Reviewer’s report

Title: The influence of the cultural climate of the training environment on physicians’ self-perception of competence and preparedness for practice.

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Reviewer: Robert McKinley

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The influence of the cultural climate of the training environment on physicians’ self-perception of competence and preparedness for practice. Busari et al

The authors’ attempt to make a contribution to the scant literature on the impact of learning environments on educational and training outcomes. They report a survey of a small sample of graduands of a paediatric training scheme some of whom were required to spend time in district hospital situated in Curacao while others were posted to district hospitals in the Netherlands.

From the introduction it transpires that the aim of the study was to determine ‘the fitness for purpose’ of Curacao as a location for training for paediatricians in the Netherlands. This creates the uncomfortable tension of making retrospective judgements of yesterday’s training against today’s standards in what is usually a highly fluid environment. The data also highly retrospective – the median time since the graduands’ exposure to the training experience may be of the order of 15 years. The data are also the graduands’ perceptions of the outcome of their training rather reflecting any objective measure of their training. It is therefore difficult to see how these highly retrospective data can inform decisions about the fitness of training provided today for residents in the future.

With respect to the methods, the questionnaire’s domains were taken from a highly regarded competency framework (CAM MEDS) which is probably the greatest strength of the study. Unfortunately, the authors to not describe how they developed and tested the questionnaire items, give any information on the reliability of scales nor do they describe how they measured the graduands’ perception of their overall level of preparedness. Was it calculated as the mean of the set of scales, the mean of the 28 items or was an additional ‘overall preparedness’ item or scale used. The authors state that they performed a power calculation but do not tell us which variable was used nor do they tell us the assumptions upon which the power calculation was based. Finally, six questionnaires were discarded because ‘inconsistencies’. This is concerning because inconsistent responses do not necessarily reflect incorrect responses and valid data which could have affected their conclusions where omitted. It would be preferable that their main outcome were reported both with and without the ‘inconsistent data’ and, if different, describing these inconsistencies so that the reader is better placed to make a judgement for him/herself.
In the section on analysis the authors state that they used the Bonferroni correction to account for multiple testing but do not describe how this was done.

The authors use qualitative data but give no description of how these data were handled or analysed. It was therefore difficult to assess the contribution of these data to the paper as other than ‘interesting quotations’.

With respect to the results the text presentation was confusing. In the second paragraph of the results the authors discuss the contribution of training in the different sites to the graduands’ overall professional development. This phraseology led me to the final line in table 4 but the data did not match. It appears that the data in the text refer to the final variable in table 3. This confusion could be avoided by both clearly signalling the table from which the data are drawn and clear labelling of items. In the third section of the results (top of page 13) the authors state that the Curacao graduands ‘acknowledge the contribution more’ whereas there was no statistical nor do I suspect practical difference in the scores (0.07). They also comment that other competencies scored higher in the Curacao group although no significant differences were found. In the third paragraph of the discussion (top of page 17) the authors state that training in Curacao contributed to ‘a lot more’ to professional development than attachments in the Netherlands. This somewhat overstates the case as the scale difference was approximately 0.3 of a standard deviation which would not usually be described as a large difference in scale scores.

There is extensive discussion on potential mechanisms for the single observed difference about why Curacao graduands perceived themselves to be better prepared for management. This can be best described as highly speculative given that it is unclear whether or not there is a causal relationship between the management preparedness and the attachment to Curacao. One could indeed observe that the preparedness for management competencies is actually what one would expect given the other competency scores for Curacao graduands and ponder why graduands from District Hospitals in the Netherlands perceive themselves to be relatively deficient in management competencies.

Finally, the conclusions over-interpret the data; the evidence that the learning environment influenced physicians’ perceived level of preparedness is weak.

Major Compulsory Revisions
Description of:
Development and testing questionnaire items, scales reliably measurement of overall level of preparedness.
Power calculation - which variable and assumptions upon which the power calculation was based.
Impact of exclusion the exclusion of the ‘inconsistent data’
‘Downscale’ interpretation of the data and conclusions

Minor Essential Revisions
How the Bonferoni correction was used
How the qualitative data was used
Presentation of results in the text
Discretionary Revisions
Consideration of the alternative hypothesis that Management training is relatively weak in the Netherlands
The stated aim of the paper

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests