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.

ARTICLE DETAILS

TITLE (PROVISIONAL)	"You can't be a person and a doctor". The work-life balance of doctors in training: a qualitative study
AUTHORS	Rich, Antonia; Viney, Rowena; Needleman, Sarah; Griffin, Ann; Woolf, Katherine

VERSION 1 - REVIEW

REVIEWER	Dai Kimura University of Tennessee Health Science Center, Department of Pediatrics. Memphis, TN, USA
REVIEW RETURNED	29-Aug-2016

GENERAL COMMENTS	This national survey in the UK revealed again that female physicians with family are facing more difficulties to keep well work and life balance, as well as women in surgical subspecialities. Discriminatory attitude issues in surgical subspecialities is not only a problem during training but also after the training work environment. It seems that it is a worldwide problem not only in the UK. This survey also demonstrated the problems BME and IMGs trainee generally experiences, and described as risks using qualitative approaches. It is clear that they need more supports in macro, meso, and micro levels for these groups of trainees with risks. It is valuable that this manuscript suggested many realistic interventions including positive trainee-trainer relationships, support from peers at work, work-life balance and support outside work, support organizations and their representatives, and increasing or rekindling trainee motivation. I hope this survey will lead to force more interventions in the training institutions levels as well as national level. They also pointed out their limitation of the study including selection bias. I read this manuscript, and thought it interesting. I have been working as pediatric critical care physician in the US, which is a very high risk job for burnout as high as 50%. I read the following article recently. http://www.aappublications.org/news/2016/06/09/CriticalCare060916 Work life balance is very important for effective learning, prevent burnout, and quality of care provided for our patients. I am in the training hospital in the US, we provide one to one mentor to fellows. They meet regularly to discuss to improve their progress in the training. Usually the trainee can choose the mentor. Now we even provide mentors for junior faculty members in our institution. Also I read the above article, and the wellbeing committee in the institution would be beneficial for the trainees to provide supports. The UK accepted many IMGs in their training system, but I noticed some physicians moved to the US after the training. I hope this

	survey will help creating more attractive working environment during training system.

REVIEWER	Andrew Whallett Dudley Group NHS Foundation Trust Health Education England (working across the West Midlands)
REVIEW RETURNED	30-Aug-2016

GENERAL COMMENTS	An interesting paper which with a number of revisions is worthy of publication. The discussion could be made a little more concise by removing some of the repetition. To what extent did the researchers ensure that participants were asked the questions in such as way as to encourage only 'negative' comments? How extensively was the questionnaire piloted to minimise biased responses? The abstract mentions some positive things about training - these are then not discussed later. Why do the authors feel that some trainees regard GP as an 'easier' option with respect to work-life balance, and in the current state of general practice do the authors feel that this view is misguided? What is the view of more senior GPs who seem to be disillusioned by the pressure of their work? Q5. I am sure approval was granted, but it would be helpful for this to be specifically mentioned in the paper more clearly. Q8. I am surprised that the longitudinal work by Goldacre and colleagues is not discussed. Work has recently been published in 'Postgraduate Medical Journal' by this research group Q12. I would like to see more discussion on the impact of the Junior Doctor's Contract discussion and current challenges in the NHS on the results of the work. The authors mention this briefly, but there is a possibility that the current 'mood' of the junior doctor workforce is affected by this? Should the contact be resolved to the satisfaction of all parties, how do the authors expect that to affect a similar study in the future (or compare with similar studies in the past?)

