

PEER REVIEW HISTORY

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ARTICLE DETAILS

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| TITLE (PROVISIONAL) | "They say": medical students' perceptions of General Practice, experiences informing these perceptions, and their impact on career intention—a qualitative study among medical students in England |
| AUTHORS | Banner, Kimberley; Alberti, Hugh; Khan, Shehleen Arbab; Jones, Melvyn; Pope, Lindsey |

VERSION 1 – REVIEW

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| REVIEWER | Victoria Salem Imperial College London, Bioengineering |
| REVIEW RETURNED | 22-Jun-2023 |

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| GENERAL COMMENTS | <p>The authors are to be congratulated for this study of medical students, from a variety of medical schools, and their perceptions of a career in GP. This is a hugely important area of research as the GP recruitment deficit continues to be a major crisis for the NHS. Practical advice to tackle this at medical with a strong evidence base is to be welcomed. However there are a few issues with this first version of the manuscript that I think can be addressed.</p> <p>Recruitment bias – did those who were already interested in GP respond? More broadly was there risk of coercion and I missed a fuller description of the medical education (or other) ethics process.</p> <p>Can figure 1 include part one of the data collection – the cross sectional bit as well as the later part. In general I found the methodology section a little difficult to follow. Perhaps after this sentence "The second stage of data collection was a longitudinal prospective process" you could follow with a brief sentence about what this means – who you recruited and how it was actually longitudinal data over what time frame.</p> <p>The time frame of (average) 6 months seems rather short and arbitrary. Did it coincide with GP placements? How did that affect the responses? Were the students at varying stages of their training for this 6 month slot all of these things are likely to impact on the formative experiences that are captured.</p> <p>Demographic section is unclear – is this the stage 1 focus groups or the longitudinal diarists? Equally it's unclear whether your results are simply an amalgamation of themes acquired from your various methodological approaches? Is it worth separating them out? There was no attempt to stratify responses or themes by gender or ethnicity or indeed primary exposure to a med school organised GP placement.</p> <p>Nvivo was then used to analyse the data for themes using a</p> |
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| | <p>paradigmatic mode of narrative analysis (28) I think this statement is rather vague and should be expanded. What exactly did you do to evince your themes? Im finding a lot of overlap with them and they don't seem to be terribly grounded in theory.</p> <p>Watch out for minor grammatical issues throughout eg students' perceptions (missing apostrophe) or dependent on rather than dependant on, families perception should be family's</p> <p>I would have preferred some firmer guidance at the end with how to usefully tackle these issues as an educator.</p> |
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| REVIEWER | Nancy Sturman UQ, General Practice |
| REVIEW RETURNED | 28-Jul-2023 |

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| GENERAL COMMENTS | <p>Abstract, second sentence of Results was somewhat confusing - consider rephrasing.</p> <p>Excellent Introduction, succinctly capturing importance and urgency of problem.</p> <p>Methods: It would be helpful to understand more about the particular participants recruited, particularly as there were only 6 across 3 Universities who continued after the initial 3 focus groups - what were they told about the aim of the research, how were they compensated, was the invitation sent to the whole student cohort? What was the relationship between students and investigators?</p> <p>Table 1 was initially confusing - I wondered why only 9 participants. I think this should be more clearly articulated in the Results section (also probably most relevant to see the demographic information of the 6 students who participated fully, including which year of study they were in). I was puzzled by the omission of the focus groups from Figure 1 - were these analysed?</p> <p>I really like the design of the research - it must have been very disappointing to recruit only small numbers.</p> <p>Some comment on analysis, especially how the data were organised into themes, is needed. Also how the three different data sources were integrated as analysis proceeded, and whether the longitudinal aspect provided any particular insights or richness.</p> <p>Results</p> <p>Please tell us the average and total length (and number) of the FGDs, interviews, audio-diary recordings to give us a sense of the data. It would be good to expand on the sentence " However, her families (sic) opinion of General Practice does result in some embarrassment, and she is aware of this opinion when reflecting upon her career plan. ". Please expand on this embarrassment.</p> <p>The sentence "Thus, we see the intention to "encourage" GP amongst the student population may be misplaced, especially when directed to specific genders. This "push" may have the converse effect and discourage students from the profession." should be in the Discussion section - it's an important and interesting point though.</p> |
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| | <p>The heading "External influences of perceptions and career intention: Non-Human influences" could be easier to read, I think, and clearer. I don't think the division into human and non-human quite works. I thought much of what you placed here was really either human or denigration, and what really stood out on its own was the "Push" concept (and some resistance to this) I would be inclined to have this Push as one of your three themes I think.</p> <p>The anonymous nature of the 'They say' is nicely conveyed; although it seems to sit largely within the denigration story, perhaps.</p> <p>Discussion The Implications for Practice section is well written.</p> <p>I think ideally we would have more richness or depth in the data to work with - the small numbers are only a strength if the analysis is the richer for this. I was wondering how the results might be made richer - is there room for a few case studies, where perhaps one could trace an individual student's story or trajectory, or a building or dissipation of the ability to resist the 'They say' and other denigration? . . . Is there enough to compare a first with a penultimate year case? I am not sure, but the reader is not struck at present by the richness of the data.</p> <p>Overall I found the findings rather discouraging (which is not of course a reason not to publish them) - I think the authors should offer us some of their own reflections here. And perhaps tie in the 'They said' theme with existing work on the informal or hidden curriculum in medical education. In general some more theoretical framing might have been helpful.</p> <p>I wonder also if a survey study would be useful to identify how widespread some of these findings are, given the small number of participants, and their possible bias towards GP careers (not that it shows as much as one might like, speaking as a GP!)</p> <p>Thank you for this work, at a very challenging time, and writing it up for publication.</p> <p>PS. Some comments about the impact of the pandemic on findings would also be useful.</p> |
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VERSION 1 – AUTHOR RESPONSE

