Reviewer's report

Title: When empathy is higher in senior than in first year medical students: A cross-sectional study

Version: 1 Date: 3 March 2011

Reviewer: Barbara Griffin

Reviewer's report:

This paper examines the difference in empathy between first and final year medical students, and how this difference is moderated by gender and speciality preference.

- Major Compulsory Revisions

1. The authors begin by highlighting the multiplicity of empathy definitions but do not clearly identify the actual definition they are working with. An examination of the items used suggest that the measure is one of “understanding the importance of empathy”, which is quite conceptually different to actually having empathy. I think this distinction is important because it would not be surprising to find (as the authors did) that understanding could increase over a period of training (as a result of learning), while actual level of empathy may be eroded over the same period of time due to stress etc.

2. Much of the discussion provides support for the first hypothesis, but there is considerably less attention given to providing theoretical or empirical support for Hypotheses 2 and 3. Some of the discussion may be brought forward, but these two hypotheses need to be more adequately addressed.

3. I think the Results section needs rearranging so that the factor analytic evidence for the JSPE is presented first – it doesn’t really seem logical to analyse the scale’s relationships with other variables before analysing the scale itself.

4. If the JSPE produces three orthogonal components, then the authors need to justify why they analyse it as a unidimensional scale in terms of testing the hypotheses, especially as coefficient alpha is relatively low. It might be interesting to see if gender, specialty preference etc relate differently to the three factors.

5. There is no presentation of means and standard deviations, which are necessary in light of the hypotheses predicting mean differences.

6. Because males and females differed in the senior year but not in the junior year, could this indicate that only females might increase in their understanding of empathy? The potential interaction between training and gender needs to be thought through. The explanation offered by the authors (4th para Discussion) would imply a similar gender difference in first year as in the final year.

7. There is no explanation for the lack of findings regarding specialty – but perhaps one would only expect significant difference for measures of empathy.
that cover the more emotional aspects rather than for measures such as the JSPE that are more cognitive.

8. The conclusion that empathy scores “increased as a function of medical training” (Discussion Para 1 line 1) seems somewhat overstated. Not only is this a cross-sectional study, but the results might be due to aging rather than training.

- Minor Essential Revisions

9. I would like to see an explanation about the rationale for categorisation of specialty preference

10. The difference between the second two factors of the JSPE is not clear – “perspective taking” and “ability to stand in the patient’s shoes” sound very similar in meaning.

11. Expression and spelling could be improved in places. For example:
   a. Background, para 3, Line 7 – “there are two studies”
   b. Instruments, para 2, line 5 – replace “e” with “and”
   c. Discussion para 2 is not clear, particularly the bit about harmless contributions; and the last sentence is redundant.
   d. Discussion para 6 is not clear, why should humanities not be excluded from medical education?
   e. Discussion para 6, point 4, “maintain student awareness of professionalism”

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests