

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)	The effect of leadership on public service motivation: A multiple embedded case study in Morocco
AUTHORS	Belrhiti, Zakaria; Van Damme, Wim; Belalia, Abdelmounim; Marchal, Bruno

VERSION 1 – REVIEW

REVIEWER	Kristina Areskoug Josefsson Jönköping Academy for Improvement of Health and Welfare, School of Health and Welfare, Jönköping University, Sweden
REVIEW RETURNED	10-Sep-2019

GENERAL COMMENTS	<p>Thank you for giving me the opportunity to review this manuscript. The manuscript is well-written, especially concerning the methods and the results. However, there are some concerns in the introduction and the discussion. In the introduction there is a lack of reflection on how level of competence and knowledge is related to performance and public service motivation among health professionals. The discussion is short and needs to be further elaborated and deepened.</p> <p>There are also some minor concerns listed below: Abstract: Please, remove the parenthesis and write “public service motivation” in the following sentence “We aimed at exploring the underlying mechanisms and contextual conditions by which leadership may influence (public service) motivation of health providers in Moroccan hospitals.” (Also, rewrite in other places in the manuscript, as for example p.6 line 39). Add explanation to PSM the first time it is used (p.2). Page 5, line 44: Please, clarify “facilities” in the following sentence. “We purposefully selected two well-performing hospitals with high leadership scores (NHMH and EJM) and two poor-performing facilities with low leadership scores”.</p>
-------------------------	--

REVIEWER	Aoife McDermott Cardiff University
REVIEW RETURNED	04-Oct-2019

GENERAL COMMENTS	<p>Overview This paper is premised on an interesting study of the mechanisms and contextual conditions through which leadership may influence PSM of health providers in Moroccan hospitals. It utilises a comparative case design and a realist evaluation approach. The paper is ambitious in its scope. Coherent and comprehensive incorporation of context, leadership mechanisms and PSM across four organisations is challenging within a constrained word count.</p>
-------------------------	---

A key area requiring substantive refinement is the elaboration and explanation of the programme theory that underpins the study. This is confusing in its current form. Consideration of PSM is limited although the title and introduction frame this as the core context for the analysis. This issue has implications throughout the paper. In particular, the alignment between the PT, data, and claims to contribution are not sufficiently strong. Comments are provided on a section by section basis below.

Introduction

The introduction is succinct. It details concern with worker motivation in the provision of healthcare. Context for this is provided by way of the extrinsic focus inherent in NPM. This doesn't initially appear core, but is revisited with reference to the national context in the closing discussion. The points made are interesting and relevant.

The explanation of PSM is clear and focused. In paragraph three it is suggested both that attention has been afforded to how leaders can enhance PSM among public servants (line 2) and that little attention has been afforded to mechanisms underlying PSM in public administration settings. At present these appear somewhat contradictory. Please amend the wording to clarify this.

Paragraph three identifies a gap in the research on mechanisms underlying the effect of leadership on PSM in healthcare. This is used to motivate the study. A sentence elaborating the value of addressing this gap would be useful to enhance this (potentially returning to themes in your opening paragraph).

Leadership is not elaborated in the introduction. This becomes problematic later as a range of technical terms are utilised without explanation. Each of your key concepts should be explained to enhance clarity in your arguments and the claims that you are making. Key terms lacking explanation include types of leadership (complex etc.) that are integral to your causal configurations.

Methods

Step 1: Eliciting the programme theory

The programme theory is premised on previous studies by the authors. Although referenced this should standalone in the context of the paper. It therefore needs explanation in the text. Returning to the point raised regarding the introduction, a range of technical terms utilised in the programme theory are not explained. The only definitions provided are for PSM (in introduction) and basic psychological needs. The presentation of the causal configurations is unhelpful in their current form. This arises as:

- The first causal configuration introduces a form of leadership not evident in the programme theory (laissez faire leadership). Please make clear how this relates to the preceding section.
- The causal configurations don't consistently address how each leadership form is envisaged to impact perceived supervisor/organizational support and the three basic psychological needs identified as significant in the programme theory. Beyond this, additional areas of focus – self-esteem, job pressure, role conflict, clan culture, organizational commitment are introduced across the four configurations. Upon reading the findings it appears that that the causal configurations have emerged from these, rather than the theory. This could be coincidental or because this is premised on your previous work. However, it requires clarification.

- After elaboration of the four configurations, PSM, intrinsic motivation and culture are introduced. This is not linked to the

preceding material. Thus, despite the title and introduction, PSM are not explicitly part of the core programme theory or causal configurations. This has implications in the findings section where links between leadership and PSM are afforded relatively limited attention.

- The relationship between the configurations and Figure 1 is insufficiently clear. Relationships are framed in different ways. I personally found Figure 1 more focused although this also excludes PSM which is presented as integral to the study. In summary, I laud the attempt to integrate a range of factors across levels. However, I found the elaboration and synthesis of the material in this section inconsistent and confusing in terms of both the focus of the study and the specific considerations of core concern in the paper. The omission of PSM from the PT seems problematic in the context of the framing of the study and the RE approach adopted to deliver this.

Step 2 &: Study design / Data collection

The rationale for the case study design is appropriate. Case selection is clearly discussed.

The paper draws upon a good range of data relevant to the study – interviews, focus groups, group discussions, documents and observations. It would be helpful to clarify the difference between the 7 focus group discussions and the 8 group discussions and who attended each. Also, it would be helpful to clarify the volume of documents/pages collected.

There are a lot of supplementary files. Some of this information could be summarised in text (e.g. interview themes) and is already presented in a consolidated form (e.g. supplementary files 3-6 are summarised in table 2).

Step 4 – Analysis

Although the broad process is clearly outlined it would be helpful to illustrate this – in part because of lack of clarity regarding the PT.

Results

The results are reported on a case by case basis. An alternative, given the programme theory (PT) that might streamline the narrative is to present on the basis of different leadership styles. Regardless, across the findings relatively limited attention afforded to the link between leadership and PSM.

For the first case, the description of the leadership styles and perceptions of this are clear. However, the link to PSM is much less developed.

For the second case, data details not how leadership affects the PSM of staff, but how it affects other aspects of their attitudes and behaviour (e.g. 'laissez faire and transactional leadership had a negative effect on staff with high levels of PSM'....not on PSM per se). Later it is stated that 'our analysis showed that the laissez-faire and transactional leadership in this hospital did not respond to the basic psychological needs of health workers. This led to reduce public service motivation'. Importantly the latter argument re PSM was not directly illustrated in the data provided.

Across the cases more explication of how the findings link to PSM would be beneficial. Further, in each of the figures relating to the findings – e.g. 3-6, PSM is not the ending point within these and a very broad range of factors are incorporated. Again this points to some confusion in the focus of the paper and the positioning of PSM as the core outcome of interest.

For the cross case analysis, the data limitations noted above impeded confidence in the findings relating to PSM. Further, not all of the comparative aspects elaborated are focused on PSM.

	<p>Summary</p> <p>The richness of the data poses a challenge to the researchers in maintaining this, but creating a clear and focused narrative. The paper is premised on an interesting theme, focus and data. The data on PSM is strong and engaging, and provides a strong basis for the study. The remainder of the data is also rich. However, the PT is not helpful in framing how leadership shapes this and in prompting reporting of data supporting this. Although consistently interesting, the arguments in the introduction, PT and data sections could be more closely aligned. This would help to reduce the complexity of the paper and to help the core arguments shine through.</p> <p>If the authors wish is to elaborate the causal configurations then, how these link to PSM needs to be made more explicit. This also applies in the data sections, to enhance confidence in the cross case analysis. An alternative approach is to adopt a thematic analytic focus on PSM and how leadership influences this.</p> <p>The paper has the basis of an interesting contribution subject to refinement and realignment.</p>
--	---

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Thank you for giving me the opportunity to review this manuscript. The manuscript is well-written, especially concerning the methods and the results. However, there are some concerns in the introduction and the discussion.

Thank you for your time spent reviewing our paper. Your enlightening comments improved our self-reflection about the manuscript and enhanced further its quality.

Comment 1: In the introduction there is a lack of reflection on how level of competence and knowledge is related to performance and public service motivation among health professionals. We agree. We added some paragraphs about the determinants of health workers performance, including knowledge, competencies and motivation, and positioned PSM as under-researched alternative of health worker motivation in LMIC.

We argue that knowledge and skills are essential but not sufficient in determining the performance of health workers and more specifically the nature of their behaviour towards patients and in their daily practice (as suggested by existing evidence in LMIC (Franco et al., 2002, Rowe et al., 2005, Dieleman et al., 2009): (see manuscript P.3, Line 14-23)

“The motivation of health workers is recognised as a critical determinant of the performance of health workers in public performance (Haines et al., 2004, Rowe et al., 2005, Dieleman et al., 2009, Franco et al., 2002). While staff availability, knowledge and skills are essential in health service delivery, they are not sufficient to ensure good health worker performance. This critically depends on staff motivation, and in public services specifically on their willingness to pursue public service values and work in line with the best interest of patients (Franco et al., 2002, Ofori-Adjei and Arhinful, 1996, Ross-Degnan et al., 1997, Paredes et al., 1996). This notion is encompassed by the concept of Public Service Motivation (PSM), understood as the altruistic desire of health workers to serve the common interest and to help patients and their families regardless of financial or external rewards. PSM has been shown to be key to the performance of public servants in public administration (Brewer and Selden, 2000, Rainey and Steinbauer, 1999) and in the health sector (Belrhiti et al., 2019b, van Loon et al., 2015).

