Author’s response to reviews

Title: UKCAT and medical student selection in the UK – what has changed since 2006?

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Author’s response to reviews:

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MEED-D-19-00655:UKCAT and medical student selection in the UK – what has changed since 2006?

Dear Clare,

Thank you for the reviewers’ comments relating to the above manuscript. I am pleased to provide this cover note to accompany the submission of our revised manuscript. As requested I have provided a response to each of the comments made by the reviewers.

Editor Comments

1Based on the additional comments of reviewer 2, I would advise you to ensure the limitations of the UKCAT test are fully discussed in the discussion section. As requested by the reviewer, please add further information about the traits and qualities that the UKCAT is designed to measure.

Response: The intention of the paper is to report on changing use of the UKCAT in selection. The limitations of aptitude tests, including UKCAT, have been discussed in detail within a systematic review of selection methods in medicine that we have referenced. We now draw on the conclusions from that paper in more detail in the discussion section and have adjusted the paper to ensure it does not come across as promoting UCAT.
In the background section, readers are now referred to the UKCAT website and annually produced technical reports for additional information regarding test content.

Comments from Reviewer 2

2The article has been improved somewhat by revision, but in my opinion still has flaws. A major concern that I have is that there is no adequate description of the traits and qualities that the components of UKCAT are designed to measure. In particular the SJT is mentioned as if it is a known standard test; there is no mention at all of what it purports to measure. Because of these omissions, and the reported fact that Schools use the test in a variety of ways, a reader can only draw the conclusion that the UKCAT is an administrative convenience for selecting students - to reduce numbers - rather than an informative instrument to enable matching applicant qualities with
the profile of qualities required by schools for congruence with their curricular and institutional aims. I believe that the authors must acknowledge this in the article. There are still other matters that I consider need to be addressed, as below.

Response: In the background section, readers are now referred to the UKCAT website and annually produced technical reports for additional information regarding test content. Information regarding the traits the SJT intends to measure are included. There is already reference in the discussion section on the possibility that schools may have been attracted by the use of the test to narrow down the number of applications for closer scrutiny. An additional paragraph has been added to the discussion section suggesting that the growing evidence base around selection may allow for further reflection as to how selection criteria align with curricular.

3In the Abstract 'a factor approach' (line 29) needs to be explained here to inform the reader. Response: Amended to include explanation.

4Also in the Abstract (l 31) the last sentence seems disconnected from the rest. Also it gives a possibly unwarranted impression that the SJT has some special value.

Response: We have noted this comment but feel this sentence reads well at the end of paragraph which is reporting the general trends identified in the results section of the paper. There is certainly no intention to imply the SJT has any special value but it is used very differently to the UKCAT cognitive tests in selection processes which is explained in the paper. Earlier in this paragraph we make it clear we are initially referring to how the UKCAT cognitive tests are used in selection which we hope makes this distinction clearer.

5The final sentence of the Conclusion is too vague. Its intended meaning is unclear. Response: Amended for clarity.

63/12 "and challenge"? Response: Amended.

73/39 "may" rather than "could" Response: Amended.

84/36 what factors were used? Response: This section has been amended to provide further clarity – potential criteria used within the factor method are included in the second paragraph in this box.

94/37 wording issue (to determine invite for interview and on occasion.....) Amended.

104/42 not clear how this works (could be either 1. Factor all the scores and take only the first component score as representing the test, or 2. Use each of the factor scores. There are other imponderables, such as the factoring method and which scores are used - only those for that school, or all supplied by UKCAT.

Response: This section has been amended to provide greater clarity and reference made to the example provided below the table. The use of the words factor, weighting and criteria/ion have been reviewed throughout the paper to avoid confusion around this definition.
115/12 'were less clear' i.e., 'not clear'? Response: Amended to read ‘Some candidates were not clear….’. A candidate with a score in a high decile would be confident their score met a convenience threshold.

125/20 What is the meaning of the sentence 'Trade off.....borderline use’? Response: Sentence deleted – reference is already made to this issue later in the paper.

136/11-36 What is the status of this section? Would it not be better to give an example of what an actual university has done rather than invent a possible scenario for a hypothetical institution?

Response: We have used a hypothetical example in order to illustrate a fuller range of uses of the test. Information collected from Universities in annual interviews is done on the basis that individual Universities would not be named in publications without their permission.

147/30 more detail, e.g., how many? Response: Amended to include numbers.

157/47 'has not varied significantly' vs 'small increase' Response: Sentence amended.

168/7 more information required (or reference to table/graph)

Response: This section of the paper (Threshold Method) draws upon data presented in Figure 2 and Additional File 3 which are referred to in the first paragraph of this section.

178/12-14 sentence meaning unclear. Maybe some punctuation would clarify Response: Amended.

188/32 used the test very strongly? Response: Amended.

198/36 factor weighting strategy and detail unclear Response: See comment 10 above. Further clarity given regarding this use of the UKCAT throughout the document.

208/40 'used the SJT subtest as a weighting' In what way, and for what purpose? Response: Amended.

218/46 which factor approach? Response: Amended.

228/49-51 sentence meaning not clear Response: Amended.

239/9-11 sentence meaning not clear Response: Amended.

2411/22 how are weightings 'adjusted'?? Response: This is explained in the following sentence.


26 Discussion - much of the content would be better in the Introduction, providing a basis for the Discussion to discuss the findings in relation to the expectations.
Response: The first paragraph of the discussion has been moved into the introduction. We have reviewed the remaining content of the Discussion section and consider it to be appropriately located.

2713/48 'that' rather than 'who' Response: Amended

2814/14 say why numbers 'ought to be treated with caution' Response: Amended to refer to missing data.

2914/24 'declining conversion rates' Response: Amended to include definition.

30 Graphs - not clear how trend lines are calculated - just the 2018 minus the 2007 means, or a regression taking all into account? Response: The graphs utilise linear trend lines to display changes over time.

I trust we have addressed all the issues raised by reviewers but please do not hesitate to get in touch if anything is unclear.

I look forward to hearing from you.

Yours sincerely

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