

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	How do scientists perceive the current publication culture? A qualitative focus group interview study among Dutch biomedical researchers
AUTHORS	Tijdink, Joeri; Schipper, Karen; Bouter, Lex; Maclaine Pont, Pol; Jonge, Jos; Smulders, Yvo

VERSION 1 - REVIEW

REVIEWER	Melissa Haendel Oregon Health & Science University
REVIEW RETURNED	27-Jun-2015

GENERAL COMMENTS	<p>This paper describes a qualitative study of scientists' perspective on publishing as accomplished via focus groups from different stages of career and different preclinical and clinical departments. In general, I think the study is very much needed and the outcomes are not inconsistent with what one might expect from other case studies and general community discussion. The primary issues with the manuscript largely have to do with better describing the methods and questions used to drive the focus groups, as well as specifying more clearly the outcomes. The following are some points to help make the manuscript more effective in its mission to call out some of these important attributes of our scholarly communication methods and make recommendations for improvement and change.</p> <p>Methods:</p> <ol style="list-style-type: none"> 1. It would be great if you could make the semi-structured protocol available as supplemental information or within Figshare or similar. Not seeing this protocol actually makes it hard to interpret the outcomes of the focus groups. If nothing else, some short version of questions in each topic area could be presented. 2. Does an IRB protocol number need to be listed in support of participants consent? 3. The first two paragraphs of the results should move to methods. The methods themselves, in terms of how the coding was performed, need to be described herein. 4. The checklist should be better described in the methods. <p>Results:</p> <ol style="list-style-type: none"> 1. It seems odd to start with Research Funding as the first subject cluster, given that the theme of the study was scientific publishing. Not that this is unrelated, but rather that it is more of a derived concern rather than immediately relevant to the publishing issues. 2. There needs to be a lot more specifics and context given with respect to the protocol, questions, and coding in order to make sense of the thematic clusters that were identified. 3. The outcomes of the focus groups could be better described, perhaps in a semi-structured or semi-quantified manner. For example, how many participants in each group had quotes similar to
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	<p>what is presented in the table? Did you get a response from every participant on any given topic/question, and if so, what was the percentage of positive, negative, or similar comments?</p> <p>4. It does not seem like any of the efforts to change the issues presented were discussed? For example, assigning roles/credit to authorships, or alternative author ordering such as in different communities (such as math, where it is alphabetical), or alternative metrics, or article-level metrics.</p> <p>Discussion and conclusion:</p> <p>1. In the article summary it states: “This is the first empirical study that investigates in a more structural context scientist’s personal view on and convictions about contemporary publication culture”, but then later in the paper, the results are compared to a study in the US, perhaps this needs to be reconciled? Or at least compared more effectively?</p> <p>2. No discussion of limitations of the study.</p> <p>3. No real recommendations for change, or discussion of relevant efforts to change. For example, there is a lot of work going on in the context of clinical trials to support improved publication of negative findings and standardization of reporting.</p> <p>General/Minor:</p> <p>1. The example quotes tables are not really described much in the text.</p> <p>2. Minor grammar fussiness: Consider using quotation marks for actual quotes, to distinguish from other categories of important note; consider Oxford comma.</p>
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REVIEWER	Jessica Morgan Centre for Reviews and Dissemination, University of York, UK
REVIEW RETURNED	02-Oct-2015

GENERAL COMMENTS	<p>This is an interesting study that explores an issue of increasing importance. The methodology is clearly described and appropriate. The paper is generally well written, clear and supported by the included data.</p> <p>1. Background should clearly define what the authors mean by publication culture and the features they intend to explore. Their aims and objectives could be more clearly described.</p> <p>2. Was the study protocol registered anywhere and was it assessed by an ethics committee prior to commencement of the study? These details should be given.</p> <p>3. I think the semi-structured protocol should be available as a supplementary file to allow study replication and to allow readers to better understand the performance of the study.</p> <p>4. Table 1 shows the number of women per group. The differences across scientific ranks should be discussed and the impact of this upon results should be explored. The views of professors may be influenced by the fact that these groups are predominantly men - what do the authors think to this and how have the adjusted for it within their analysis?</p> <p>5. The authors stress that the results are generalisable, but describe</p>
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	<p>experiences only within their own country. Therefore, there should be limits placed on this claim, such that findings within other countries maybe different considering that the academic structures and cultures may not be the same.</p> <p>6. The interpretation of the results should include more theoretical considerations, perhaps exploring relevant workplace sociology to attempt to explain the negative perceptions of participants and the changes in experience over the career pathway. This section requires more referencing.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Reviewer Name

Melissa Haendel

Institution and Country

Oregon Health & Science University

Please state any competing interests or state 'None declared':
None declared

Please leave your comments for the authors below

This paper describes a qualitative study of scientists' perspective on publishing as accomplished via focus groups from different stages of career and different preclinical and clinical departments. In general, I think the study is very much needed and the outcomes are not inconsistent with what one might expect from other case studies and general community discussion. The primary issues with the manuscript largely have to do with better describing the methods and questions used to drive the focus groups, as well as specifying more clearly the outcomes. The following are some points to help make the manuscript more effective in its mission to call out some of these important attributes of our scholarly communication methods and make recommendations for improvement and change.

Methods:

1. It would be great if you could make the semi-structured protocol available as supplemental information or within Figshare or similar. Not seeing this protocol actually makes it hard to interpret the outcomes of the focus groups. If nothing else, some short version of questions in each topic area could be presented.

Response: we have added an English translation of the original Dutch semi-structured protocol (the 'storyline') and will make it available as a supplementary file.

2. Does an IRB protocol number need to be listed in support of participants consent?

Response: The study protocol was not registered and reviewed by an ethics committee. We decided ethical review was not needed as the participants gave full consent by agreeing to participate in a scheduled focus group and the study involved no patients. Furthermore, it is not necessary in the Netherlands and at our institution to review a study by the IRB that only includes scientists. We have included an 'ethical considerations' paragraph to the methods section, page 8: All participants took part on a voluntary basis after giving consent by confirming participation through email. The study was not registered and reviewed by an ethics committee because the study only included scientists.

3. The first two paragraphs of the results should move to methods. The methods themselves, in terms of how the coding was performed, need to be described herein.

Response: Thank you for this suggestion. Sometimes, it can be difficult to decide whether it belongs to methods or results. We have removed the first two paragraphs of the results section to the end of the methods section.

4. The checklist should be better described in the methods.

Response: We have added a sentence regarding the use of the COREQ checklist in the methods section on page 8, last paragraph of the Analysis heading: 'For review of the quality of reporting, the COREQ checklist was used'.

Results:

1. It seems odd to start with Research Funding as the first subject cluster, given that the theme of the study was scientific publishing. Not that this is unrelated, but rather that it is more of a derived concern rather than immediately relevant to the publishing issues.

Response: We have clarified this by stating at the beginning of the results that the themes are presented in the order they were mentioned most, see page 10, last sentence of second paragraph: 'The themes are presented in order of frequency with which they were discussed in the 12 focus groups'.

2. There needs to be a lot more specifics and context given with respect to the protocol, questions, and coding in order to make sense of the thematic clusters that were identified.

Response: We have attached the 'storyline' (research protocol and manual for the focus group sessions) of the 12 focus groups as a supplementary file. In this document the reader can find how the focus groups were performed, what questions were used and how the themes were eventually selected to give a better understanding of the exact procedure of the focus groups.

3. The outcomes of the focus groups could be better described, perhaps in a semi-structured or semi-quantified manner. For example, how many participants in each group had quotes similar to what is presented in the table? Did you get a response from every participant on any given topic/question, and if so, what was the percentage of positive, negative, or similar comments?

Response: This is indeed a very interesting and fair point but This approach is unusual and focus group interviews are also not scored in ways that allow for such analyses. Semi-quantification of responses requires quite a different methodological approach and focus group protocol. We have tried to stay put to the exact methodology of focus group reporting by focusing on qualitative data and quotations that support the underlying thoughts per theme. Quantification of the outcomes would result in loss of qualitative data and will result in quantified data. The question is whether quantifiable data are corresponding the actual content of the focus group discussions. We have chosen to focus on the content of the themes discussed.

We have added a sentence on this limitation in the limitations section on page 19, first paragraph of the 'limitations' heading: 'Qualitative methods can be helpful when investigating complex, new or under-researched topics to generate hypotheses for further investigation (31). However, such studies lack advantages of quantitative studies, such as precise measures of effect sizes and variation'.

4. It does not seem like any of the efforts to change the issues presented were discussed? For example, assigning roles/credit to authorships, or alternative author ordering such as in different communities (such as math, where it is alphabetical), or alternative metrics, or article-level metrics.

Response: Thank you for this valuable thought. The primary focus of the paper is to draw a complete picture of what publication culture exactly is. The ideas for changing the culture the participants mentioned were scarce and not included in the manuscript.

Discussion and conclusion:

1. In the article summary it states: "This is the first empirical study that investigates in a more structural context scientist's personal view on and convictions about contemporary publication culture", but then later in the paper, the results are compared to a study in the US, perhaps this needs to be reconciled? Or at least compared more effectively?

Response: We have adjusted the sentences in the paragraph 'comparison with existing literature' (page 17,18) and highlight the results of the mentioned research studying competition in science are comparable with the results from the theme 'competition' as a theme in our focus group interviews. Page 18; 'The results related to the theme competition are in line with these results'.

2. No discussion of limitations of the study.

Response: There are several limitations described in the limitations section of the discussion on page 19 and 20 of the manuscript. After review we have added the limitation of qualitative research (vs. quantitative), the possible bias of the authors and the difficulty to find similarities and differences between different countries.

3. No real recommendations for change, or discussion of relevant efforts to change. For example, there is a lot of work going on in the context of clinical trials to support improved publication of negative findings and standardization of reporting.

Response: Although we feel that these changes are very important for the scientific enterprise and its future, we decided to stay close to the data of the study due to study aim and manuscript focus.

General/Minor:

1. The example quotes tables are not really described much in the text.

Response: the quotes are used as an illustration of the conclusions that were drawn from the 12 focus groups. We have made this more clear by adding the sentence 'Quotes in the tables are used as an illustration of the conclusions that were drawn per theme' to the second paragraph of page 10.

2. Minor grammar fussiness: Consider using quotation marks for actual quotes, to distinguish from other categories of important note; consider Oxford comma.

Response: we have gone through the manuscript to make better use of the quotation marks and eliminated the fussiness using quotation marks. Furthermore, we have tried to check the manuscript for Oxford comma to distinguish different categories.

On behalf of all authors, we would like to thank the editor and the reviewers for the comments, feedback and suggestions on our manuscript entitled 'Scientists have predominantly negative perceptions of the publication process; a qualitative study among Dutch biomedical researchers'. We think that the suggestions and comments of the editor and the reviewers have improved the quality and readability of the manuscript.

We have addressed all the comments and suggestions in an accompanying letter (the 'response to reviewers') and have changed the comments and suggestions in the manuscript.

Reviewer: 2

Reviewer Name

Jessica Morgan

Institution and Country

Centre for Reviews and Dissemination, University of York, UK

Please state any competing interests or state 'None declared':

None declared

Please leave your comments for the authors below

This is an interesting study that explores an issue of increasing importance. The methodology is clearly described and appropriate. The paper is generally well written, clear and supported by the included data.

1. Background should clearly define what the authors mean by publication culture and the features they intend to explore. Their aims and objectives could be more clearly described.

Response: We have included the aim and objective of the study at the end of the background section, first paragraph, page 5: 'Our aim is to learn what biomedical scientists regard as the most salient aspects of current publication culture and to discuss the major positive and negative aspects of these features'.

We also gave a better definition of the word publication culture: end of the first paragraph, page 4: 'All the above mentioned phenomena are part of the current scientific publication culture'.

2. Was the study protocol registered anywhere and was it assessed by an ethics committee prior to commencement of the study? These details should be given.

Response: The study protocol was not registered and reviewed by an ethics committee. We decided ethical review was not needed as the participants gave full consent by agreeing to participate in a scheduled focus group and the study involved no patients. We have included an 'ethical considerations' paragraph to the methods section.

3. I think the semi-structured protocol should be available as a supplementary file to allow study replication and to allow readers to better understand the performance of the study.

Response: We have attached the 'storyline' (research protocol and manual for the focus group sessions) of the 12 focus groups as a supplementary file. In this document the reader can find how the focus groups were performed, what questions were used and how the themes were eventually selected to give a better understanding of the exact procedure of the focus groups.

4. Table 1 shows the number of women per group. The differences across scientific ranks should be discussed and the impact of this upon results should be explored. The views of professors may be influenced by the fact that these groups are predominantly men - what do the authors think to this and how have they adjusted for it within their analysis?

Response: we have added a paragraph in the discussion section to address this possible bias. See page 19: 'Regarding gender aspects, males were overrepresented in the full professor group. This is in accordance with the male/female ratio among professors in the Netherlands (12). Gender differences should be interpreted with caution in qualitative analysis. The study population was too small to draw firm gender related conclusions.'

5. The authors stress that the results are generalisable, but describe experiences only within their own country. Therefore, there should be limits placed on this claim, such that findings within other countries maybe different considering that the academic structures and cultures may not be the same.

Response: The issue of international differences is indeed a good point. Generalisability in the discussion paragraph was mentioned to conclude that our results can be generalized towards biomedical researchers in the Netherlands, and perhaps neighbouring West-European countries. We

have added a sentence that discuss the likelihood of comparability between different countries on page 20:

'It can be questioned whether our findings apply to other countries. Academic structure and culture in other countries may certainly differ. Nevertheless, the problems that were presented in the focus group study by Melissa Anderson (27) showed similar results in the US. Furthermore, publication pressure measured by the Publication Pressure Questionnaire (PPQ) was also high in a Flemish population (18)'.

6. The interpretation of the results should include more theoretical considerations, perhaps exploring relevant workplace sociology to attempt to explain the negative perceptions of participants and the changes in experience over the career pathway. This section requires more referencing.

Response:

Thank you for this suggestion, but we feel such additions are important but also beyond the scope of this manuscript. We have discussed the possible role of cynicism in the workplace with a sociologist. The changes in experience of the career pathway have also been discussed with the sociologist. This phenomenon has been addressed in earlier research that concluded that it might be a more generic feature that people tend to narrate their situations differently across career phases (Knorr Cetina. Epistemic cultures, How the sciences make knowledge, 1999). We think this might fall beyond the objective of this study (to describe the perceived publication culture) but have included some theory at page 18/19: 'An answer can be found in the Cognitive Dissonance Theory (CDT). (30) Cognitive dissonance would mean that researchers who find themselves vested in a path that does not align with their ideals – hence, in a state of conflicting attitudes, or cognitive dissonance – can either modify their behaviour (or quit, as you discuss in that section) or modify their attitudes. The observed variation is congruent with the extent to which careers depend on publication pressure'.

VERSION 2 – REVIEW

REVIEWER	Melissa Haendel Oregon Health & Science University Portland, OR, 97239 USA
REVIEW RETURNED	13-Dec-2015

GENERAL COMMENTS	<p>I am very pleased to see that the authors have largely been able to address the reviewer's concerns, many of which were similar across reviewers.</p> <p>I believe that this manuscript is important to further highlight the need for change in scholarly communication practices. As an aside, I would welcome the authors joining the international Force11 initiative and conveying these views to this small but innovative emergent organization dedicated to changing scholarly communication practices and technologies.</p> <p>What follows are minor comments to further improve the manuscript and ready it for publication:</p> <p>1. I still have some concerns about how this qualitative study is compared to the outcomes of prior quantitative ones. This sentence in the intro: "Most of the aforementioned phenomena have been studied using quantitative survey methods, which provides some empirical basis for policy and future research, but largely fail to adequately describe biomedical scientists' real views." – I don't</p>
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	<p>believe that they fail to describe the real views, they are simply a different measure of them. There are pros and cons to both approaches. It would be good to add another sentence better explaining what the outcomes of the prior quantitative studies fail to capture, and then explain in slightly more detail why this study was greatly needed to complement those outcomes.</p> <p>2. Define “Scientifically active”</p> <p>3. Why have you not included: “participants were asked to suggest ways to solve the experienced problems (not part of this report)” ? Inquiring minds want to know what was said! I know that you also stated in the response to my review: “The primary focus of the paper is to draw a complete picture of what publication culture exactly is. The ideas for changing the culture the participants mentioned were scarce and not included in the manuscript.” But this is very disappointing as it is really these ideas that could move things forward. If the participants really had nothing to offer- well then this is also important is it indicates that there is helplessness and that change will be even more challenging. If nothing else, you should add something to the discussion about this as there are clearly many efforts going on to change most of the findings presented.</p> <p>4. I did not mention this earlier, but I find it the comment about having only negative thoughts regarding the increase in the number of authors intriguing: “Some participants reported a sense of frustration, as multiple authors decreases reward and value of an authorship.” Was there no sense at all that team science, and therefore an increased number of authors, might be more effective or beneficial? Was the value of team science mentioned at all, and if so, was it essentially discarded?</p> <p>5. Consider moving the gender discussion to the limitations section.</p> <p>6. Thank you very much for including the storyline and COREQ documents- this is very helpful to understand the study and its outcomes.</p>
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REVIEWER	Jessica Morgan Centre for Reviews and Dissemination, University of York, UK
REVIEW RETURNED	20-Nov-2015

GENERAL COMMENTS	A much improved manuscript. Thank you for responding to the initial concerns.
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VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name
Melissa Haendel

Institution and Country
Oregon Health & Science University
Portland, OR, 97239
USA

Please state any competing interests or state ‘None declared’:
None declared

Please leave your comments for the authors below

I am very pleased to see that the authors have largely been able to address the reviewer's concerns, many of which were similar across reviewers.