Comment 2 : The discussion is short and needs to be further elaborated and deepened.

We agree. We added a section on the methodological usefulness of realist evaluation, the ICAMO heuristic and the multiple embedded case study design in unveiling the configurational complex causal relationship between leadership and motivation in the Moroccan context (see P. 25, line 9-27).

There are also some minor concerns listed below:

Abstract: Please, remove the parenthesis and write “public service motivation” in the following sentence “We aimed at exploring the underlying mechanisms and contextual conditions by which leadership may influence (public service) motivation of health providers in Moroccan hospitals.” (Also, rewrite in other places in the manuscript, as for example p.6 line 39).

We replaced (public service) motivation by “public service motivation” on page 5 line 44, page 6 line 36 and page 22 line 5.

Add explanation to PSM the first time it is used (p.2).

An explanation of PSM has been added in the introduction section on page 3 line 19-21.

Page 5, line 44: Please, clarify “facilities” in the following sentence. “We purposefully selected two well-performing hospitals with high leadership scores (NHMH and EJMH) and two poor-performing facilities with low leadership scores”.

We clarified the sentence by replacing the term “facilities” with “hospital” on page 6 line 4.

Reviewer: 2

Overview

This paper is premised on an interesting study of the mechanisms and contextual conditions through which leadership may influence PSM of health providers in Moroccan hospitals. It utilises a comparative case design and a realist evaluation approach. The paper is ambitious in its scope. Coherent and comprehensive incorporation of context, leadership mechanisms and PSM across four organisations is challenging within a constrained word count.

Thank you for your very useful remarks. They helped us to improve the quality and clarity of our manuscript.

Comments

A key area requiring substantive refinement is the elaboration and explanation of the programme theory that underpins the study. This is confusing in its current form. Consideration of PSM is limited although the title and introduction frame this as the core context for the analysis. This issue has implications throughout the paper. In particular, the alignment between the PT, data, and claims to contribution are not sufficiently strong. Comments are provided on a section by section basis below.

We clarified the coherence between our PT, data and conclusions all over the manuscript. The introduction has been extended and structured in three sections: motivation in the public sector, leadership in the public sector and the relationship between leadership and PSM.

The explanation of PSM is clear and focused. In paragraph three it is suggested both that attention has been afforded to how leaders can enhance PSM among public servants (line 2) and that little attention has been afforded to mechanisms underlying PSM in public administration settings. At present these appear somewhat contradictory. Please amend the wording to clarify this.

We agree on the need to clarify the two statements. The majority of PSM studies carried out in the field of public administration focused on the quantitative measurement of the effects of leadership on PSM. This focus on effectiveness ignored the question of the underlying mechanisms and contextual conditions that may explain how leadership may contribute to PSM. We clarified this on Page 4, line 17-18 as follows:

“Most PSM research in the field of public administration relies on quantitative measures of the effect of leadership on PSM.”

Paragraph three identifies a gap in the research on mechanisms underlying the effect of leadership on PSM in healthcare. This is used to motivate the study. A sentence elaborating the value of addressing this gap would be useful to enhance this (potentially returning to themes in your opening paragraph).

We agree. We added the following paragraph in P 4, line 19-22:

“Understanding these mechanisms is valuable in the sense that it can guide health managers in developing appropriate leadership and managerial practices that reinforce organisational values systems and foster health workers’ PSM and intrinsic motivation and consequently their performance (Paarlberg and Perry, 2007, Paarlberg et al., 2008, Perry and Hondeghem, 2008).”

Leadership is not elaborated in the introduction. This becomes problematic later as a range of technical terms are utilised without explanation. Each of your key concepts should be explained to enhance clarity in your arguments and the claims that you are making. Key terms lacking explanation include types of leadership (complex etc.) that are integral to your causal configurations.