REVIEWER	Jennifer Cleland University of Aberdeen, UK
REVIEW RETURNED	09-Sep-2016

GENERAL COMMENTS	The title of this paper is misleading. it is not a national study but a study of three English regions and Wales, so at best the authors could say it is a study carried out in 2/4 UK countries. This is made clear in the abstract and limitations but the title is an oversell. The methods are very thin. the authors do direct readers to the project report from which this data is drawn. This has some reference to, for example, the framework used to formulate the interview schedule as otherwise there is absolutely no detail as to how this was populated. the framework used - Mountford-Zimdars is very atheoretical and was originally proposed for widening access,

	but it is better than nothing (although a decent conceptual framework would have been nice, or a secondary, theory-driven analysis). Some of the questions are very leading e.g., are exams fair? I imagine this draws from the aims of the original project, but these are not foregrounded in this paper. There is nothing on how they ensured the quality of their data e.g., confirmability, credibility etc. Nor is there any reflexivity in terms of the authors reflecting on their position in the research and co-constructing the data (possibly because the team does not involve a diehard qualitative researcher). The data is very GP heavy and it would have been nice to know if there were any differences between GPs and hospital doctors. In terms of the discussion, some of the statements are very quantitative. You cannot say x affects learning and progression as with qualitative data you can only say "are perceived to ..". This needs checked and tempered. Fine as far as it goes but does not add much to the existing literature.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1, Dai Kimura

Comment: I read this manuscript, and thought it interesting. I have been working as pediatric critical care physician in the US, which is a very high risk job for burnout as high as 50%. I read the following article recently.
http://www.aappublications.org/news/2016/06/09/CriticalCare060916
Our response: We would like to thank the reviewer for their supportive comments regarding the importance of this work and the suggested article which illustrates the prevalence of burnout and depression in trainees and physicians in the US.

Reviewer 2, Andrew Whallett

Comment: An interesting paper which with a number of revisions is worthy of publication.
Our response: We thank the reviewer for their positive comment and hope the following revisions address his suggestions adequately.

Comment: The discussion could be made a little more concise by removing some of the repetition.
Our response: We would like to address the reviewers comment, but unfortunately we are unclear as to where the repetition is. We wondered if the reviewer is referring to the last paragraph of the results section, and the last section of the first paragraph of the discussion, both of which refer to the issues of work-life balance concerning choice of speciality in terms of general practice over hospital medicine (please see below). We are reluctant to delete either of these paragraphs as, whilst we agree they are repetitive, they are in different sections of the paper, and the points relevant to both the results and the discussion.

Results: Several female trainees said they chose GP because it was the only speciality where they could see both having family and being a doctor as feasible, because it allowed part-time working and greater control of their hours, and had shorter training. By contrast, a female GP trainer said that it was incredibly difficult bringing up a child while working as a GP as there isn't the flexibility that is

exists in other careers to manage your workload, and a Medicine trainer said that work-life balance improved considerably once training ended.

Discussion: Many trainees, female and male, chose General Practice over hospital medicine to mitigate against problems caused by work-life balance, despite a GP trainer saying General Practice was unaccommodating for family life compared to other professions and a Medicine trainer saying that work-life balance improved after training ended.

Comment: To what extent did the researchers ensure that participants were asked the questions in such a way as to encourage only 'negative' comments? How extensively was the questionnaire piloted to minimise biased responses?
Our response: The design section of the Methods section has been amended to address the reviewer's comments with the addition of the following:

The interview schedule was piloted on two junior doctors. Questions were designed to elicit both positive and negative experiences. Trainees were first asked to describe times where they had learnt a lot; and subsequently asked about difficulties (interview schedule included in the appendix). Trainees were not specifically asked about work-life balance, but these issues emerged from the data.

Comment: The abstract mentions some positive things about training - these are then not discussed later.
Our response: Thank you for pointing this out. We have added the following to the sentence regarding positive experiences to give clarity in the strengths and limitations section [the additions are in italics]: "There is the possibility of response bias; those most dissatisfied may have been more likely to volunteer. However trainees mostly described both positive as well as negative experiences of their time as a trainee".

We have also added the following example of a trainee describing a role with good work-life balance in the last theme 'Greater impact on women'.

