat, perhaps strategies could be developed to mitigate that impact.

Finally, the role that stereotypes play into the culture and hospital environment between different specialties would be interesting to explore.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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