Reviewer's report

Title: An Analysis of Reported Motivational Orientation in Students undertaking Doctoral Studies in the Biomedical Sciences

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Reviewer: Catrin Evans

Reviewer's report:

Thank you for the opportunity to review this paper.

I found it of interest, although, as a qualitative researcher and an ex-Director of a doctoral programme in Health Sciences, there were elements of this paper that I felt needed to be clarified. In particular, its usefulness in terms of informing and understanding current practice could have been stronger. Specific comments are provided below:

- I felt that the introduction and background/literature reviews were too long. This section could perhaps be simplified – by laying out clearly the need for a better understanding of the learning process in doctoral study and explaining the role of motivation as but one element (of many different possible issues) affecting attrition within doctoral study. It is not quite clear why the team has chosen to focus particularly on motivation, as opposed to other possible issues.

- The operational definition of motivation could perhaps come in a section that acts as the conceptual framework for the study – rather than as part of the literature review. The function of the latter should be to show the need for, and value of, this study. In relation to this point, I am also not quite clear why the team has chosen to focus on the biomedical sciences. Perhaps there needs to be some discussion about the discipline areas involved here and what makes this area different to others (if at all) – more contextual information on the nature of doctoral study in the biomedical sciences is required.

- On p.4 (1st paragraph), the paper seems to be presenting findings by discussing the 3 major groups of motivational interest – I would suggest leaving these until the results section.

- The section on operational definition of motivation becomes a bit complicated and convoluted – it could do with being simplified or re-written to be clearer - there needs to be more explanation of organismic integration theory (p.5)

- The study justification should be incorporated within the literature review rather than in the methods section – the literature review should already have made it clear why this study is justified.

- The methods section reads like a justification for adopting a qualitative approach to a quantitative question. It currently feels like the research has essentially taken a pre-defined area of interest (motivation) and has set out – deductively – to explore this through semi-structured interviews. This is very different from the usual – inductive – approach to qualitative research where
informants present their own world views. I think the team need to justify this approach more rigorously. In particular, the method of analysis needs more explanation. It is currently rather superficial and thin. I think what the team has done is used something of a ‘framework approach’ – where the data is scrutinised for pre-defined concepts as well as for inductively emerging themes. What were the free-standing inductive themes? Did they add anything to our existing understanding of motivation or doctoral study?

• In the methods section, it would help to have more details about the sample. Can we be provided with demographic details and other important information (e.g. stage of study, subject area, home or international)

• In addition, we need to know more about the research team – who were they? Why were they undertaking this research? More reflexivity here would be useful.

• On p.8, it states that the participants were ‘broadly ignorant’ of the purposes of the research. Can this be explained in more detail with reference to research ethics conventions?

• On p.9, in terms of the analysis, it is not clear whether these are inductive or deductive themes – more explanation as to how these themes were derived is important

• In terms of the presentation of the findings, there are too many quotes. I would expect to see a more nuanced elaboration of the different elements of each theme, with one quote illustrating each element – rather than just being presented with a list of quotes. A more nuanced and critical and explanatory approach to the themes and their inter-relationships would be expected within a qualitative research approach.

• The presentation of the analysis makes it appear as if the classification of the participants depending on their ‘motivation’ was very clear cut. What were the shades of grey? It feels unrealistically straightforward – unusual in qualitative research. Were there any significant differences within the sample dependent upon their stage of study or context or discipline area or university? What were the nuances?

• In the discussion, whilst the consideration of student motivation is important, I feel that it is equally important to critically consider the context of this motivation – in terms of the current job market or value placed on doctoral study – in different economic, social and cultural contexts – or in terms of the learning environment in which students finds themselves. The discussion feels rather de-contextualised. Of more interest perhaps would be to consider the external as well as internal influences on a student’s motivation. As a doctoral supervisor and programme director, I am left wondering what implications this research may have for my own practice or for my institution’s policies.

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

**Quality of written English:** Acceptable
**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’