We agree. We added a paragraph that summarizes the key characteristics of the three different leadership schools (Page 3 line 48 and Page 4 line 1-9):

“‘Traditional’ leadership theories emphasise the transactional nature of the relationship between leaders and their employees. They comprise transactional leadership (where leaders focus on top down contingent rewards and sanctions) and transformational leadership (where leaders focus on inspiring staff, infusing jobs with meaning and acting as a role model)(Bass and Riggio, 2006). Recent leadership theories emphasize the need for more complex approaches that allow for better adaptation to the complex social nature of healthcare organizations (Ford, 2009, Belrhiti et al., 2018, Plsek and Wilson, 2001). Complex leadership scholars highlight the multi-layered nature of effective leadership, which includes information sharing, distributed leadership and support for lower-level cadres. They define complex leadership as the ability of leaders in complex unpredictable situations to balance between transactional, transformational and distributed leadership so as to fit the nature of task, type of staff and organisational characteristics (Belrhiti et al., 2018, Ford, 2009, Uhl-Bien and Marion, 2009, Weberg, 2012, Zimmerman et al., 1998).”

We also referred to our scoping review (Belrhiti et al., 2018) and an empirical paper that is under review (Belrhiti et al., 2019c), both of which are part of the larger PhD study.

Methods

Step 1: Eliciting the programme theory

The programme theory is premised on previous studies by the authors. Although referenced this should stand alone in the context of the paper. It therefore needs explanation in the text. Returning to the point raised regarding the introduction, a range of technical terms utilised in the programme theory are not explained. The only definitions provided are for PSM (in introduction) and basic psychological needs. The presentation of the causal configurations is unhelpful in their current form.

We agree with this remark. These concepts were described in paper (Belrhiti et al., 2019c) and were used to construct our programme theory. In this revision, we added definitions of the theoretical concepts (PSS, POS, organisational culture (and its four different types - clan culture, hierarchy, adhocratic and market culture), organisational climate and its dimensions (job pressure, role conflict, etc.).

This arises as:

- The first causal configuration introduces a form of leadership not evident in the programme theory (laissez faire leadership). Please make clear how this relates to the preceding section.

We added a narrative description of our programme theory and more details on page 4, line 45 to p. 6, line 17. We introduced and clarified laissez-faire leadership on page 3, line 45-47.

The causal configurations don't consistently address how each leadership form is envisaged to impact perceived supervisor/organizational support and the three basic psychological needs identified as significant in the programme theory. Beyond this, additional areas of focus – self-esteem, job pressure, role conflict, clan culture, organizational commitment are introduced across the four configurations. Upon reading the findings it appears that that the causal configurations have emerged from these, rather than the theory. This could be coincidental or because this is premised on your previous work. However, it requires clarification.

The organisational culture (and its types including clan culture) and the organisational climate (role conflict, job pressures...) are an integral part of the initial programme theory that was the starting point of this PhD research. PSS, POS, and SDT are the underlying theories that informed the identification of potential mechanisms. Taking into account your remark, we added a paragraph to explain further the initial programme theory on P.6, line 17-26:

“Figure 1 shows our programme theory and the complex relationship between leadership, individual motivation and organisational characteristics (organisational culture and climate, mission and goals and degree of responsiveness to basic psychologic needs). The quality and type of staff motivation (extrinsic versus autonomous motivation, including PSM and intrinsic motivation) depends on the degree of autonomy support by leaders, and consequently their perceived supervisor support (which in itself is increased by transformational and distributed leadership and reduced by laissez-faire and transactional leadership). Autonomous motivation is enhanced when staff have positive levels of perceived organisational support, which depends on the degree of responsiveness of top management teams to staff's basic psychological needs and the congruence between the organisational culture and the individual values.”

We also clarified in figure 1 that autonomous motivation includes public service motivation and intrinsic motivation. We also added a dotted arrow between leadership and organisational culture and climate to highlight the reciprocal influence between leadership and these organisational

characteristics. Exploring in full detail these relationships goes, however, beyond the scope of this paper.

- After elaboration of the four configurations, PSM, intrinsic motivation and culture are introduced. This is not linked to the preceding material. Thus, despite the title and introduction, PSM are not explicitly part of the core programme theory or causal configurations. This has implications in the findings section where links between leadership and PSM are afforded relatively limited attention.

As stated, we now clarified that PSM is an autonomous form of motivation (figure 1). It represents an outcome that is hampered by transactional and laissez-faire leadership or by a non-conducive organisational culture and enhanced when appropriate leadership styles (distributed and transformational leadership) are used. This is explained on P.7, line 9-16:

“In this study, we zoom in on the role of public service motivation. We assume that leaders who stimulate staff’s awareness of the value of their work to society and its contribution to the public good may enhance PSM and intrinsic motivation. Leaders who are responsive to the basic psychological needs of their staff are likely to stimulate the internalisation of public values and may shift the locus of individual motivation from extrinsic to more autonomous forms of motivation (Deci and Ryan, 2008). This requires a conducive organisational culture and absence of conflicts between individual and organisational values. We hypothesise that the specific attributes of the Moroccan health system, and specifically its hierarchical organisational culture, may impede the emergence of PSM.”