| Reviewer comment | Response |
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| Recruitment bias – did those who were already interested in GP respond? More broadly was their risk of coercion | Some recruitment bias is unavoidable in a study such as this, as those who have an interest in General Practice will be keen to be involved in such a study. This was attempted to be mitigated by avoiding GP special interest groups and societies for recruitment. Similarly, direct recruitment was not undertaken from seminar groups or similar in which the researchers were involved, to mitigate the risk of undue pressure on students to participate. Whilst the focus |

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| | <p>groups were run by the leads at each site (Dr Banner, Dr Jones and Dr Khan), the longitudinal aspect of the study was performed remotely by Dr Banner (DR Banner being a more junior researcher, whilst the other authors have leadership roles at their institutions). In this way, open and honest dialogue was promoted, whilst minimising any risk of undue pressure on participants to be involved in the research.</p> |
| <p>Can figure 1 include part one of the data collection – the cross-sectional bit as well as the later part. In general, I found the methodology section a little difficult to follow. Perhaps after this sentence “The second stage of data collection was a longitudinal prospective process” you could follow with a brief sentence about what this means – who you recruited and how it was actually longitudinal data over what time frame.</p> | <p>This section has been reformatted and amended throughout to ease readability.</p> |
| <p>The time frame of (average) 6 months seems rather short and arbitrary. Did it coincide with GP placements? How did that affect the responses? Were the students at varying stages of their training for this 6-month slot all of these things are likely to impact on the formative experiences that are captured.</p> | <p>A student advisor was recruited during the process of designing the study to ensure that the process was acceptable to students (see acknowledgements). After discussion it was agreed that six months would be the optimum length of time to collect data whilst avoiding fatigue in the participants. Participants were all either in their first or penultimate year of study, however their start point within the year depended on their time of recruitment. The six-month time frame was also personalised for each participant, avoiding for example, exam season, or electives, when non academic activities such as research could affect their studies. As such responses in the longitudinal study were rich and varied, which has contributed to the depth of data collected.</p> |
| <p>Demographic section is unclear – is this the stage 1 focus groups or the longitudinal diarists? Equally it's unclear whether your results are simply an amalgamation of themes acquired</p> | <p>Demographic table removed as per editors' comments, clearer sentence added to results. Also see below for additional points.</p> |

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| from your various methodological approaches? Is it worth separating them out? | |
| NVivo was then used to analyse the data for themes using a paradigmatic mode of narrative analysis (28) I think this statement is rather vague and should be expanded. What exactly did you do to evince your themes? | This paragraph has been expanded upon. A number of processes were included in this analysis including narrative analysis, paradigmatic mode of narrative analysis, and a more traditional thematic analysis of the focus group and longitudinal data. This process has been outlined more thoroughly. |
| Watch out for minor grammatical issues throughout | Spelling and grammar checking done throughout work |
| I would have preferred some firmer guidance at the end with how to usefully tackle these issues as an educator. | Some amendments have been made to this section in order to tackle some of the issues raised in this work. However, we as authors strongly feel that more work is needed in this area, particularly around “they say” to understand how reduce the impact of these phenomenon. We hope that this work may encourage others to explore these themes in their own institutions, or trial interventions, and raise the profile of General Practice. |

3. Reviewer two comments

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| It would be helpful to understand more about the particular participants recruited, particularly as there were only 6 across 3 Universities who continued after the initial 3 focus groups - what were they told about the aim of the research, how were they compensated, was the invitation sent to the whole student cohort? What was the relationship between students and investigators? | See additions to regarding recruitment, demographics of the students entering the longitudinal phase of data collection. Students were advised that the aim of the study was to explore perceptions of General Practice. Refreshments were offered during focus groups, however there was no further compensation to students for their time in this research. The lead researcher, Dr Banner, was a postgraduate junior researcher at Newcastle University. Dr Banner ran recruitment at |

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| | Newcastle, whereas Dr Khan and Dr Jones ran research at Manchester and UCL respectively. As Dr Khan and Dr Jones are members of the faculty at these sites, following the focus group data collection interested student details were handed over to Dr Banner for further management, to reduce risks of participants perceiving undue pressure to be involved in this work. |
| Table 1 was initially confusing - I wondered why only 9 participants. I think this should be more clearly articulated in the Results section (also probably most relevant to see the demographic information of the 6 students who participated fully, including which year of study they were in). | As per previous reviewers' comments, Table one has been removed and replaced. |
| I was puzzled by the omission of the focus groups from Figure 1 - were these analysed? | Focus group details are included in figure one. A further section elaborating upon the analysis process has been added. |
| Some comment on analysis, especially how the data were organised into themes, is needed. Also, how the three different data sources were integrated as analysis proceeded, and whether the longitudinal aspect provided any particular insights or richness. | See above |
| Please tell us the average and total length (and number) of the FGDs, interviews, audio-diary recordings to give us a sense of the data. | Supplementary information has been added to the submission outlining this. For referenced this is also attached to the end of this document as an appendix. |
| It would be good to expand on the sentence " However, her families (sic) opinion of General Practice does result in some embarrassment, and she is aware of this opinion when reflecting upon her career plan. ". Please expand on this embarrassment. | Clarification of the perception of General practice being the easier career choice amongst the participants family members. |
| The sentence "Thus, we see the intention to "encourage" GP amongst the student population may be misplaced, especially when directed to specific genders. This "push" may have the converse effect and discourage students from the | Sentence moved to discussion section |

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| <p>profession." should be in the Discussion section - it's an important and interesting point though.</p> | |
| <p>The heading "External influences of perceptions and career intention: non-Human influences" could be easier to read, I think, and clearer. I don't think the division into human and non-human quite works. I thought much of what you placed here was really either human or denigration, and what really stood out on its own was the "Push" concept (and some resistance to this) I would be inclined to have this Push as one of your three themes I think.</p> | <p>The model as developed aims to highlight the relationship between internal factors (i.e., the driving force which is intrinsic to the student's career making decision process) and those external factors which impact upon perception and career intentions.</p> <p>Of the external factors the purpose of categorising into human and non-human influences was to identify influences which may be impacted by the individual, or those which may require system changes (such as changes to undergraduate curriculum or policy). Thus the "push" falls into the latter category, although remains an important finding, hence its inclusion in the discussion section.</p> <p>The decision was made by the authors not to include denigration as a specific theme for two reasons. Firstly, direct denigration was not shared a by participants as a major theme in the data. Although it was discussed and was important for inclusion in this work, to identify as a major theme would misrepresent its weight in the data.</p> <p>"They say" is subtly different to denigration, although denigration may be considered to contribute to the "they say" phenomenon. "They say" refers to a much wider, more insidious, pervasive negative perception of General Practice. The key defining feature of "they say" being that the source is unidentified.</p> <p>Further research is required into this</p> |

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| | phenomenon, to further identify the impact it has upon students' perceptions. Further research may also refine the definition and understanding of this process. |
| The anonymous nature of the 'They say' is nicely conveyed; although it seems to sit largely within the denigration story, perhaps. | See above |
| I think ideally, we would have more richness or depth in the data to work with - the small numbers are only a strength if the analysis is the richer for this. I was wondering how the results might be made richer - is there room for a few case studies, where perhaps one could trace an individual student's story or trajectory, or a building or dissipation of the ability to resist the 'They say' and other denigration? . . . Is there enough to compare a first with a penultimate year case? I am not sure, but the reader is not struck at present by the richness of the data. | <p>The data presented in this paper forms a small part of the wider work, in which individual narratives of the six longitudinal participants were explored through narrative analysis. The longitudinal diary process enabled understanding of the students' individual perceptions, and the development of these over time.</p> <p>This analysis was sadly not able to be included within the BMJ open restrictions on word count (3000-4000 words), however it is hoped by the authors that this may be able to be shared in a subsequent paper.</p> |
| Overall, I found the findings rather discouraging (which is not of course a reason not to publish them) - I think the authors should offer us some of their own reflections here. And perhaps tie in the 'They said' theme with existing work on the informal or hidden curriculum in medical education. In general, some more theoretical framing might have been helpful. | <p>We the authors agree with this statement.</p> <p>A short sentence has been added to the work regarding the role of the GP this perception building process.</p> <p>Bruner and Postman in their 1949 work (1) theorise the development of perceptions as having four distinct steps. Firstly, the subject encounters a new object (in this case, GP). The subject then gathers large amounts of information about the object, until a pattern emerges of repeating cues. In the third step, data collection by the subject becomes more refined, repeated cues are sought out which reinforce the existing perception and information which challenges the perception may be disregarded. Finally, the subject develops a reinforced perception of the object.</p> |