I believe that this manuscript is important to further highlight the need for change in scholarly communication practices. As an aside, I would welcome the authors joining the international Force11 initiative and conveying these views to this small but innovative emergent organization dedicated to changing scholarly communication practices and technologies.

Response: Thank you for this comment. We will consider participation in the Force11 initiative by submitting an oral presentation for one of the sessions.

What follows are minor comments to further improve the manuscript and ready it for publication:

1. I still have some concerns about how this qualitative study is compared to the outcomes of prior quantitative ones. This sentence in the intro: "Most of the aforementioned phenomena have been studied using quantitative survey methods, which provides some empirical basis for policy and future research, but largely fail to adequately describe biomedical scientists' real views." – I don't believe that they fail to describe the real views, they are simply a different measure of them. There are pros and cons to both approaches. It would be good to add another sentence better explaining what the outcomes of the prior quantitative studies fail to capture, and then explain in slightly more detail why this study was greatly needed to complement those outcomes.

Response: we have added two sentences to the introduction paragraph: 'Most of the aforementioned phenomena have been studied using quantitative survey methods, which provides some empirical basis for policy and future research, but may not capture all aspects and subtleties of scientists' views, thoughts and experiences. A qualitative approach, such as using focus group interviews, typically seeks to explore, understand and represent the subjective perceptions and to interpret behaviour. (20) This approach captures thoughts and feelings that survey research could never have highlighted and this has never been studied before. (see page 4)

2. Define "Scientifically active"

Response: We have added a description on page 6: 'scientists that recently authored and published a scientific paper'

3. Why have you not included: "participants were asked to suggest ways to solve the experienced problems (not part of this report)" ? Inquiring minds want to know what was said! I know that you also stated in the response to my review: "The primary focus of the paper is to draw a complete picture of what publication culture exactly is. The ideas for changing the culture the participants mentioned were scarce and not included in the manuscript." But this is very disappointing as it is really these ideas that could move things forward. If the participants really had nothing to offer- well then this is also important is it indicates that there is helplessness and that change will be even more challenging. If nothing else, you should add something to the discussion about this as there are clearly many efforts going on to change most of the findings presented.

Response: Thank you for your comment. We report these ideas for changes in another article. We believe that addition to the current manuscript would confuse the reader due to an overload of information. But we agree that ideas for change deserves more attention than a short paragraph in this manuscript.

Therefore we added a paragraph in the discussion section about initiatives that are currently on the rise (see page 20/21):

Changing the culture

'It is not easy to push an established culture in another direction. Academic structure is complex, which makes it hard to predict which interventions will work and to whom they should be directed. Nevertheless, change starts with increased awareness among all parties involved. In this light, the good news is that numerous initiatives across different scientific areas have recently emerged. (To name a few: METRICS, the DORA manifesto, Force11, ALTmetrics, Science in Transition, the REWARD alliance etc.) These initiatives will eventually result in new values and forms to reshape current publication practices.' (see page 20/21)

4. I did not mention this earlier, but I find it the comment about having only negative thoughts regarding the increase in the number of authors intriguing: "Some participants reported a sense of frustration, as multiple authors decreases reward and value of an authorship." Was there no sense at all that team science, and therefore an increased number of authors, might be more effective or beneficial? Was the value of team science mentioned at all, and if so, was it essentially discarded?

Response: This is an interesting point. In most of the discussions the increase in the number of authors was interpret negatively. The participants felt that a lot of ' lifters' gain an authorship without significant contribution. This is the main grudge. The flipside of the coin is indeed that the value of team effort can be reflected by more authors per paper. This was however hardly mentioned by the participants. Possibly, this may be caused by the fact that the so-called 'bean counting' in science is dominating the minds of scientists. Besides, most participants have had enough of the hassle and feel frustration when it comes to talking about authorships.

We have added 1 sentence to clarify this: Interestingly, rewarding team efforts was hardly mentioned as a positive effect of the increased number of authors per paper. (see page 11)

5. Consider moving the gender discussion to the limitations section.

Response: We have moved the gender discussion to the limitations section.(see page 20)

6. Thank you very much for including the storyline and COREQ documents- this is very helpful to understand the study and its outcomes.

Reviewer: 2

Reviewer Name
Jessica Morgan

Institution and Country
Centre for Reviews and Dissemination, University of York, UK

Please state any competing interests or state 'None declared':
None declared

Please leave your comments for the authors below
A much improved manuscript. Thank you for responding to the initial concerns.