Although much fewer in number, some trainees described positive experiences of a training role which allowed them to have a work-life balance, which was particularly important at certain periods of life, such as after having children:

It could be time of life as well. One of the rotations that I did with a hospice… we only had a consultant there once a week….I actually really loved the job, but it was my first job back after maternity leave. I got to leave on time every day. For me coming from acute specialties it was really community-based, so it was great as my first insight to GP.
White, UK Graduate, Female, GP ST1-3

We have also amended the following explanation under the 'Strengths and Weaknesses of the study" in the Discussion to read:
There is also be the possibility of response bias, as those who are most unhappy with their training may have been more likely to volunteer; however most some described positive as well as negative experiences of training.

Comment: Why do the authors feel that some trainees regard GP as an 'easier' option with respect to work-life balance, and in the current state of general practice do the authors feel that this view is misguided? What is the view of more senior GPs who seem to be disillusioned by the pressure of their work?
I am surprised that the longitudinal work by Goldacre and colleagues is not discussed. Work has recently been published in 'Postgraduate Medical Journal' by this research group

Our response: We agree with the reviewer that this perspective is important, given the current retention and recruitment problems in General Practice, and have added the below section to the discussion. We thank the reviewer for suggesting the work of Goldacre and colleagues in PMJ and have incorporated this here, as it is pertinent to the discussion.
Some trainees felt General Practice offered a better work life balance than other specialities and it is worth considering whether trainees were justified in this perception, given the pressures on GPs are contributing to high levels of burnout (2), with challenges in both recruitment (e.g. decreasing numbers of applications for GP training (3)) and retention (4). Hobbs et al. (2016) (5) report a retrospective analysis of the direct clinical workload at 398 English general practices between 2007 and 2014. This period saw GPs workload increase by 16%, yet was accompanied with a 1% decline in full-time equivalent GPs (5). Further, in a survey of 1,192 GPs, 82% planned to leave, have a career break or reduce their hours, with the amount and intensity of work and lack of job satisfaction being important influences on their intentions (6). When considering differences in the work-life balance between medical specialities, Surman, Lambert and Goldman et al. (2016) published longitudinal survey data on UK-trained doctors, for six graduation year cohorts from 1996 to 2012 (7). Satisfaction with work-life balance was notably lower than job enjoyment. Only 19% were 'highly satisfied' with the time available for leisure activities outside of work, and although this nearly doubled by 5 years post-qualification (37%), it remained substantial. While enjoyment levels did not vary greatly between specialities, differences in leisure scores varied more, being highest among those in general practice. In summary, whilst General Practice may offer greater satisfaction with leisure time, at least compared to other specialities historically (7), the work life balance of GPs appears far from adequate at present.
Comment: I am sure approval was granted, but it would be helpful for this to be specifically mentioned in the paper more clearly.
Our response: Thank you for highlighting this. We have added the following sentence to the methods section:
Ethical approval was granted by the University College London Ethics Committee reference: 0511/11. Participants gave informed consent before taking part.

Comment: I would like to see more discussion on the impact of the Junior Doctor's Contract discussion and current challenges in the NHS on the results of the work. The authors mention this briefly, but there is a possibility that the current 'mood' of the junior doctor workforce is affected by this? Should the contact be resolved to the satisfaction of all parties, how do the authors expect that to affect a similar study in the future (or compare with similar studies in the past?)
Our response: We agree that the context is important, given the current dispute. We have written the following paragraph which also addresses the transferability aspect regarding the rigour of qualitative research [additions in italics]:

The study was timely as it took place at the height of the junior doctor contract dispute which resulted in strikes for the first time in 40 years (8). The widespread anger of junior doctors has been seen to be an expression of wider frustration with the Government's management of the NHS (9-11) and the timing of the study may have encouraged doctors to talk openly about their experiences of training. The current mood should not be underestimated; indeed it has been stated "the morale of the medical profession in the United Kingdom has reached its nadir" (p.E1, 12). It is impossible to know whether the current dispute impacted the research without a comparative study to draw upon, which is challenging due to the rarity of a dispute of this scale. However as the proposed junior doctor contract can be considered to be merely a catalyst for the strikes, which have been seen to represent discontent that has been simmering for years over wider issues (10-12); thus even if the dispute was resolved to the satisfaction of all parties, it could be argued issues of work-life balance and the challenges that junior doctors face (e.g., frequent transitions at work and home, pressure to prioritise work over personal life) are likely to transcend the current dispute.
Reviewer: 3, Jennifer Cleland