- The relationship between the configurations and Figure 1 is insufficiently clear. Relationships are framed in different ways. I personally found Figure 1 more focused although this also excludes PSM which is presented as integral to the study.

We agree and we clarified the central position of PSM in this paper by adding to the text (see above) and in figure 1 that public service motivation and intrinsic motivation are two forms of autonomous motivation. We believe that the changes made in response to your previous comments make the text more clear. Unfortunately, we cannot address these elements in more detail within the word count limits, but we have published on this elsewhere (Belrhiti et al., 2019b)

In summary, I laud the attempt to integrate a range of factors across levels. However, I found the elaboration and synthesis of the material in this section inconsistent and confusing in terms of both the focus of the study and the specific considerations of core concern in the paper. The omission of PSM from the PT seems problematic in the context of the framing of the study and the RE approach adopted to deliver this.

As stated before, we now made it more clear that PSM is an integral form of the autonomous form of motivation and as such it is not excluded from the programme theory. we acknowledge that this was not made sufficiently explicit in the first version of the manuscript.

Step 2 & 3: Study design / Data collection

It would be helpful to clarify the difference between the 7 focus group discussions and the 8 group discussions and who attended each.

A clarification of the difference between group discussion and focus group discussion is added on P. 8, line 27-30:

“Group discussions were carried out whenever the number of participants did not reach the appropriate size (6 to 8) to carry out a focus group discussion. This was encountered in practice in low staffed hospitals (RKMH and NHMH), particularly for doctors and administrative staff.”

Also, it would be helpful to clarify the volume of documents/pages collected.
We now provide more information on this on P 8, line 45.

There are a lot of supplementary files. Some of this information could be summarised in text (e.g. interview themes) and is already presented in a consolidated form (e.g. supplementary files 3-6 are summarised in table 2).

We agree. We will not resubmit suppl. file 3-6 but decided to keep suppl. file 1 and 2 since they are part of the standards of reporting qualitative research and realist evaluation according to the Rameses guidelines.

Step 4 – Analysis

Although the broad process is clearly outlined it would be helpful to illustrate this – in part because of lack of clarity regarding the PT.

This was addressed by our revisions in response to the comments made above.

Results

The results are reported on a case by case basis. An alternative, given the programme theory (PT) that might streamline the narrative is to present on the basis of different leadership styles. Regardless, across the findings relatively limited attention afforded to the link between leadership and PSM. For the first case, the description of the leadership styles and perceptions of this are clear. However, the link to PSM is much less developed.

As stated above, public service motivation refers to one form of autonomous motivation. On P. 12 , we clarified how satisfaction of basic psychological needs increases the autonomous motivation of staff if the organisational culture is conducive. This was clarified further by adding the outcome “public service motivation” on P12, line 18 and P13 line 38.

In addition, in the summary section (P12 L46), we now highlight the link between leadership styles and Public service motivation by bringing to attention the underlying mechanisms that may explain these linkages (Satisfaction of Basic Psychological needs (P12, line 45-47 and in page 13 line 38) and the congruence with public service values (P 11, L 24-26)).

We would to say that because of the limitation of the word count, the individual motivational processes are addressed by another paper about PSM expression in the four hospitals (Belhiti et al., 2019a).

For the second case, data details not how leadership affects the PSM of staff, but how it affects other aspects of their attitudes and behaviour (e.g. ‘laissez faire and transactional leadership had a negative effect on staff with high levels of PSM’...not on PSM per se). Later it is stated that ‘our analysis showed that the laisser-faire and transactional leadership in this hospital did not respond to the basic psychological needs of health workers. This led to reduce public service motivation’. Importantly the latter argument re PSM was not directly illustrated in the data provided. Across the cases more explication of how the findings link to PSM would be beneficial.

We agree and we added a quote to illustrate more explicitly the influence of laissez-faire leadership and lack of responsiveness to professional psychological needs on the public service motivation and intent to quit the public sector. (P13, line 38-50 and P 14 Line 1-8)

The expression of PSM is variable among health staff and we presented the findings on this aspect in another paper (Belrhiti et al., 2019a). However, it is also useful to note that leadership will affect PSM among PSM-motivated staff, not among extrinsically motivated staff. This is mainly happening by being responsive to the basic psychological needs of staff and when the organisational culture (also influenced by leadership) is conducive and congruent with public service values. Also, laissez-faire leadership influences indirectly the PSM levels of staff by the consequent lack of opportunities to enact their public service motivation and serve citizens, and this reduces their intrinsic motivation which is an important driver of health workers motivation. We believe we explained this better through the revisions made in response of some of your previous remarks.

