

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

(This paper received three reviews from its previous journal but only two reviewers agreed to published their review.)

ARTICLE DETAILS

TITLE (PROVISIONAL)	Newly-qualified doctors' perceived effects of assistantship alignment with first post: A longitudinal questionnaire study
AUTHORS	Wells, Stephanie E; Bullock, Alison; Monrouxe, Lynn V

VERSION 1 – REVIEW

REVIEWER	P Vivekananda-Schmidt Sheffield Medical School, UK
REVIEW RETURNED	13-Jun-2018

GENERAL COMMENTS	<p>This study facilitates an evidence based approach to developing assistantships by evaluating the benefit of aligning assistantships with the graduates' first doctor post. As a questionnaire survey only study only the differences in perceptions between aligned and non aligned assistantship can be observed but not the why. Also some questionnaire statements are generic and it is therefore hard to know where the issue is but questionnaire studies like this one generally give a sense of how things are but only a limited insight into why.</p> <p>Please see specific suggestions below.</p> <ol style="list-style-type: none">1. References before full stop....2. In places hard to engage with sentence structures; for example, 'Other research has examined the impact that assistantship alignment, alongside factors such as gender, professional identity and anxiety, has on burnout across medical graduates' transition into practice.(24)'3. Missed opportunities during placements is briefly mentioned but it would be good to hear a bit more about how to facilitate this better....perhaps during discussion?4. Specify more details about ethical approval - Where did you obtain approval and approval no.5. Statistical analysis - More detail needed. For example, information on when T - tests were applied v ANOVA, assumptions tested, conditions for pair wise comparisons etc needs to be added.
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	6. The Huynh-Feldt correction was used as sphericity is not assumed. - Did you do a Mauchly's test for Sphericity assumption? What were the results? Huynh-Feldt correction isn't always an appropriate correction to use and what correction you use depends on level of departure from sphericity?
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REVIEWER	Dr Shaun Peter Qureshi Clinical Fellow in Medical Education University of Edinburgh United Kingdom
REVIEW RETURNED	09-Jul-2018

GENERAL COMMENTS	<p>This study investigates an important area of concern - alignment v. non-alignment of clinical assistantships for final year medical students. The introduction explains the rationale for clinical assistantships in the UK well, and there is clear exposition of existing literature, making clear the gaps that this study aims to fill. The authors did very well to obtain the response rate they did, particularly from a population (junior doctors) who are notoriously difficult to recruit to studies or encourage to answer their e-mails. The findings of the study contribute to existing literature and raise further interesting questions.</p> <p>My main criticisms are as follows:</p> <ul style="list-style-type: none"> - It would be helpful if they were for the authors to define what they mean by efficacy, or perhaps, what they would consider an efficacious assistantship to be and why. Indeed, this considers what the aim(s) of the assistantship itself are, which again would be useful to include. I wonder if there already are pre-established definitions in the existing literature - if so, it would be helpful for the authors to include this. <p>From reading the study, I infer that they would take an efficacious assistantship to be one that led to changes in newly graduated doctors self-perceptions: their experience was valuable, reduced their anxiety, increased their confidence and prepared them for step-change in responsibilities. This is different from other possible ways in which efficacy could have been considered, for example, an objective measure how quickly newly graduated doctors are able to demonstrate they have met competencies of the foundation curriculum, or number of clinical incidents/mistakes, or (subjective) the perceptions of consultant supervisors or other colleagues. Efficacy is mentioned in the title, and the introduction section, but this concept does not seem to have been picked up again in the discussion section. I wonder if this study investigates newly graduated doctors' perceptions of the effects of their assistantship experiences on their self-confidence as doctors, rather than efficacy of the assistantship per se.</p> <ul style="list-style-type: none"> - The study design is quite reasonable for addressing the research aims. However, would the authors consider including in their discussion section a discussion of the limitations of Likert scales for investigating some of the phenomena under study. For example, answers to questions about anxieties, confidence, feeling prepared may be difficult to quantify. Have the authors considered other methods which could be used to further investigate these perceptions which may complement this study? <p>Other, more minor points</p>
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	<p>- Perhaps include a sentence explaining the appearance of non-aligned participants at points T2 and T3. Since it appears that every participant who attended medical school in Wales and then began work in Wales should be aligned, I assume that those non-aligned at T2 and T3 are those who graduated from medical schools outside Wales - is this correct? It would be helpful to clarify, particular for those from outside UK who may be unfamiliar with medical training in the UK.</p> <p>- Perhaps the authors could comment on why the aligned participants were more likely to feel that the consultant does not understand the purpose of the assistantship?</p> <p>- Line 33 of Page 9: The word heterogenous is used to describe participants who come from one of two medical schools in a single country - do the authors mean homogenous?</p> <p>- Line 53 of Page 9: Perhaps the authors could expand on what they mean about using a realist approach in the future.</p> <p>Please also note that I am not well versed in the statistics used in this study, and although I have no reason to believe there is a problem, I am unable to comment on the statistical analysis. (I have selected N/A above as I was unable to comment)</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Differences in perceptions between aligned and non aligned assistantship can be observed but not the why. Also some questionnaire statements are generic and it is therefore hard to know where the issue is but questionnaire studies like this one generally give a sense of how things are but only a limited insight into why.