Comment: The title of this paper is misleading. it is not a national study but a study of three English regions and Wales, so at best the authors could say it is a study carried out in 2/4 UK countries. This is made clear in the abstract and limitations but the title is an oversell.
Our response: The word national has been removed to read: “You can’t be a person and a doctor”. The work-life balance of doctors in training: a qualitative study

Comment: The methods are very thin. the authors do direct readers to the project report from which this data is drawn. This has some reference to, for example, the framework used to formulate the interview schedule as otherwise there is absolutely no detail as to how this was populated. the framework used - Mountford-Zimdars is very atheoretical and was originally proposed for widening access, but it is better than nothing (although a decent conceptual framework would have been nice, or a secondary, theory-driven analysis).
Our response: We agree with the reviewer about the importance of this and we have added the following detail to address this comment [additions in italics below]. Also, we have directed the reader to another paper where further information can be found.

Focus groups and interviews were transcribed verbatim. Data were analysed using QSR NVivo 10©. Detailed development of the coding framework and analysis can be found elsewhere (13). The analysis forms part of a larger study focusing on fairness in training. Respondents were not specifically asked about work life balance, but codes relevant to this emerged from the data. Three researchers (RV, AR, KW) read all the transcripts and developed an initial coding framework using thematic analysis (22). Each coded three transcripts independently and then came together to refine the framework. One researcher (RV) then coded all the transcripts and four others double-coded a selection. Discrepancies were discussed and agreed. Authors continued to meet regularly to develop and agree the emerging themes of specific relevance to work-life balance, in order to fully capture the range of views and experiences of trainees and trainers.

Comment: Some of the questions are very leading e.g., are exams fair? I imagine this draws from the aims of the original project, but these are not foregrounded in this paper.
Response: The questions were not designed to be leading, and as is described above in response to a comment by reviewer 2, questions were designed to both elicit positive and negative experiences. We hope that the additional text added to the methods section about the piloting of the questionnaire and the illustration of questions seeking both positive and negative experiences, reassures the reviewer.
As the reviewer rightly acknowledges, fairness was a key aim of the research and thus included questions which directly addressed this, such as “How fair do you think ARCPs are?” Questions such as these often brought up issues of relevance to work-life balance, for example, the time required to study for exams and produce their portfolios. We have also added the following sentence to the introduction to make clear to the reader the overarching aim of the research, [additions in italics]:

This study formed part of a larger General Medical Council funded study about the fairness of postgraduate medical training, which aimed to investigate the fairness of postgraduate training and the possible factors influencing differential attainment concerning international medical graduates and UK Black and Minority Ethnic graduates (1, 13).
Comment: There is nothing on how they ensured the quality of their data e.g., confirmability, credibility etc. Nor is there any reflexivity in terms of the authors reflecting on their position in the research and co-constructing the data (possibly because the team does not involve a diehard qualitative researcher).
Response: We agree with the reviewer about the importance of reflexivity and other quality indicators of relevance to qualitative research. We would like to reassure the reviewer that the research team has considerable experience in qualitative methods, for example, two of the team have doctorates

using purely qualitative methods. However due to word restrictions, details about the quality measures for the project were omitted from the first draft. The following paragraph has been added to the discussion section under 'strengths and weaknesses of the study':