Further, in each of the figures relating to the findings – e.g. 3-6, PSM is not the ending point within these and a very broad range of factors are incorporated. Again this points to some confusion in the focus of the paper and the positioning of PSM as the core outcome of interest.

For the cross case analysis, the data limitations noted above impeded confidence in the findings relating to PSM. Further, not all of the comparative aspects elaborated are focused on PSM.

In our attempt to decipher the complex causal relationship between leadership, motivation and performance (which constitutes the scope of overall PhD research), we adopted a configurational complex causality perspective in line with realist thinking (Pawson and Tilley, 1997). This means that one mechanism may lead to different outcomes (e.g. reduced PSM and reduced organisational commitment in figure 4) and the one outcome may be triggered by different mechanisms (organisational commitment increased by an increase of PSM and an increase of trust in management teams in figure 6). Such causal relationships are supported by the PSM literature, which considers PSM as a mediating outcome that is associated with other staff outcomes such as organisational commitment and job satisfaction (Bright, 2007, Bright, 2008, Caillier, 2014). This is explicitly expressed in the ICAMO configuration presented in the cross-case analysis section.

Summary

The richness of the data poses a challenge to the researchers in maintaining this, but creating a clear and focused narrative. The paper is premised on an interesting theme, focus and data. The data on PSM is strong and engaging, and provides a strong basis for the study. The remainder of the data is also rich. However, the PT is not helpful in framing how leadership shapes this and in prompting reporting of data supporting this. Although consistently interesting, the arguments in the introduction, PT and data sections could be more closely aligned. This would help to reduce the complexity of the paper and to help the core arguments shine through.

If the authors wish to elaborate the causal configurations then, how these link to PSM needs to be made more explicit. This also applies in the data sections, to enhance confidence in the cross case analysis. An alternative approach is to adopt a thematic analytic focus on PSM and how leadership influences this.

The paper has the basis of an interesting contribution subject to refinement and realignment

We thank you for highlighting the areas that needed more clarification. We followed point by point your suggestions to enhance the clarity and coherence of the paper. We also added the missing definitions of key constructs. We also clarified in the programme theory the type and nature of autonomous motivation, which indeed includes public service motivation and intrinsic motivation.

Further data about the individual motivation of health workers has been published in another paper and could not fit the scope of this paper, but we now refer more clearly to these papers.