Our response

We totally agree with the reviewer – we present the “what” but in order to understand the deeper “why” questions we need a different kind of study design. We do, however, believe that the “what” is of interest and the first port of call. We also make the point in our discussion section of calling for further research to examine issues such as what works, in which contexts, why and for whom,

Reviewer: 1

References before full stop....

Our response

We disagree – the format of BMJ is references after the full stop.

Reviewer: 1

2. In places hard to engage with sentence structures; for example, 'Other research has examined the impact that assistantship alignment, alongside factors such as gender, professional identity and anxiety, has on burnout across medical graduates' transition into practice.(24)'

Our response

We have now gone through the manuscript, removed any unnecessary words and split up any large sentences. We hope the referee now finds it easier to engage with.

Reviewer: 1

3. Missed opportunities during placements is briefly mentioned but it would be good to hear a bit more about how to facilitate this better....perhaps during discussion?

Our response

We have now added Burford's explanation of the issue around "missed" opportunities: "Burford et al. (21) believe that this is more to do with structural or cultural barriers to having 'hands-on' experiences, such as having fewer senior doctors around to support the juniors, than it is to students' motivation" by way of an explanation. If this is the case then we believe it is beyond the scope of our manuscript to provide a solution to this (bar the obvious one of having more senior doctors present).

Reviewer: 1

4. Specify more details about ethical approval - Where did you obtain approval and approval no.

Our response

This detail was already present on Page 2 of our manuscript: Ethical approval was granted by the School of Medicine Research Ethics Committee, Cardiff University, Wales, in February 2015 (reference no: 15/08).

Reviewer: 1

5. Statistical analysis - More detail needed. For example, information on when T - tests were applied v ANOVA, assumptions tested, conditions for pair wise comparisons etc needs to be added.

Our response

We are not sure that all of this information is really required. We believe that it is evident, for example, when an ANOVA test was applied as we report the "F" statistic and when the t-test was applied we report the "t" statistic.

Reviewer: 1

6. The Huynh-Feldt correction was used as sphericity is not assumed. - Did you do a Mauchly's test for Sphericity assumption? What were the results? Huynh-Feldt correction isn't always an appropriate correction to use and what correction you use depends on level of departure from sphericity?

Our response

We thank the reviewer for bringing this up as it alerted us to having not used the correct degrees of freedom and another transposition error – this has led us to check our data and all is in order.

To answer the reviewers' question, yes, we did a Mauchly's test for sphericity. We realise that the Huynh-Feldt is sometimes considered to be the most liberal correction, with Greenhouse-Geisser being more conservative (and nowadays the lower-bound correction is not recommended). However, Mauchly's W for Q2 (anxieties) was .851 ($p=.004$). Epsilon for the Greenhouse-Geisser correction was .871. When epsilon is $> .75$, the Greenhouse-Geisser correction is believed to be too conservative, resulting in an incorrect rejection of the null hypothesis that sphericity holds. Girden (1992) has recommended using Huynh-Feldt correction as a solution to this problem. [Girden, E. (1992). ANOVA: Repeated measures. Newbury Park, CA: Sage.]