Lincoln and Guba (14) propose four criteria for evaluating the quality of qualitative research: credibility (value and believability of the findings), dependability (whether the findings are consistent and repeatable), confirmability (researcher neutrality and accuracy of the data) and transferability (the applicability of the findings to another similar context). Credibility and confirmability can be established by triangulation, the purposes of which are to 'confirm' the data and to ensure the data are 'complete' (15) , and reflexivity. A number of types of triangulation were employed here: 1) gathering data from multiple perspectives, i.e., trainers and trainees; 2) different data collection methods, i.e., interviews and focus groups and 3) collecting data from a large and diverse sample of doctors. Reflexivity is an important aspect of confirmability. To minimise potential bias, multiple researchers developed the coding framework, which was an iterative process with regular discussion. As with all research, authors brought their own research and personal perspectives to the study. All authors are white women, some of whom are parents, one of who is a trainee doctor and parent, and one who is a GP, and considered how this may have impacted our results, with all researchers having considerably empathy for the demands placed upon trainees.
Regarding transferability and dependability, care has been taken to describe the study in sufficient detail and further information can be found in the full report (1), to allow the reader to judge whether the findings are transferable to other contexts and to enable future researchers to repeat the study. The importance of the timing regarding the junior doctor's contract and possible effects on transferability has been discussed.

Comment: The data is very GP heavy and it would have been nice to know if there were any differences between GPs and hospital doctors.
Response: In terms of trainees, the sample is diverse (e.g., 27 GP, 27 Medicine trainees). We agree with the reviewer that in some areas there was overrepresentation, for example with trainers, there is a greater proportion of GPs, and this has been highlighted as a weakness of the study in the discussion. The focus of this study was on trainees' experiences, and in terms of differences between specialities, several female GP trainees spoke of how they had chosen General Practice because it offered a greater work-life balance. This is indicated in theme 5, 'Greater impact on women' and now further expanded in the discussion in response to this comment and a similar comment by reviewer 2 questioning the perception that General Practice offers greater work-life balance. We agree with the reviewer that differences between specialities is an interesting area and a further study could examine this in greater detail.

Comment: In terms of the discussion, some of the statements are very quantitative. You cannot say x affects learning and progression as with qualitative data you can only say "are perceived to ..". This needs checked and tempered.
Response: The first sentence reads "Junior doctors described training as lacking in work-life balance, which negatively affected their learning and progression as well as their personal life, morale, and wellbeing." We are reluctant to re-word this with qualifying statements such as the term "perception" because this would dilute the statements trainees have made. For example, one of the participants described how she took a year out of training because she wished to undertake fertility treatment and could not see how this could be combined with her training. A clear example of how work and personal life could not be combined, which negatively impacted on her learning and progression.

References
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VERSION 2 – REVIEW

REVIEWER	Dr Andrew Whallett Dudley Group NHS Foundation Trust, UK Health Education England (West Midlands), UK
REVIEW RETURNED	10-Oct-2016

GENERAL COMMENTS	I would value a comment on 'resilience' within the discussion which I think is relevant to the debate. Otherwise, much improved and worthy of publication.

REVIEWER	Jennifer Cleland Aberdeen, UK
REVIEW RETURNED	24-Oct-2016

GENERAL COMMENTS	Much improved, particularly in terms of methodological detail, and limitations. And the discussion is more thorough

VERSION 2 – AUTHOR RESPONSE

Reviewer 2, Andrew Whallett

Comment: I would value a comment on 'resilience' within the discussion which I think is relevant to the debate. Otherwise, much improved and worthy of publication.

Our response: We agree with the reviewer that ‘resilience’ is very relevant to the paper and important to consider. The paper does discuss resilience in the discussion under the section ‘Meaning of the study: possible explanations and implications for clinicians and policymakers’. We have further developed this paragraph, which now reads:

There has been increasing discussion on whether doctors would benefit from resilience training, which may provide a buffer to the multiple demands placed upon them (1, 2), although it has been argued that training doctors to be resilient in the face of adversity cannot be the only solution; the profession should be looking at structural factors, not simply at the level of the individual, in order to reduce burnout and improve well-being (3, 4).

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