- BASS, B. M. & RIGGIO, R. E. 2006. Transformational Leadership, .
- BELRHITI, Z., DAMME, W. V., BELALIA, A. & MARCHAL, B. 2019a. Does public service motivation matter in Moroccan public hospitals?
A multiple embedded case study
. *International journal for equity in health*, 18.
- BELRHITI, Z., DAMME, W. V., BELALIA, A. & MARCHAL, B. 2019b. Does public service motivation matter in Moroccan public hospitals?
A multiple embedded case study submitted at the international journal of equity in health *International Journal of Equity in Health* ,8, 160
- BELRHITI, Z., NEBOT GERALT, A. & MARCHAL, B. 2018. Complex Leadership in Healthcare: A Scoping Review. *International Journal of Health Policy and Management*, 7, 1073-1084.
- BELRHITI, Z., VAN DAMME, W., BELALIA, A. & MARCHAL, B. 2019c. Unravelling the role of leadership in motivation and performance of health workers in a Moroccan public hospital: a realist evaluation (In press). *BMJ Open*.
- BREWER, G. A. & SELDEN, S. C. 2000. Why elephants gallop: Assessing and predicting organizational performance in federal agencies. *Journal of public administration research and theory*, 10, 685-712.
- BRIGHT, L. 2007. Does Person-Organization Fit Mediate the Relationship Between Public Service Motivation and the Job Performance of Public Employees? *Review of Public Personnel Administration*, 27.
- BRIGHT, L. 2008. Does Public Service Motivation Really Make a Difference on the Job Satisfaction and Turnover Intentions of Public Employees? *The American Review of Public Administration*, 38, 149-166.
- CAILLIER, J. G. 2014. Toward a Better Understanding of the Relationship Between Transformational Leadership, Public Service Motivation, Mission Valence, and Employee Performance. *Public Personnel Management*, 43, 218-239.
- DECI, E. L. & RYAN, R. M. 2008. Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne*, 49, 182-185.
- DIELEMAN, M., GERRETSEN, B. & VAN DER WILT, G. J. 2009. Human resource management interventions to improve health workers' performance in low and middle income countries: a realist review. *Health Research Policy and Systems*, 7, 7.
- FORD, R. 2009. Complex leadership competency in health care: towards framing a theory of practice. *Health Services Management Research*.
- FRANCO, L. M., BENNETT, S. & KANFER, R. 2002. Health sector reform and public sector health worker motivation: a conceptual framework. *Social Science & Medicine*, 54, 1255-1266.
- HAINES, A., KURUVILLA, S. & BORCHERT, M. 2004. Bridging the implementation gap between knowledge and action for health. *Bulletin of the World Health Organization*, 82, 724-731.
- OFORI-ADJEI, D. & ARHINFUL, D. K. 1996. Effect of training on the clinical management of malaria by medical assistants in Ghana. *Social science & medicine*, 42, 1169-1176.
- PAARLBERG, L. E. & PERRY, J. L. 2007. Values management: Aligning employee values and organization goals. *The American Review of Public Administration*, 37, 387-408.
- PAARLBERG, L. E., PERRY, J. L. & HONDEGHEM, A. 2008. From theory to practice: Strategies for applying public service motivation. *Motivation in public management: The call of public service*, 268-293.
- PAREDES, P., DE LA PEÑA, M., FLORES-GUERRA, E., DIAZ, J. & TROSTLE, J. 1996. Factors influencing physicians' prescribing behaviour in the treatment of childhood diarrhoea: knowledge may not be the clue. *Social science & medicine*, 42, 1141-1153.
- PAWSON, R. & TILLEY, N. 1997. *Realistic Evaluation* London Thousand Oaks New Delhi, Sage

Publications Ltd.

PERRY, J. L. & HONDEGHEM, A. 2008. Directions for future theory and research. In: PRESS, O. U. (ed.) Motivation in public management: The call of public service. Oxford.

PLSEK, P. E. & WILSON, T. 2001. Complexity, leadership, and management in healthcare organisations. British medical journal.

RAINEY, H. G. & STEINBAUER, P. 1999. Galloping elephants: Developing elements of a theory of effective government organizations. Journal of public administration research and theory, 9, 1-32.

ROSS-DEGNAN, D., LAING, R., SANTOSO, B., OFORI-ADJEI, D., LAMOUREUX, C. & HOGERZEIL, H. Improving pharmaceutical use in primary care in developing countries: a critical review of experience and lack of experience. International Conference on Improving Use of Medicines, Chiang Mai, Thailand, 1997. 1-4.

ROWE, A. K., DE SAVIGNY, D., LANATA, C. F. & VICTORA, C. G. 2005. How can we achieve and maintain high-quality performance of health workers in low-resource settings? The Lancet, 366, 1026-1035.

UHL-BIEN, M. & MARION, R. 2009. Complexity leadership in bureaucratic forms of organizing: A meso model. The Leadership Quarterly.

VAN LOON, N. M., VANDENABEELE, W. & LEISINK, P. 2015. Clarifying the Relationship Between Public Service Motivation and In-Role and Extra-Role Behaviors: The Relative Contributions of Person-Job and Person-Organization Fit. The American Review of Public Administration.

WEBERG, D. 2012. Complexity leadership: A healthcare imperative. Nursing forum.

ZIMMERMAN, B., LINDBERG, C. & PLSEK, P. 1998. Edgware: Lessons from Complexity Science for Health Care Leaders 2nd ed. Edition, USA, Irving, Tex: VHA, .

VERSION 2 – REVIEW

REVIEWER	Kristina Areskoug-Josefsson Jönköping Academy for Improvement of Health and Welfare, School of Health and Welfare, Jönköping University, Sweden.
REVIEW RETURNED	31-Oct-2019

GENERAL COMMENTS	Thank you for giving me the opportunity to review this revised manuscript. The manuscript is much improved and the authors have explained and clarified previous concerns.
-------------------------	--