Reviewer: 2

- define what they mean by efficacy, or perhaps, what they would consider an efficacious assistantship to be and why. what the aim(s) of the assistantship itself are, which again would be useful to include. I wonder if there already are pre-established definitions in the existing literature - if so, it would be helpful for the authors to include this. From reading the study, I infer that they would take an efficacious assistantship to be one that led to changes in newly graduated doctors self-perceptions: their experience was valuable, reduced their anxiety, increased their confidence and prepared them for step-change in responsibilities. This is different from other possible ways in which efficacy could have been considered, for example, an objective measure how quickly newly graduated doctors are able to demonstrate they have met competencies of the foundation curriculum, or number of clinical incidents/mistakes, or (subjective) the perceptions of consultant supervisors or other colleagues. Efficacy is mentioned in the title, and the introduction section, but this concept does not seem to have been picked up again in the discussion section. I wonder if this study investigates newly

graduated doctors' perceptions of the effects of their assistantship experiences on their self-confidence as doctors, rather than efficacy of the assistantship per se.

Our response

We wholeheartedly agree that the term efficacy is not wholly appropriate – so we now have changed this to the term 'effect' – so talking about the effect of the assistantship period. In doing this, it becomes clearer what we are referring to: the effect of the assistantship on Anxiety levels (RQ2a) Confidence levels (RQ2b) and Preparedness for the step-change in responsibilities (RQ2c).

Reviewer: 2

- The study design is quite reasonable for addressing the research aims. However, would the authors consider including in their discussion section a discussion of the limitations of Likert scales for investigating some of the phenomena under study. For example, answers to questions about anxieties, confidence, feeling prepared may be difficult to quantify. Have the authors considered other methods which could be used to further investigate these perceptions which may complement this study?

Our response

This links to Reviewer 1's first comment above. We have now added add a sentence around this to the limitations section and have fleshed this out further when we discuss recommendations for further research.

Reviewer: 2

Perhaps include a sentence explaining the appearance of non-aligned participants at points T2 and T3. Since it appears that every participant who attended medical school in Wales and then began work in Wales should be aligned, I assume that those non-aligned at T2 and T3 are those who graduated from medical schools outside Wales - is this correct? It would be helpful to clarify, particular for those from outside UK who may be unfamiliar with medical training in the UK.

Our response

This is not entirely the case. We now clarify as follows: "Thus, only those participants who attended medical school in Wales, and subsequently began work in Wales, were aligned. However, all non-aligned participants at all times graduated from medical schools both within and outside of Wales (as we continued to contact original T1 participants when they left Wales)."

Reviewer: 2

Perhaps the authors could comment on why the aligned participants were more likely to feel that the consultant does not understand the purpose of the assistantship?

Our response

Actually, this is not the case as this is one of the items that was reversed scored – so we present the positive response. We have tried to make this clearer in our labelling so that the reader can navigate the reversed scored items. We have also clarified this further in our results section. We apologise for the confusion.

Reviewer: 2

Line 33 of Page 9: The word heterogenous is used to describe participants who come from one of two medical schools in a single country - do the authors mean homogenous?

Our response

Yes – we agree – and have changed the word.

Reviewer: 2

Line 53 of Page 9: Perhaps the authors could expand on what they mean about using a realist approach in the future.

Our response

We have now developed this discussion further and added a reference to a study that will help the readers explore further should they so wish.

VERSION 2 – REVIEW

REVIEWER	Shaun Peter Qureshi NHS Greater Glasgow and Clyde United Kingdom
REVIEW RETURNED	20-Nov-2018

GENERAL COMMENTS	Thank you for the opportunity to review this amended article. My overall impression is that this version of the manuscript is much improved, There is greater clarity and it is easier for the reader to follow all aspects of the study. The background and need for the study are clearly established, flowing logically into the research questions. I agree with the decision to remove the concept of 'efficacy' and I find the purpose of the research much clearer to understand - and aligns well with the methods and results. There is a reasonable and balanced discussion, included explicit discussion of limitations of quantitative measurements, and the place for qualitative research in the future. A clearer picture of what realist research could add is also included. I recommend this article for publication.
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