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| | It was not possible to include this theoretical process within the word count of this work, however it does offer some insight into the process of development of perceptions of General Practice which may be valuable to explore in further work. |
| I wonder also if a survey study would be useful to identify how widespread some of these findings are, given the small number of participants, and their possible bias towards GP careers (not that it shows as much as one might like, speaking as a GP!) | This work has identified a number of concepts which we feel are relatively new to this field of research. Particularly the “they say” phenomenon and the concept of “pushing” GP being detrimental to perceptions of the career. Further study into both of these concepts would be valuable in understanding their impact, and origins. Whilst a survey study would not offer in depth insights into the process of these phenomena, it would be valuable in identifying prevalence, and would certainly be something that the authors would be keen to see further explored. |
| PS. Some comments about the impact of the pandemic on findings would also be useful. | See “participants” section |

References

Bruner J. and Postman L. Perception, Cognition, and Behavior. Journal of Personality 1949;18(1):14-31. <https://doi.org/10.1111/j.1467-6494.1949.tb01229.x>

Appendix 1:

Data collected

An expansion of figure one, breaking down volume of data collected at each stage of the collection process.

| Participant | Interview length (min:sec) | Diary lengths (min:sec) | Debrief length (min:sec) |
|-------------|----------------------------|------------------------------|--------------------------|
| 1105 | 17:25 | Lost to follow up | |
| 1106 | 14:50 | 2:06, 1:51, 2:19, 1:54 | 27:47 |
| 1107 | 22:55 | Lost to follow up | |
| 1205 | 11:18 | 2:56, 3:05, 2:16, 1:16, 2:14 | 24:13 |

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| 1206 | 13:02 | 2:54, 1:49 | 27.18 |
| 1207 | 15:07 | 1:40, 1:30, 1:47, 1:21, 1:49 | 29:21 |
| 2201 | 19:58 | Lost to follow up | |
| 2202 | 22:51 | 1:18, 2:01, 3:35, 1:58, 3:28, 2:11, 3:13, 5:17, 1:02, 2:59, 5:30, 1:08, 1:14, 1:53, 1:29, 2:08, 2:20, 1:34 | 52:53 |
| 3203 | 18:29 | 4:59, 1:59, 7:28, 4:13, 3:26 | 28:54 |

Table 1: Interview, diary and debrief lengths for all participants

| Site | Length focus group first year (min:sec) | Length focus group penultimate year (min:sec) |
|------------|---|---|
| Newcastle | 27:56 | 24:29, 32:30 |
| UCL | 40:10 | 29:46 |
| Manchester | 49:16 | NA |

Table 2: Focus group lengths for each site

VERSION 2 – REVIEW

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| REVIEWER | Victoria Salem Imperial College London, Bioengineering |
| REVIEW RETURNED | 20-Sep-2023 |

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| GENERAL COMMENTS | <p>I commend the authors for an important and timely study. The problem of GP under recruitment is such a major crisis for the NHS. I found the revised article much easier to read, particularly regarding methodology. I recommend it for publication.</p> <p>My outstanding minor concern is about the concept of this being a "longitudinal" study. I appreciate that some of your richest qualitative data was obtained from the diaries - and in fact the use of this diary method to capture the real time evolution of perception is very powerful. However the final manuscript seems to have fallen short of providing any sense of how the diary method or a comparison of first and final year responses is fashioned into any conclusions about how perceptions may change as a result of exposure to the UG experience. I would therefore consider rephrasing some of the language around longitudinal datasets.</p> <p>The concept of a negative push being couched in what seems on the face of it like an encouragement ("there'll be more family time") was a really interesting observation that I hadn't seen before and this, as well as the rest of the article, is great food for thought. Thanks</p> |
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VERSION 2 – AUTHOR RESPONSE

| Reviewer comment | Response |
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| <p>I would therefore consider rephrasing some of the language around longitudinal datasets. I would therefore consider rephrasing some of the language around longitudinal datasets.</p> | <p>The title has been changed to remove the reference to longitudinal data. Throughout the manuscript wording has been amended to remove the reference to this being a longitudinal study, and instead highlight the rich diary data. The phrasing of longitudinal has remained in a small number of places, referring to the six-month nature of the diaries, this is hopefully now clearer.</p> |