REVIEWER	Aoife McDermott Cardiff University, Wales.
REVIEW RETURNED	19-Nov-2019

GENERAL COMMENTS	<p>The authors have worked to refine the paper and the benefit of this is evident. The introduction is now much more focused and the purpose of the paper is clearer. Some minor outstanding comments are noted below. Although minor, I still suggest that they are valuable to address despite the enhancements to the paper made by the authors to date.</p> <ul style="list-style-type: none"> • The paper is very heavily referenced. The authors might consider whether there is scope to reduce this, where multiple references are provided for a single point. • In the introduction in the 'Leadership in the health sector' section line 7, the authors might consider rewording the 'transactional nature of the relationship' as they then go on to discuss transactional and transformational leadership. • For Figure 1, please reiterate the source of this (e.g. your previous work) when introducing it in the text. Of note is that the organisational level is placed below the leadership/individual level.
-------------------------	---

	<p>This is not incorrect, but typically the organisational level is placed above these in figures.</p> <ul style="list-style-type: none"> • In methodological terms, the overall study approach is clear. It would be helpful to note (potentially in Step 4) where the focus on PSM emerged from. The introduction and literature review are now clear as to the merits of this, but explaining its emergence in the analysis would enhance the paper. • The authors could report the prevalence of the themes they raise among their respondents, although relevant supporting quotes are provided. • In the 'Cross case analysis and refined causal configurations' section it would be helpful to specify which leadership period is relevant to the configuration being considered.
--	---

VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Kristina Areskoug-Josefsson

Institution and Country: Jönköping Academy for Improvement of Health and Welfare, School of Health and Welfare, Jönköping University, Sweden.

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

Please leave your comments for the authors below

Thank you for giving me the opportunity to review this revised manuscript. The manuscript is much improved and the authors have explained and clarified previous concerns.

Thank you for your insightful comments. They have indeed helped us to reflect upon and improve the quality and clarity of our paper. Thank you!

Reviewer: 2

Reviewer Name: Aoife McDermott

Institution and Country: Cardiff University, Wales.

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

Please leave your comments for the authors below

The authors have worked to refine the paper and the benefit of this is evident. The introduction is now much more focused and the purpose of the paper is clearer. Some minor outstanding comments are noted below. Although minor, I still suggest that they are valuable to address despite the enhancements to the paper made by the authors to date.

Thank you for taking considerable time to review our manuscript. Your comments have indeed improved the quality and the clarity of our manuscript. Thank you!

- The paper is very heavily referenced. The authors might consider whether there is scope to reduce this, where multiple references are provided for a single point.

We agree with this comment, but found it necessary to provide sufficient framing. We kept for each point a maximum of 5 most relevant references. The number of references dropped from 172 to 165 (see for instance P 26 L 18 & 38).

- In the introduction in the 'Leadership in the health sector' section line 7, the authors might consider rewording the 'transactional nature of the relationship' as they then go on to discuss transactional and transformational leadership.

We agree. We rephrased it as follows : 'Traditional' leadership theories emphasise the importance of individual leadership and leader-employee exchange relationships.

- For Figure 1, please reiterate the source of this (e.g. your previous work) when introducing it in the text. Of note is that the organisational level is placed below the leadership/individual level. This is not incorrect, but typically the organisational level is placed above these in figures.

We agree. We now refer to our previous paper (Belrhiti, 2019). We agree that the organizational level would have been best placed at the top, but we need to keep the figure as it was submitted in the previous paper to increase the consistency of our reporting.

- In methodological terms, the overall study approach is clear. It would be helpful to note (potentially in Step 4) where the focus on PSM emerged from. The introduction and literature review are now clear as to the merits of this, but explaining its emergence in the analysis would enhance the paper.

We agree. In response, we added the following sentence as requested, referring to our paper about public service motivation: "Guided by our research question, we focused on leadership effects on 'public service motivation' that emerged as a natural motivational driver of Moroccan public health workers (Belrhiti et al., 2019)".

- The authors could report the prevalence of the themes the raise among their respondents, although relevant supporting quotes are provided.

We partly agree. We are cautious not to emphasize the importance of measuring frequency of themes in our qualitative inquiry, which mostly concerns why and how questions (Yin, 2018). However, in response to your comment, we added a supplementary file 3 that summarises the frequency of major subthemes and their relationship (Reference in the text P 9 L 17-18).

- In the 'Cross case analysis and refined causal configurations' section it would be helpful to specify which leadership period is relevant to the configuration being considered

We agree. We added in the text the requested specifications where needed (see P 21 L 11 & L 31, P 22 L 6). For distributed leadership, it was already stated in the text (P22 -L 30) (These specific details are provided in table 3).

BELRHITI, Z., DAMME, W. V., BELALIA, A. & MARCHAL, B. 2019. Does public service motivation matter in Moroccan public hospitals? A multiple embedded case study . International journal for equity in health, 18.
YIN, R. K. 2018. Case study research and applications: Design and methods, Thousand Oaks, California, USA, Sage publications.